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Influence of CEO characteristics and audit committee on financial performance: Evidence from Iraq

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Keywords: CEO characteristics Audit committee characteristics Financial performance Banking industry	The study aims to identify the effect of the CEO and audit committee characteristics on financial performance. To achieve the study's goal, panel data was adopted for 43 private Iraqi banks from 2018 to 2022 with 215 observations. The data was analyzed using Stata. Three models were used to analyze the data, and the preferred model was chosen by following several confirmation steps. The findings indicated that CEO education, CEO ownership, and CEO experience all influenced financial success. The audit committee's characteristics also played an essential role in the link between the characteristics of the CEO and financial performance. This study is added to critical studies for regulatory authorities and decision-makers, especially since shareholders and decision-makers always seek to appoint CEOs with the capabilities and talents to enable them to achieve

shareholders' goals and enhance banks' competitiveness in different environments.

1. Introduction

Corporate performance is a popular issue that has attracted a large number of research. Another area of worry for investors is a company's financial performance, which is influenced by several variables. Given his centrality to the company's strategic decision-making process, the CEO is regarded as one of the most influential variables influencing the company's financial performance (Papadakis and Barwise, 2002; Thanos and Papadakis, 2012). According to Fleck et al. (2014), the chief executive officer is regarded as the most influential and potent individual within any organization. A prior study found that the CEO could dominate the board of directors by swaying the choice of other members if he owned a substantial portion of the firm. Along with controlling the majority of other board members, it may also affect board member retention and remuneration (García-Gómez et al., 2023; Rahman and Chen, 2023). Furthermore, the development of corporate governance in recent decades has mandated that CEOs take part in decision-making inside the organization, particularly when it comes to financial issues (Naseem et al., 2020). Therefore, the CEO is considered a vital organizational member in growing companies (Thong and Yap, 1995). The CEO's power is usually linked to their legitimate influence in the company as well as their great awareness in the companies in which they work (Haynes and Hillman, 2010). According to the upper echelons

hypothesis, an executive's age, gender, and educational attainment become increasingly significant when making tough judgments, such as strategic choices (Plöckinger et al., 2016). The theory's proposition further delineates that the diverse attributes of executives impact their selection of the organization's structure and tactics, therefore impacting the success of the corporation (Daft et al., 1988). Furthermore, according to the idea, managers who possess rationality would be better able to make decisions based on their cognitive capacities as well as their social and biological traits (Kaur and Singh, 2019). In addition, agency theory suggests that although management efforts may sometimes diverge from shareholder interests, especially in the case of diffuse ownership, some executives try to do a good job and be the best representatives of their owners (Fama and Jensen, 1983; Jensen and Meckling, 1976). Agency theory also emphasizes how crucial corporate governance is to a business's ability to make decisions. Studies claim that managers frequently act in their own best interests when making choices. For instance, managers might not necessarily favor taking on debt alternatives that maximize shareholder value; instead, they might favor limiting the amount of debt they employ to further their own goals. Agency expenses result from this disagreement, which in turn causes subpar business performance (Aldegis et al., 2023; Jensen and Meckling, 1976; Sadaa, Ganesan, and Ahmed, 2023). Because of this, many businesses responded by passing laws pertaining to corporate governance with the goal of

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enhancing corporate disclosure, policies, and practices (Chhaochharia and Grinstein, 2009). This was done in order to prevent mistakes that would have undermined stakeholders' trust in the reliability and honesty of financial reports. As a result, every nation has consistently tried to enhance its corporate governance policies, standards, practices, and processes (Al-ahdal and Hashim, 2022; Khatib and Nour, 2021). According to Ha (2022) the audit committee's attributes make it possible to use these instruments effectively for corporate governance. According to Kalita and Tiwari (2023) and Nasir et al. (2011), the audit committee's main responsibility is to keep an eye on financial reporting practices and make sure that financial reports accurately depict the state of the company.

The Iraqi Banking Law of 2004 mandated the creation of an audit committee and stipulated the audit committee's requirements. This law was later changed. For instance, according to the legislation, the Audit Committee cannot contain more than three individuals who are not affiliated with the bank, have relevant expertise in accounting, economics, or law, and have practical skills (Bank Law, 2004). In 2018, the Iraqi Code of Corporate Governance (ICCG) was worked on in Iraqi banks (Ahmed et al., 2021; Sadaa et al., 2023). This law mandates that the audit committee assess and ascertain the trading investments made by the banks into their unlisted subsidiary banks, including their offshore companies. The audit committee must also provide the board of directors with an annual report detailing the bank's operations and activities, as mandated by the code. An external auditor's report outlining his assessment of the efficiency of the internal control mechanisms. Additionally, the committee needs to convene four times a year without any representatives from the senior management present. Additionally, the code mandates that the audit committee chairman be a non-voting member of the board of directors. The committee members must have suitable financial and accounting knowledge and expertise to understand the audit process as well as read, comprehend, and analyze the bank's financial statements (Central Bank of Iraq, 2018; Sadaa, Ganesan, and Ahmed, 2023).

As a result, the significance of this research resides in its investigation of the degree to which these crucial guidelines and protocols impact the fiscal outcomes of private banks operating in Iraq. The audit committee's contribution to the bank's overall financial performance is the main topic of the research. This research adds significantly to the limited body of knowledge on corporate governance in Iraq, making it a mustimportant for investors, creditors, and scholars alike. To the best of the researcher's knowledge, no study has been conducted to ascertain how audit committee characteristics influence the association between CEO characteristics and the financial performance of private Iraqi banks, especially after the corporate governance ICCG was put into effect. Because of this, the study explores the moderating effect of the audit committee on the relationship between the qualities of the CEO and the financial performance of the banks in Iraq, offering a multitude of theoretical and practical consequences. The effects of a chief executive officer's characteristics on the financial performance and firm value of the company have been studied in the past such as in Jordan (Alfawareh et al., 2023; El Abiad et al., 2024), China (Rahman and Chen, 2023), and other countries (Aldegis et al., 2023; Naseem et al., 2020; Sadaa, Ganesan, and Ahmed, 2023; Saidu, 2019).

Furthermore, research has looked at how the audit committee's characteristics affect the company's financial performance (Al-ahdal and Hashim, 2022; Chaudhry et al., 2020; Dakhlallh et al., 2020). This earlier research, however, did not take into consideration the audit committee's features and their impact on the association between the financial performance and the qualities of the CEO. In addition, prior studies were conducted in places other than Iraq, especially in developed countries. Besides, studies could not offer enough proof of the nature of the link. Given that Iraq is seen as a developing nation in this sense, the findings of this research might not be as significant or relevant to Iraq. For example, because Iraqi law on corporate governance differs from that of other nations, earlier research could not apply to the situation

involving Iraqi banks. Iraq's institutional structure and financial reporting system are likewise not like those in developed countries. Thus, the study could have practical and theoretical implications in Iraq and other developing countries with similar economies, systems and laws. Therefore, the main objective of the study is to investigate the moderating role of audit committee characteristics in the link between CEO characteristics and the financial performance of Iraqi banks. The study may provide valuable and practical insights and ideas for regulators, decision-makers, auditors, practitioners, academics, and researchers, especially since the study makes an original contribution by adopting the audit committee characteristics prepared in accordance with banking laws and regulations as a moderating variable between the relationship of the CEO characteristics and the financial performance of private Iraqi banks.

2. Literature review and hypothesis development

2.1. CEO characteristics and financial performance

2.1.1. CEO education and financial performance

The educational background of CEOs is a personal indicator used to study the demographic characteristics of CEOs. Education is one of the important tools that must be taken into consideration when promoting and perhaps rewarding employees (Kaur and Singh, 2019). Connelly et al.)(2011)) argues that a good level of education enhances the status of managers, which leads to strengthening their decisions. Additionally, Naseem et al.)(2020)) think that a CEO's educational background significantly impacts the capacity to make good financial and investment decisions. Financial performance can also benefit from the educational background of chief executive officers. According to Saidu) (2019)), CEOs who have achieved a high level of education are better able to comprehend financial issues and take appropriate action to guarantee positive financial outcomes. The financial health of their firms is improved, and their education influences managers' investing practices (Kaur and Singh, 2019). According to this, several research has shown that CEO education and financial performance are positively correlated (Naseem et al., 2020; Saidu, 2019; Suherman et al., 2023). In light of the aforementioned, it may be concluded that the executive director's educational background provides insight into the manager's various cognitive inclinations. Executives with higher knowledge and rapid cognitive growth can improve their decision-making and behavior toward other pertinent strategic initiatives, improving their financial performance. Therefore:

H1. The high education level of the CEO will affect financial performance positively

2.1.2. CEO gender and financial performance

CEO gender is another demographic characteristic whose impact we explore on financial performance. Suherman et al. (2023) suggest that female executives may possess a deeper comprehension of consumer behavior and demands compared to their male counterparts. This might potentially enable them to leverage business opportunities and provide a competitive edge for the companies they oversee. In addition, female CEOs contribute fresh insights that lead to better considerations when making decisions to tackle challenges compared to male CEOs (Bennouri et al., 2018; Khaw et al., 2022). In this regard, Fan et al. (2021) found that female executives contributed to reducing labor costs and increasing financial performance for a sample of public American companies, and companies likely appointed female executives in times of poor performance. The study documented by Ahmad et al. (2022) found that female CEOs had a positive impact on the performance of Indonesian banks. Naseem et al. (2020) also found that CEO gender had an impact on the financial performance of 179 Pakistani companies during the period 2009–2015. Therefore, it can be said that females are more sensitive to risks than males. Women can also be more cautious in

the decision-making process. In addition, female executives can work to enhance innovation and creativity, which may lead to improved performance (A. I. Nour et al., 2020; Suherman et al., 2023). Consequently:

H2. CEO gender will affect financial performance positively

2.1.3. CEO tenure and financial performance

The term of the CEO is another crucial aspect that might have an impact on the financial performance of the organization. CEO tenure is defined as how much time a CEO spends in his or her present office (Liu and Jiang, 2020). According to Miller and Lewis (1991), discovered that extending the CEO's term improves their ability to convey firm information. It also allows them to form powerful social networks that can impact the financial structure of the firms they manage. According to Hartnell et al. (2016), Saudi businesses want to reduce the number of CEO transitions to improve their financial performance. Gupta et al. (2022), claim that Saudi businesses want to reduce the number of CEO changes in order to boost their financial performance. On the other hand, there is occasionally a relationship between a CEO's tenure and willingness to take risks. This is especially true for newly appointed CEOs, who typically have higher apprehension about their future and intend to stay with the company than CEOs with longer tenure (Naseem et al., 2020; Shahab et al., 2020). Agency theory asserts that a long-term CEO influences the board of directors' independence. When the CEO has been with the firm for a long period, he feels empowered and does not want to be challenged by the board of directors. Furthermore, CEOs retain relationships with members of the board of directors, contributing to a lack of impartiality in the Board's judgment of the CEO. Longer CEO tenures can impede board monitoring and negatively influence financial performance (Jensen and Meckling, 1976; Kaur and Singh, 2019). Based on the proposals of agency theory, it can be claimed that the length of a CEO's tenure might negatively affect the company's performance because of the difficulty of getting rid of an established CEO, especially if he has a solid connection with the board of directors. Accordingly:

H3. The increasing of CEO's tenure will affect financial performance negatively

2.1.4. CEO ownership and financial performance

According to Onali et al. (2016), stock ownership is one of the key factors that should be considered when examining the CEO's qualities, as it theoretically represents one of the sources of CEO power. Alignment of agency interests assumes that when a company is headed by a president who has part ownership in the company, he or she has a high inclination to work toward achieving the company's goals (Saidu, 2019). Typically, the greater the CEO's ownership, the stronger his incentive to organize assets efficiently and discover profitable opportunities (Kaur and Singh, 2019). Increasing employee ownership will motivate him towards better management of the company, thus improving its performance. Previous studies on corporate governance also call for internal ownership as one of the potential solutions to control agency problems resulting from the separation of ownership from control (Sadaa, Ganesan, and Ahmed, 2023; Sadaa, Ganesan, Yet, et al., 2023). Therefore, it is expected that the CEO will exercise an exceptional management role if he owns part of the company's shares, especially since he bears a portion of the company's profits or losses based on his percentage of participation in the company's ownership. Therefore:

H4. CEO ownership will affect financial performance positively

2.1.5. CEO experience and financial performance

CEO experience is a significant concern for businesses and has been connected to several aspects, such as financial performance and the quality of financial reporting (Jalal et al., 2022; Saleh et al., 2020). Sallemi and Zouari (2023), a company's performance ought to be correlated with the experience of its CEO. CEOs need professional

expertise to incorporate new technologies into firms based on their prior experiences, which helps them make better judgments (Suherman et al., 2023). Research by Bouaziz et al. (2020) and Baatwah et al. (2015) demonstrates that CEOs with greater experience tend to have more conservative accounting standards and more precise profit projections in their firms. Previous research found that CEO experience and business success were positively correlated for Nigerian enterprises from 2011 to 2016 (Saidu, 2019), Indian commercial banks (Gupta and Mahakud, 2020), and Palestinian non-financial companies from 2009 to 2016 (Saleh et al., 2020). These findings support the recommendations made by the resource dependency theory. According to resource dependency theory, experience is a company's most important asset and is essential to reaching its objectives (Pfeffer and Salancik, 2003). A manager with prior experience in the company's field might provide the organization with greater human capital due to his knowledge and expertise. In addition, it makes it easier for them to seek outside capital, even without assistance from other businesses (Alzoubi, 2019; Saleh et al., 2020). Accordingly, our research indicates that enhancing the CEO's expertise may be a crucial step in helping banks manage day-to-day operations and create a tactical plan that would enable the bank to meet its objectives. Hence:

H5. CEO experience will affect financial performance positively

2.2. Audit committee characteristics as a moderating

The agent-principal relationship has created some problems of information asymmetry and agency costs. As to the agency theory, the issues arise due to conflicts of interest between the principal and the agent. Additionally, the theory links the difficulties to inadequate ethical standards and administrative conduct (Abdullah et al., 2022; Al-ahdal and Hashim, 2022). Weak operational and market laws, ineffective control mechanisms, and bad corporate governance procedures contribute to mismanagement practices. Hence, according to Alzeban (2020) and Kalita and Tiwari (2023), the rights and interests of shareholders are not safeguarded. Regarding this, agency theory suggests that by providing incentives to the agent and spending money on measures intended to monitor and restrict actions that are in the agent's self-interest, the principal can control or minimize information asymmetry issues and agency costs (Jensen and Meckling, 1976). Audit committees were established as an additional step to lessen agent opportunistic conduct (Kallamu and Saat, 2015). Establishing audit committees is among the measures anticipated to safeguard different stakeholders from those who access financial reports and accounting data (Alzeban, 2020; Ganesan et al., 2022). However, in order to keep an eve on risks, control or minimize resource waste, and guarantee adherence to legal and regulatory requirements, businesses and their shareholders depend on the audit committee's decisions (Al-ahdal and Hashim, 2022).

Through continuous follow-up to the Audit Committee, the committee can ensure that the CEO strives to achieve the company's goals and exerts his utmost effort to secure the company's interests and improve its financial performance (Sardari et al., 2021). The Iraqi Corporate Governance Law of 2018 serves as long-awaited guidance to address the shortcomings of previous laws for banks. The Iraqi Corporate Governance Law obligated all listed banks to establish an audit committee, provided that it includes three members with experience in financial and banking business that the head of the audit committee be an independent member, and that diversity be taken into account. It also specified its annual meetings. The audit committee should be responsible for many aspects, including Appointing external auditors, dismissing them, collecting their fees, or dismissing them. The committee assists the Board of Directors in carrying out its financial and accounting responsibilities, investigates and researches any operations or procedures that it deems to affect the financial safety of the bank, urges the Board of Directors to follow the appropriate organizational structure of

the bank, create or cancel organizational formations, and determine the tasks of these. The formations supervise the policies and instructions related to the appointment or dismissal of all bank employees, including the executive management, supervising the adequacy of the internal control systems and disclosing weaknesses in the internal control systems that lead to the inability to detect or prevent any violation or transgression that has a fundamental impact on the bank. Furthermore, the audit committee has the complete ability to collect any information from executive management, as well as the right to summon any manager to any committee meeting and answer any inquiry (Central Bank of Iraq, 2018). As a result, an audit committee comprised of directors with acceptable qualities such as independence, expertise, experience, and gender diversity is seen as an effective governance tool to restrict the agent's selfish interests and preserve shareholder rights (Kallamu and Saat, 2015; Tariq et al., 2021; Wiseman et al., 2012). Thus, the study reveals that if the audit committee meets the features indicated in the rules contained in the ICCG for the year 2018, the audit committee would be able to control agency risks in Iraqi banks, thereby improving financial performance. Therefore:

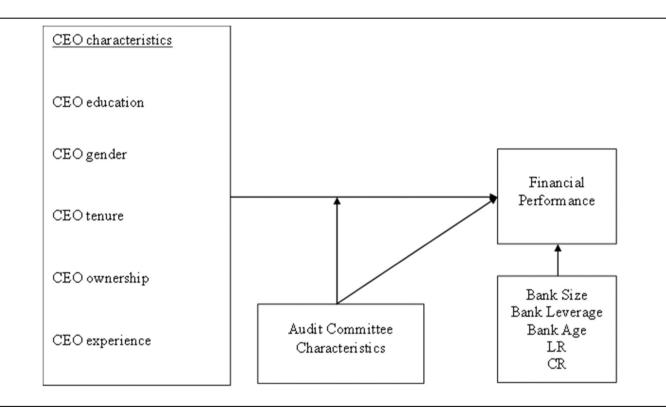
H6: Audit committee characteristics will interact with the relationship between CEO characteristics and financial performance reporting system in Iraq are not similar to those in other countries. Iraq also operates in a closed banking environment that differs from the banking environment of the banking sectors in other countries, especially since Iraq was under American occupation and wills were placed on it, including financial wills, until 2022.

3.1. Sampling

The study sample includes 43 private banks that are listed on the Iraqi Stock Exchange period of 2018–2022 with 215 observations. These banks represent more than 95 percent of Iraqi private banks and finance more than half of the economy. 2018 has been used the basic as the first introduction of the ICCG and the Central Bank of Iraq has renewed some of the banks' requirements. Moreover, 2022 because this is the last year of data available. The study excluded the insurance companies and nonfinancial companies due to the different laws (Sadaa, Ganesan, Yet, et al., 2023).

3.2. Measurement

Dependent Variable: The study used return on assets (ROA) (A. Nour et al., 2022; Rahman and Chen, 2023) to meet its research goals



3. Methodology

Appropriate research was designed to test the relationships by employing research onions based on Saunders (2016). The positivist and deductive approach was used. The study population was represented by Iraqi banks operating in the private sector. The purposive method was adopted to select the sample. Saunders (2009) suggests that purposive samples are most appropriate when researchers choose their sample and want to understand the issue of the study accurately. Private Iraqi banks were chosen because the Iraqi corporate governance law differs from the laws of other countries, and the institutional structure and financial and tested the link between the characteristics of the CEO and financial performance, as well as the interplay of audit committee characteristics in the previous relationship.

ROA= Net income / total assets

Independent Variable: CEO education was used as a dummy variable in this analysis, with code 1 denoting a CEO with postgraduate education and code 0 denoting a CEO without (Saidu, 2019). The study's dummy variable for CEO gender assigned a code of 1 to female CEOs and 0 to male CEOs (Bouaziz et al., 2020). CEO tenure is determined by the

Table 1

Descriptive statistics.

Variables	N	Mean	Median	Std. Dev.	Min.	Max.
ROA	215	0.0123	0.0118	0.1072	-0.2308	0.1254
Tobin's Q	215	1.1840	1.1274	0.0408	-0.1852	0.5923
CEO education	215	0.5400	0.5010	0.8000	0.0000	1.0000
CEO gender	215	0.2130	0.2090	0.0500	0.0000	1.0000
CEO tenure	215	0.4754	0.4000	0.2700	1.0000	9.0000
CEO ownership	215	0.0967	0.0795	0.2379	0.0054	0.3580
CEO experience	215	0.4850	0.3200	0.5000	0.0000	1.0000
ACC	215	82.999	80.000	7.8500	60.000	100.00
SIZE	215	11.8465	11.6849	0.3267	10.8765	12.4856
Age	215	16.8374	16.0000	5.8968	2.0000	35.0000
GDP	215	2.3825	2.3682	0.0623	2.1399	2.5348
LEV	215	27.865	26.567	13.097	-0.3275	96.341

years the CEO has worked for the bank (Alhmood et al., 2023). CEO ownership is calculated by dividing the number of executives' bank shares by the total outstanding shares (Sadaa et al., 2022; Sadaa, Ganesan, Yet, et al., 2023). The number of executive roles held by the CEO before becoming a CEO, whether they were held outside or inside the bank (Alhmood et al., 2023).

Moderating variable: Audit committee characteristics (ACC) has been measured using checklist items in Appendix A according to Iraqi banks' laws and prior studies.

Control variable: Bank size (SIZE) is the natural logarithm of total assets. Bank performance (ROA) is the net income divided into total assets. Bank age (AGE) is the number of years since the bank started. Bank leverage (LEV) is the debt-equity ratio (Ben Abdesslem et al., 2022).

3.3. Model specification

$$\begin{split} \text{ROA} &= \beta_0 + \beta_1 \text{ SIZE}_{it} + \beta_2 \text{ GDP} + \beta_3 \text{ AGE}_{it} + \beta_4 \text{ LEV}_{it} + \beta_5 \text{ CEO educa-}\\ \text{tion}_{it} + \beta_6 \text{ CEO gender}_{it} + \beta_7 \text{ CEO tenure}_{it} + \beta_8 \text{ CEO ownership}_{it} + \beta_9 \\ \text{CEO experience}_{it} + \epsilon_{it} \end{split}$$
(1)

 $\begin{aligned} \text{ROA} &= \beta_0 + \beta_1 \text{ SIZE}_{it} + \beta_2 \text{ GDP} + \beta_3 \text{ AGE}_{it} + \beta_4 \text{ LEV}_{it} + \beta_5 \text{ CEO education}_{it} + \beta_6 \text{ CEO gender}_{it} + \beta_7 \text{ CEO tenure}_{it} + \beta_8 \text{ CEO ownership}_{it} + \beta_9 \text{ CEO experience}_{it} + \beta_{10} \text{ ACC}_{it} + \beta_{11} \text{ ACC}_{it}^{\text{ x}} \text{ CEO education}_{it} + \beta_{12} \text{ ACC}_{it}^{\text{ x}} \text{ CEO gender}_{it} + \beta_{13} \text{ ACC}_{it}^{\text{ x}} \text{ CEO tenure}_{it} + \beta_{14} \text{ ACC}_{it}^{\text{ x}} \text{ CEO ownership}_{it} + \beta_{15} \text{ ACC}_{it}^{\text{ x}} \text{ CEO experience}_{it} + \varepsilon_{it} \end{aligned}$

4. Data analysis

The mean scores of Tobin's Q and ROA, the two measures of the

Table 2

Matrix of correlations.

Table 3

Relationships	between	CEO	characteristics	and	ROA.

	(1)	(2)	(3)	(4)
	POLS	FEM	REM	Robust FEM
CEO education	0.1051*	0.0073	0.0143	0.0073
	(0.065)	(0.234)	(0.647)	(0.252)
CEO gender	0.1684**	0.2873***	0.3782***	0.2873***
	(0.022)	(0.000)	(0.000)	(0.000)
CEO tenure	-0.5289	-0.8874	-0.3583	-0.8874
	(0.211)	(0.234)	(0.117)	(0.194)
CEO ownership	0.1316**	0.1025*	0.0364	0.1025*
	(0.029)	(0.083)	(0.218)	(0.060)
CEO experience	0.2422***	0.1384**	0.2058**	0.1384**
	(0.000)	(0.031)	(0.035)	(0.035)
SIZE	0.0075	0.1130*	0.0417	0.1130*
	(0.162)	(0.059)	(0.182)	(0.063)
GDP	0.1082*	0.1995**	0.1385**	0.1995**
	(0.091)	(0.037)	(0.037)	(0.032)
AGE	0.0183	0.1306*	0.0338	0.1306*
	(0.216)	(0.063)	(0.465)	(0.081)
LEV	0.1048*	0.0381	0.0082	0.0381
	(0.081)	(0.182)	(0.358)	(0.119)
Constant	0.6430	1.3844	1.3754	1.3844
	(0.346)	(0.183)	(0.281)	(0.183)
R-squared/ Pseudo R ²	.3538	.3329	.3822	.3483
Adj R ²	.3234	.3304	-	.3542
F-stat/Wald x2	12.7346	11.1083	164.22	17.2753
Year Dummies	Yes	Yes	Yes	Yes
Observations	215	215	215	215
Multicollinearity	(VIF)	1.19		
Serial Correlation	1	13.5344***		
		(0.000)		
Heteroskedasticit	y	2634.25***		
		(0.000)		
Poolability test (H	OLS vs FEM)	8.1094***		
,	,	(0.000)		
Breusch-Pagan LM	A test (POLS vs	17.12***		
REM)		(0.000)		
Hausman test (FE	M vs REM)	27.65***		
	,	(0.000)		

P-values are in parentheses

***p<.01, **p<.05, *p<.1

independent variable, vary. The average ROA is 0.123 %, and the average Tobin's Q score is 1.184, meaning that, generally speaking, the companies' market values are more important than their asset book values. According to Table 1, 54 % of CEOs hold postgraduate degrees. The data on CEO gender reveals that a mere 21.3 % of the CEOs under examination are female, suggesting a comparatively low percentage of female CEOs in Iraqi private banks. The independent variable CEO tenure shows that the average term of CEOs is around 47.54 %. CEO ownership, one of the other major independent variables, shows that 48.5% of CEOs have experience, and they control 9.67 % of the company.

Table 2 reports the pairwise correlations for the variables used in the

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) ROA	1.000											
(2) Tobin's Q	0.776	1.000										
(3) CEO education	0.168	0.375	1.000									
(4) CEO gender	0.083	0.612	0.391	1.000								
(5) CEO tenure	0.007	0.074	0.172	0.412	1.000							
(6) CEO ownership	0.110	0.178	0.093	0.530	0.372	1.000						
(7) CEO experience	0283	0.372	0.115	0.643	0.218	0.418	1.000					
(8) ACC	0.382	0.473	0.598	0.711	0.548	0.388	0.385	1.000				
(9) SIZE	0.003	0.108	0.084	0.116	0.155	0.129	0.045	0.218	1.000			
(10) GDP	0.031	0.084	0.103	-0.668	0.048	0.028	0.097	0.311	0.083	1.000		
(11) LEV	0.271	0.183	0.009	-0.276	0.163	0.184	0.153	0.089	0.187	0.182	1.000	
(12) Age	0.287	-0.842	0.023	-0.697	0.113	0.009	0.248	0.208	0.280	0.108	0.099	1.000

Table 4

Moderating role of ACC between CEO characteristics and ROA.

	(1)	(2)	(3)	(4)
	POLS	FEM	REM	Robust REM
CEO education	0.2183***(0.002)	0.1271**(0.0368)	0.3021***(0.000)	0.3021***(0.000)
CEO gender	0.2160***(0.000)	0.1729**(0.000)	0.2254***(0.000)	0.2254***(0.000)
CEO tenure	-0.2017*(0.076)	-0. 0710**(0.031)	-0.2604*(0.061)	-0. 2604*(0.073)
CEO ownership	0.1846**(0.436)	0.1618**(0.038)	0.1306*(0.057)	0.1306*(0.064)
CEO experience	0.3270***(0.000)	0.1586**(0.040)	0.1598**(0.027)	0.1598**(0.022)
ACC	0.2801***(0.009)	0.1745**(0.018)	0.1939***(0.000)	0.1939***(0.005)
CEO education*ACC	0.2293***(0.000)	0.2164***(0.028)	0.2610***(0.003)	0.2610***(0.000)
CEO gender*ACC	0.2743***(0.000)	0.2052***(0.018)	0.2142***(0.000)	0.2142***(0.000)
CEO tenure*ACC	0.0983*(0.063)	0.0523(0.146)	0.1337*(0.075)	0.1337*(0.064)
CEO ownership*ACC	0.2631***(0.000)	0.2483***(0.000)	0.2173***(0.002)	0.2173***(0.000)
CEO experience*ACC	0.1837**(0.018)	0.1862**(0.000)	1.2983***(1.238)	1.2983***(1.238)
SIZE	0.1743**(0.018)	0.1682**(0.043)	0.0373(0.217)	0.0373(0.183)
GDP	0.0084(0.169)	0.0185(0.250)	0.0693(0.182)	0.0693(0.174)
AGE	0.0011(0.387)	0.0248(0.216)	0.1084*(0.095)	0.1084*(0.083)
LEV	-0.8419(0.406)	-0.6422(0.274)	0.0238(0.153)	0.0238(0.118)
Constant	0.3647(0.2163)	0.5662(0.310)	0.4282(0.193)	0.4282(0.184)
R-squared/Pseudo R ²	.8421	.8862	.8103	.8263
Adj R ²	.8952	.8907	-	.8307
F-stat/Wald x2	13.3258	15.9346	22.4274	69.2638
Year Dummies	Yes	Yes	Yes	Yes
Observations	215	215	215	215
Multicollinearity (VIF)		1.19		
Serial Correlation		12.2588***(0.000)		
Heteroskedasticity		15.7845**(0.028)		
Poolability test (POLS vs FEM)		9.2469***(0.000)		
Breusch-Pagan LM test (POLS vs REM)		19.85***(0.000)		
Hausman test (FEM vs REM)		5.546(0.218)		

P-values are in parentheses

***p<.01, **p<.05, *p<.1

estimations. All the independent variables have a positive with all two financial performance measures. ACC also has a positive effect on ROA and Tobin's Q. According to the correlation matrix, the highest correlation was observed to be 0.776 between Tobin's Q and ROA. All other correlation coefficients fall under 0.776, indicating that none of them are greater than 0.9 (Hair et al., 2014). Hence, there is no major problem with multicollinearity.

Table 2 presents the influence of CEO characteristics on firm performance measuring via ROA. Table 3 reveals that CEO gender positively affected financial performance as measured by ROA, which means hypothesis 2 was supported. On the other hand, the results of testing Hypothesis 4 show that CEO ownership positively affected ROA, which supports our hypothesis that CEO ownership positively affects financial performance. The findings of this study also support Hypothesis 5, which states that the CEO's experience has a beneficial influence on the company's financial performance; hence, our hypothesis is accepted. While Table 3 indicates no influence relationship between CEO education, CEO tenure and financial performance as measured by ROA, which means that Hypothesis 1 and 3 are not supported.

Table 4 reveals that all CEO characteristics in the presence of the audit committee improved financial performance as evaluated by return on assets. This entails adopting Hypothesis 6, which states that the audit committee's attributes will influence the link between the CEO's characteristics and financial performance. The major influence of audit committee features stems from their direct impact on financial performance. The final column of Table 3 reveals that the audit committee's characteristics have a favorable influence at the 1 % significance level (Coef, 0.1939; p, 0.005).

Table 5	
Descriptive statistics for Tobin's Q.	

Variables	Ν	Mean	Median	Std.Dev.	Min.	Max.
Tobin's Q	215	2.3226	2.6339	1.0948	-1.9132	7.7227

5. Additional analysis

In the previous analyses, the study focused on bank financial performance measured by the ROA. In order to confirm the robustness of our results, we use another alternative measure for financial performance, which is Tobin's Q. It is calculated as follows:

The natural log of Tobin's = the market value of equity and the book value of long-term debt divided by the book value of total assets (Chakroun et al., 2022; Kalita and Tiwari, 2023).

 $\begin{array}{l} \mbox{Tobin's } Q = \beta_0 + \beta_1 \mbox{ SIZE}_{it} + \beta_2 \mbox{ GDP} + \beta_3 \mbox{ AGE}_{it} + \beta_4 \mbox{ LEV}_{it} + \beta_5 \mbox{ CEO} \\ \mbox{education}_{it} + \beta_6 \mbox{ CEO gender}_{it} + \beta_7 \mbox{ CEO tenure}_{it} + \beta_8 \mbox{ CEO ownership}_{it} + \\ \mbox{ } \beta_9 \mbox{ CEO experience}_{it} + \beta_{10} \mbox{ ACC}_{it} + \beta_{11} \mbox{ ACC}_{it}^{\ x} \mbox{ CEO education}_{it} + \beta_{12} \mbox{ ACC}_{it}^{\ x} \\ \mbox{ CEO gender}_{it} + \beta_{13} \mbox{ ACC}_{it}^{\ x} \mbox{ CEO tenure}_{it} + \beta_{14} \mbox{ ACC}_{it}^{\ x} \mbox{ CEO ownership}_{it} + \\ \mbox{ } \beta_{15} \mbox{ ACC}_{it}^{\ x} \mbox{ CEO experience}_{it} + \epsilon_{it} \end{array}$

Table 5 presents the summary descriptive statistics for Tobin's Q over the period 2018–2022. The means of the natural log of Tobin's Q is 2.3226. Thus, we conclude that the Iraqi private banks are profitable and financially efficient.

Table 6 shows that the education, gender, and experience of the executive director had a positive impact at the level of 5 %, 1 %, and 1 %, respectively. Meanwhile, CEO tenure and ownership turnover had no discernible impact on financial performance as assessed by Tobin's Q. These findings demonstrate that CEOs with greater levels of education are better equipped to make effective investment and finance decisions. Their scientific backgrounds also help them grasp financial issues and develop speedy remedies before deterioration (Kaur and Singh, 2019; Khaw et al., 2023). Saidu (2019) showed a favorable association between CEO education and Tobin's Q. The results of this analysis also prove that female executives are more capable of knowing market trends and customer tastes than males, which makes them able to exploit companies' opportunities better and create a competitive advantage for

Table 6

Regression results of the CE	EO characteristics and Tobin's Q.
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	(1)	(2)	(3)	(4)
	POLS	FEM	REM	Robust FEM
CEO education	0.0583	0.1840**	0.1873**	0.1840**
	(0.156)	(0.043)	(0.022)	(0.037)
CEO gender	0.1643**	0.2193***	0.1868**	0.2193***
	(0.022)	(0.000)	(0.034)	(0.000)
CEO tenure	-0.0836*	0.0377	0.0086	0.0377
	(0.082)	(0.430)	(0.385)	(0.361)
CEO ownership	-0.1116**	-0.9053	0.0034	-0.9053
	(0.053)	(0.291)	(0.418)	(0.291)
CEO experience	0.3485***	0.4491***	1.0061***	0.4491***
	(0.000)	(0.000)	(1.035)	(0.000)
SIZE	0.1043*	0.0984*	0.0435	0.0984*
	(0.074)	(0.063)	(0.251)	(0.073)
GDP	0.2158**	0.1305*	0.0388	0.1305*
	(0.030)	(0.071)	(0.513)	(0.059)
AGE	0.1260*	0.0581	0.1063*	0.0581
	(0.053)	(0.118)	(0.066)	(0.128)
LEV	0.0048	0.1140*	0.0618	0.1140*
	(0.374)	(0.059)	(0.113)	(0.062)
Constant	0.6618	0.5813	0.4932	0.5813
	(0.351)	(0.278)	(0.486)	(0.238)
R-squared/ Pseudo R ²	.3300	.3718	.2807	.3652
Adj R ²	.3405	.3822	-	.3859
F-stat/Wald x2	17.9346	10.4874	118.13	51.2948
Year Dummies	Yes	Yes	Yes	Yes
Observations	215	215	215	215
Multicollinearity	(VIF)	1.19		
Serial Correlation	1	21.2685***		
		(0.000)		
Heteroskedasticit	у	4963.81***		
		(0.000)		
Poolability test (POLS vs FEM)		5.5847***		
		(0.000)		
Breusch-Pagan Ll	M test (POLS vs	23.74***		
REM)		(0.000)		
Hausman test (FI	EM vs REM)	34.29***		
		(0.000)		

P-values are in parentheses

***p<.01, **p<.05, *p<.1

companies that are managed by them (Suherman et al., 2023; Ganesan et al., 2024). The study also discovered that CEOs with greater experience are better able to steer clear of hazards that might jeopardize shareholder interests. Skilled managers are better equipped to make decisions that enhance financial performance because they can more simply and affordably get the information they want. This outcome is in line with research showing that a CEO's experience has a beneficial impact on financial success (N. Gupta and Mahakud, 2020; Saleh et al., 2020).

Regarding the moderating effect, Table 7 results indicated that the audit committee's characteristics substantially impacted financial performance as evaluated by Tobin's Q, with an effect at a 1 % significance level (Coef = 0.3816; P = 0.000). This is consistent with our prior findings using the original measure of financial success (ROA). Furthermore, the audit committee characteristics showed a positive interaction on the connection between the CEO's characteristics and financial performance as evaluated by Tobin's Q. All factors related to the CEO's characteristics had a favorable influence on Tobin's Q for private Iraqi banks due to the interplay of audit committee characteristics. These findings highlight the importance of the audit committee's characteristics in carrying out the responsibilities and tasks assigned to it, as well as assisting the board of directors in monitoring opportunistic behaviors and submitting the necessary proposals to ensure the effectiveness of internal controls and reduce the risks that may arise as a result of agency problems.

6. Discussion

The study aimed to measure the impact of CEO characteristics on the financial performance of private Iraqi banks. As an original contribution, the study used audit committee characteristics as a moderating variable on the previous relationship. Panel data was used for the period 2018-2022 with 215 observations. Stata was adopted in data analysis to confirm the acceptance or rejection of hypotheses. Following the studies of Aldegis et al. (2023) ans Sadaa, Ganesan, Yet, et al. (2023), POLS, REM, and FEM regression estimators are used to test the hypotheses. The previous estimators are compared to obtain the preferred model. Model reliability was also performed using the heteroscedasticity, serial correlation, and multicollinearity tests. If we find a problem with one of them, the study corrects the problem by implementing a robust impact model. If there is a problem with diagnostic tests, it means that the data will not give accurate results. Therefore, data from those issues are filtered using the robust effect model (Koller, 2016; Pustejovsky and Tipton, 2016). The results show that the CEO's gender positively affected financial performance as measured by ROA, which means hypothesis 2 was supported. In this regard, previous studies have shown that female CEOs are more cautious and avoid risks. They also work to enhance innovation and creativity and bring newer ideas and perspectives compared to male CEOs, leading to better decision-making considerations and improved performance (Bennouri et al., 2018; Suherman et al., 2023). This result is consistent with the study of Naseem et al. (2020), who found that female CEOs positively impacted financial performance. On the other hand, CEO ownership also positively affected ROA, which supports our hypothesis that CEO ownership positively affects financial performance. The study result supports the argument of agency theorists who suggest that CEO ownership is one possible solution to reduce agency problems resulting from the separation of ownership from control (Ahmed et al., 2021; Alkhazaleh et al., 2023; Onali et al., 2016). Agency theory assumes that when the company is headed by an executive with partial ownership of the capital, he will have a great tendency to work to achieve the company's goals (Saidu, 2019). Some studies argue that if executives have a share in the ownership of the company, they share a portion of the company's profits and losses based on their ownership percentage, and thus, they will have a great incentive to manage the company better and invest in profitable opportunities (Aldegis et al., 2023; Sadaa, Ganesan, Yet, et al., 2023).

The findings of this study also support Hypothesis 5, which states that the CEO's experience has a beneficial influence on the company's financial performance; hence, our hypothesis is accepted. These findings are consistent with the recommendations of resource dependency theory, which states that experience is a vital and invaluable resource for a business (Pfeffer and Salancik, 2003). According to Bouaziz et al. (2020) and Baatwah et al. (2015), experienced CEOs are more cautious and make more accurate profit estimates for their organizations. As a result, the executive director's expertise may serve as a way to assist them in making decisions and developing a tactical approach toward achieving goals. However, the results indicate no influence relationship between CEO education and financial performance as measured by ROA, which means that Hypothesis 1 is not supported. Our result is not consistent with previous studies in this regard. Saidu (2019) believes that the executive director's educational background helps them understand financial problems and act accordingly to ensure optimal financial performance. The weak effect of the CEO's education on ROA could be because their education is not related to the specializations related to the bank's work, such as accounting, finance, management, business, finance, etc.

Regarding audit committee characteristics as moderating, it has a positive interaction in the link between CEO characteristics and financial performance. Thus, our hypothesis 6 is supported. The study's findings show that the Iraqi Corporate Governance Law's rules on audit committee features are effective. The audit committee is one of the primary ways to ensure that the CEO strives to meet the company's goals

Table 7

Regression results of moderating role of ACC between CEO Characteristics and Tobin's Q.

	(1)	(2)	(3)	(4)
	POLS	FEM	REM	Robust REM
CEO education	0.2186***(0.000)	0.1798**(0.051)	0.1922***(0.003)	0.1922***(0.000
CEO gender	0.1784**(0.063)	0.1274*(0.053)	0.2763***(0.000)	0.2763***(0.000
CEO tenure	0.0676(0.182)	0.0863(0.038)	0.1575*(0.075)	0.1575*(0.063)
CEO ownership	0.0754*(0.073)	0.1230*(0.069)	0.1195*(0.063)	0.1195*(0.072)
CEO experience	0.2285***(0.000)	0.2314***(0.000)	0.2039***(1.853)	0.2039***(2.048
ACC	1.0603***(0.000)	1.1003***(0.000)	0.3816***(0.000)	0.3816***(0.000
CEO education*ACC	0.2037***(0.000)	0.3221***(0.000)	1.0043***(2.524)	1.0043***(0.000
CEO gender*ACC	0.1967***(0.003)	0.2182***(0.002)	1.0227***(8.693)	1.0227***(0.000
CEO tenure*ACC	0.1062*(0.073)	0.1878**(0.029)	0.1478**(0.028)	0.1478**(0.017)
CEO ownership*ACC	0.1695**(0.035)	0.1733**(0.016)	0.1902**(0.038)	0.1902**(0.049)
CEO experience*ACC	0.2151***(0.000)	0.2102***(0.000)	2.0913***(4.602)	2.0913***(0.000
SIZE	0.1072*(0.068)	0.1188*(0.061)	0.1691**(0.016)	0.1691**(0.024)
GDP	0.1341*(0.071)	0.1925**(0.063)	0.1845**(0.050)	0.1845**(0.047)
AGE	-0.8230(0.354)	0.0703(0.135)	0.1078*(0.075)	0.1078*(0.081)
LEV	0.1046*(0.092)	0.0422(0.342)	0.0804(0.327)	0.0804(0.280)
Constant	0.47364(0.000)	1.8355(0.348)	1.8942(0.325)	1.8942(0.325)
R-squared/Pseudo R ²	.4864	.5021	.4926	.5147
Adj R ²	.4728	.5188	-	.5198
F-stat/Wald x2	43.8562	51.1994	77.3473	31.0936
Year Dummies	Yes	Yes	Yes	Yes
Observations	215	215	215	215
Multicollinearity (VIF)		1.19		
Serial Correlation		43.6324***(0.000)		
Heteroskedasticity		5736.18***(0.000)		
Poolability test (POLS vs FEM)		9.2697***(0.000)		
Breusch-Pagan LM test (POLS vs REM)		9.5436***(0.000)		
Hausman test (FEM vs REM)		9.374***(0.117)		

P-values are in parentheses

***p<.01, **p<.05, *p<.1

and makes every effort to safeguard stakeholders and enhance financial performance (Sardari et al., 2021). In addition, the characteristics of the audit committee had a favorable interaction on all characteristics of the CEO, including the CEO tenure, which had a positive influence on financial performance in the presence of the interaction of the characteristics of the audit committee. Which means that the audit committee fulfills its specific tasks in accordance with the ICCG and its responsibilities specified by the board of directors of the banks under-sampling.

7. Implication, limitations, and future directions

The study presents a set of implications that serve researchers, regulatory bodies, and decision-makers. Theoretically, this study is considered one of the few studies that address the impact of CEO characteristics on financial performance in Arab countries, especially in Iraq. It is considered the only one that studies this effect in Iraq after the emergence of the ICCG. Therefore, this study is considered important for regulators and decision-makers in Iraq, especially since shareholders and decision-makers always seek to appoint CEOs with capabilities and talents that enable them to achieve shareholders' goals and enhance the competitiveness of Iraqi banks in the markets. The contributions derived from this study add to the ongoing debate about the effectiveness of executives with a high level of education. We believe that the appointment of executive directors in the bank must be based on the standard of education level because of its importance in the bank's daily operations and the strategic plans followed. Likewise, female executives can easily expand and implement programs that help recover and improve financial and human capital. Private Iraqi banks must also adopt several standards regarding the term of office of the CEO, and financial performance should not be the only criterion regarding decision-making regarding the optimal term of office for the CEO. Iraqi banks should also try to link the dedication and performance of their CEOs by providing them with appropriate levels of ownership and linking their interests to those of the company (making them share a common destiny). Iraqi banks must also maintain the diversity of executives'

experiences because it has a major role in improving and increasing their financial performance, as experienced CEOs enable them to easily identify risks and work on early solutions to them before they worsen. Finally, the study provides clear and accurate indications about the effectiveness of the audit committee characteristics stipulated in the ICCG. This gives a clear view to regulators and decision-makers in Iraq regarding the effectiveness of the characteristics of the audit committee to work on improving these characteristics and making compliance with them a condition for listing the bank on the Iraqi Stock Exchange. In this study, an indicator of the characteristics of the audit committee was constructed based on the requirements contained in the ICCG. This enables regulators and policymakers in Iraq to improve this indicator if they want the audit committee to be more effective and efficient. Moreover, the current study provides a map of private Iraqi banks' financial performance and how the adopted models can improve and increase financial performance. This map can put several indications and evidence in the hands of policymakers in Iraq that will enable them to introduce or modify some items in the corporate governance code, especially since the code is newly emerging and needs to be updated as the situation requires. Despite the effects of the study, it is subject to some limitations, as is the case in previous studies. In fact, the study only covers private Iraqi banks. Therefore, the results cannot be generalized to banks in other countries, especially since Iraq operates in a banking environment almost completely different from the rest of the world. Countries. Therefore, the study opens future horizons for providing more research in this regard, with the possibility of developing a new model for the characteristics of the audit committee based on corporate governance guidelines and the laws of the study country.

8. Conclusions

The primary goal of private banks in various countries of the world is to achieve profits. To achieve this goal, decision-makers and regulators in these banks focus on how the set goal can be reached. In fact, academics and policymakers have drawn attention to the bank's need for an executive director with specific characteristics capable of managing activities in a way that can maintain and increase positive financial performance. In this regard, good financial performance is not only a matter of great importance to shareholders and regulators, but also good financial performance reflects the efficiency and effectiveness of the executive director in managing the bank's activities, which ultimately has an impact on the reputation of the executive director and the rewards he receives. Therefore, the current study relied on the characteristics of the CEO (CEO education, CEO gender, CEO tenure, CEO ownership, CEO experience) on the financial performance of private Iraqi banks.

Moreover, this research studies the moderating effect of audit committee characteristics on the relationship between CEO characteristics and financial performance. The research adopted 43 banks for five years. The results of hypothesis testing showed that the gender, ownership, and experience of the CEO were positive and significant in financial performance. Meanwhile, the education and tenure of the CEO did not affect financial performance. In addition, the characteristics of the audit committee had a positive interaction on the relationship of all CEO characteristics with financial performance. The study results were confirmed by using Tobin's Q as an alternative measure of financial performance. This result indicates that the characteristics of the CEO and the characteristics of the audit committee require further future studies because their outputs may have a significant positive impact on financial performance and, thus, the business environment around the world. More research can also be conducted on the impact of CEO characteristics on other activities within banks, such as financing, marketing, innovation, development, use of modern technologies, and other activities that support financial performance directly or indirectly.

Ethical statement

We confirm that proper consideration has been given to any ethics issues raised.

CRediT authorship contribution statement

Omar Hazzaa: Writing – original draft, Resources, Data curation. **Dewi Fariha Abdullah:** He has evaluated the work more than once and made comments. He also wrote the methodology part and helped interpret the data. **Mohd Fahmi Ghazali:** Supervision. **Abdullah Mohammed Sadaa:** Writing – review & editing, Methodology, Formal analysis.

Declaration of Competing Interest

All the authors of this paper declare existence of no mutual conflict of interests.

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References

- Abdullah, H.O., Thajil, K.M., Alnoor, A., Al-Abrrow, H., Khaw, K.W., Xin Ying, Sadaa, A. M., 2022. Predicting determinants of use mobile commerce through modelling nonlinear. Cent. Eur. Bus. Rev. 11, 0–24. https://doi.org/10.18267/j.cebr.306.
- Aliniad, G.N., Prasetyo, M.K.P., buchdadi, A.D., Wildyastuti, U., Kurinawati, H., 2022. The effect of CEO characteristics on firm performance of food and beverage companies in Indonesia, Malaysia and Singapore. Calitatea 23 (186), 111–122.
- Ahmed, M.G., Aldhaher, A.A.A., Abdulkdhim, B.T., Sadaa, A.M., 2021. Sustainable supply chain's effect on competitive performance, a case study in al basrah oil company. Int. J. Entrep. 25 (Special Issue 1), 9264.
- Al-ahdal, W.M., Hashim, H.A., 2022. Impact of audit committee characteristics and external audit quality on firm performance: evidence from India. Corp. Gov. 22 (2), 424–445. https://doi.org/10.1108/CG-09-2020-0420.
- Aldegis, A.M., Ganesan, Y., Sadaa, A.M., 2023. Nomination and remuneration committee and firm performance: evidence from Jordan. Int. J. Bus. Soc. 1–18.

- Alfawareh, F.S., Che Johari, E.E., Ooi, C.A., 2023. Governance mechanisms, firm performance and CEO compensation: evidence from Jordan. J. Financ. Report. Account. https://doi.org/10.1108/JFRA-01-2023-0062.
- Alhmood, M., Shaari, H., Al-Dhamari, R., Sani, A.A., 2023. Does ownership concentration matter for the relationship between CEO characteristics and real earnings management: evidence from Jordan. Eur. J. Bus. https://doi.org/10.1108/EMJB-09-2022-0155
- Alkhazaleh, Q.K.A., Abbas, S.A. Al, Sadaa, A.M., 2023. The effect of corporate governance on audit quality: evidence from Jordanian listed firms. Asian J. Econ. Bus. Account. 23 (17), 40–52. https://doi.org/10.9734/ajeba/2023/v23i171040.
- Alzeban, A., 2020. The relationship between the audit committee, internal audit and firm performance. J. Appl. Account. Res. 21 (3), 437–454. https://doi.org/10.1108/ JAAR-03-2019-0054.
- Alzoubi, E.S.S., 2019. Audit committee, internal audit function and earnings management: evidence from Jordan. Meditari Account. Res. 27 (1), 72–90. https:// doi.org/10.1108/MEDAR-06-2017-0160.
- Baatwah, S.R., Salleh, Z., Ahmad, N., 2015. CEO characteristics and audit report timeliness: do CEO tenure and financial expertise matter? Manag. Audit. J. 30 (8–9), 998–1022. https://doi.org/10.1108/MAJ-09-2014-1097.
- Ben Abdesslem, R., Chkir, I., Dabbou, H., 2022. Is managerial ability a moderator? The effect of credit risk and liquidity risk on the likelihood of bank default. Int. Rev. Financ. Anal. 80 (January), 102044 https://doi.org/10.1016/j.irfa.2022.102044.
- Bennouri, M., Chtioui, T., Nagati, H., Nekhili, M., 2018. Female board directorship and firm performance: what really matters? J. Bank. Financ. 88, 267–291.
- Bouaziz, D., Salhi, B., Jarboui, A., 2020. CEO characteristics and earnings management: empirical evidence from France. J. Financ. Report. Account. 18 (1), 77–110. https:// doi.org/10.1108/JFRA-01-2019-0008.
- Chakroun, S., Ben Amar, A., Ben Amar, A., 2022. Earnings management, financial performance and the moderating effect of corporate social responsibility: evidencefrom France. Manag. Res. Rev. 45 (3), 331–362. https://doi.org/10.1108/ MRR-02-2021-0126.
- Chaudhry, N.I., Roomi, M.A., Aftab, I., 2020. Impact of expertise of audit committee chair and nomination committee chair on financial performance of firm. Corp. Gov. 20 (4), 621–638. https://doi.org/10.1108/CG-01-2020-0017.
- CHHAOCHHARIA, V., GRINSTEIN, Y., 2009. CEO compensation and board structure. J. Financ. 67 (3), 1149–1168. https://doi.org/10.1111/j.1540-6261.2012.01744.x.
- Connelly, B.L., Certo, S.T., Ireland, R.D., Reutzel, C.R., 2011. Signaling theory: a review and assessment. J. Manag. 37 (1), 39–67. https://doi.org/10.1177/ 0149206310388419.
- Daft, R.L., Sormunen, J., Parks, D., 1988. Chief executive scanning, environmental characteristics, and company performance: an empirical study. Strateg. Manag. J. 9 (2), 123–139.
- Dakhlallh, M.M., Rashid, N., Wan Abdullah, W.A., Al Shehab, H.J., 2020. Audit committee and Tobin's Q as a measure of firm performance among Jordanian companies. J. Adv. Res. Dyn. Control Syst. 12 (1), 28–41. https://doi.org/10.5373/ JARDCS/V1211/20201005.
- El Abiad, Z., Abraham, R., El-Chaarani, H., Skaf, Y., Binsaddig, R.O., Jafar, S.H., 2024. The impact of CEO characteristics on the financial performance of family businesses listed in the Euronext exchange. J. Risk Financ. Manag. *17* (3) https://doi.org/ 10.3390/jrfm17030129.
- Central Bank of Iraq, C. (2018). Corporate Governance Guide for Bank.
- Fama, E.F., Jensen, M.C., 1983. Agency problems and residual claims. J. Law Econ. 26 (2), 327–349. https://doi.org/10.1086/467038.
- Fleck, N., Michel, G., Zeitoun, V., 2014. Brand personification through the use of spokespeople: an exploratory study of ordinary employees, CEOs, and celebrities featured in advertising. Psychol. Mark. 31 (1), 84–92.
- Ganesan, Y., Sadaa, A.M., Kareem, A.A., Aldegis, A.M., Al-Sakkaf, M.A., 2022. Social Responsibility in Marketing. In Artificial Neural Networks and Structural Equation Modeling. Springer, pp. 293–311. https://doi.org/10.4324/9780080511085-54.
- Ganesan, Y., Shaharudin, M.S., Sadaa, A.M., Narayanan, R., Sharma, R., Haron, H., 2024. The effect of audit characteristics on financial reporting quality and the mediating role of audit quality: evidence from malaysian public companies. Int. J. Bus. Soc. 25 (1).
- García-Gómez, C.D., Zavertiaeva, M., López Iturriaga, F.J., 2023. Do CEO characteristics matter for corporate risk taking? Evidence from Russia. Corp. Gov. 23 (5), 1019–1045. https://doi.org/10.1108/CG-07-2022-0301.
- Gupta, S., Ghardallou, W., Pandey, D.K., Sahu, G.P., 2022. Artificial intelligence adoption in the insurance industry: evidence using the technology–organization–environment framework. Res. Int. Bus. Financ. 63 (August)
- https://doi.org/10.1016/j.ribaf.2022.101757.
 Gupta, N., Mahakud, J., 2020. CEO characteristics and bank performance: evidence from India. Manag. Audit. J. 35 (8), 1057–1093. https://doi.org/10.1108/MAJ-03-2019-
- Ha, H.H., 2022. Audit committee characteristics and corporate governance disclosure: evidence from Vietnam listed companies Audit committee characteristics and corporate governance disclosure: evidence from Vietnam listed companies. Cogent Bus. Manag. 9 (1) https://doi.org/10.1080/23311975.2022.2119827.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., 2014. Multivariate Data Analysis. In Neuromarketing in India: Understanding the Indian Consumer, Seventh Ed. Pearson Education Limited. https://doi.org/10.4324/9781351269360.
- Hartnell, C.A., Kinicki, A.J., Lambert, L.S., Fugate, M., Doyle Corner, P., 2016. Do similarities or differences between CEO leadership and organizational culture have a more positive effect on firm performance? A test of competing predictions. J. Appl. Psychol. 101 (6), 846.
- Haynes, K.T., Hillman, A., 2010. The effect of board capital and CEO power on strategic change. Strateg. Manag. J. 31 (11), 1145–1163.

O.T. Hazzaa et al.

Journal of Open Innovation: Technology, Market, and Complexity 10 (2024) 100290

- Jalal, G., Alkoni, S., Nour, A.I., 2022. Impact of board characteristics on the corporate dividends payout: evidence from Palestinian stock market. Int. Conf. Bus. Technol. 550–569.
- Jensen, M., Meckling, W., 1976. Theory of the firm: managerial behavior, agency costs, and ownership structure. J. Account. Econ. 2 (23), 309–337. https://doi.org/ 10.1017/CB09780511817410.023.
- Kalita, N., Tiwari, R.K., 2023. Audit committee characteristics, external audit quality, board diversity and firm performance: evidence from SAARC nation. J. Econ. Adm. Sci. 1026–4116. https://doi.org/10.1108/JEAS-08-2023-0235.
- Kallamu, B.S., Saat, N.A.M., 2015. Audit committee attributes and firm performance: evidence from Malaysian finance companies. Asian Rev. Account. 23 (3), 206–231. https://doi.org/10.1108/ARA-11-2013-0076.
- Kaur, R., Singh, B., 2019. Do CEO characteristics explain firm performance in India? J. Strategy Manag. 12 (3), 409–426. https://doi.org/10.1108/JSMA-02-2019-0027.
- Khatib, S.F.A., Nour, A., 2021. The impact of corporate governance on firm performance during the COVID-19 pandemic: evidence from Malaysia. J. Asian Financ. Econ. Bus. 8 (2), 943–952.
- Khaw, K.W., Alnoor, A., Al-Abrrow, H., Chew, X.Y., Sadaa, A.M., Abbas, S., Khattak, Z.Z., 2022. Modelling and evaluating trust in mobile commerce: a hybrid three stage fuzzy delphi, structural equation modeling, and neural network approach. Int. J. Hum. Comput. Interact. 38 (16), 1529–1545. https://doi.org/10.1080/ 10447318.2021.2004700.
- Khaw, K.W., Sadaa, A.M., Alnoor, A., Zaidan, A.S., Ganesan, Y., Chew, X.Y., 2023. Spurring sustainability commitment strategy of family-owned SMEs: a multianalytical SEM & ANFIS perspective. J. High. Technol. Manag. Res. 34 (1), 100453 https://doi.org/10.1016/j.hitech.2023.100453.
- Koller, M., 2016. Robustlmm: an R package for Robust estimation of linear mixed-effects models. J. Stat. Softw. 75 (1) https://doi.org/10.18637/jss.v075.i06.
- Liu, C., Jiang, H., 2020. Impact of CEO characteristics on firm performance: evidence from China listed firms. Appl. Econ. Lett. 27 (14), 1–5. https://doi.org/10.1080/ 13504851.2019.1607965.
- Miller, R.L., Lewis, W.F., 1991. A stakeholder approach to marketing management using the value exchange models. Eur. J. Mark. 25 (8), 55–68.
- Naseem, M.A., Lin, J., Rehman, R. ur, Ahmad, M.I., Ali, R., 2020. Does capital structure mediate the link between CEO characteristics and firm performance? Manag. Decis. 58 (1), 164–181. https://doi.org/10.1108/MD-05-2018-0594.
- Nasir, A.N.B.M., Ali, D.F., Noordin, M.K. bin, & Nordin, M.S. Bin (2011). Technical skills and non-technical skills: predefinition concept Mohd Safarin Bin NORDIN. Proceedings of the IETEC'11 Conference, Kuala Lumpur, Malaysia, 1–17.
- Nour, A., Alia, M.A., Balout, M., 2022. The impact of corporate social responsibility disclosure on the financial performance of banks listed on the PEX and the ASE. Artif. Intell. Sustain. Financ. Sustain. Technol. Proc. ICGER 2021 1, 42–54.
- Nour, A.I., Sharabati, A.-A.A., Hammad, K.M., 2020. Corporate governance and corporate social responsibility disclosure. Int. J. Sustain. Entrep. Corp. Soc. Responsib. (IJSECSR) 5 (1), 20–41.
- Onali, E., Galiakhmetova, R., Molyneux, P., Torluccio, G., 2016. CEO power, government monitoring, and bank dividends. J. Financ. Inter. 27, 89–117.
- Papadakis, V.M., Barwise, P., 2002. How much do CEOs and top managers matter in strategic decision-making? Br. J. Manag, *13* (1), 83–95.
- Pfeffer, J., & Salancik, G.R. (2003). The external control of organizations: A resource dependence perspective. Stanford University Press.

- Plöckinger, M., Aschauer, E., Hiebl, M.R.W., Rohatschek, R., 2016. The influence of individual executives on corporate financial reporting: a review and outlook from the perspective of upper echelons theory. J. Account. Lit. 37 (1), 55–75.
- Pustejovsky, J.E., Tipton, E., 2016. Small sample methods for cluster-robust variance estimation and hypothesis testing in fixed effects models. J. Bus. Econ. Stat. 36 (4), 672–683.
- Rahman, M.J., Chen, X., 2023. CEO characteristics and firm performance: evidence from private listed firms in China. Corp. Gov. 23 (3), 458–477. https://doi.org/10.1108/ CG-01-2022-0004.
- Sadaa, A.M., Ganesan, Y., Ahmed, M.G., 2023. The effect of earnings quality and bank continuity: the moderating role of ownership structure and CSR. J. Sustain. Financ. Invest. 13 (1), 366–386.
- Sadaa, A.M., Ganesan, Y., Yet, C.E., 2022. The effect of ownership structure on the nonperforming loans in Iraqi banks. GATR J. Financ. Bank. Rev. 7 (1), 86–97. https://doi.org/10.35609/jfbr.2022.7.1(6).
- Sadaa, A.M., Ganesan, Y., Yet, C.E., Alkhazaleh, Q., Alnoor, A., aldegis, A.M., 2023. Corporate governance as antecedents and financial distress as a consequence of credit risk. Evidence from Iraqi banks. J. Open Innov. Technol. Mark. Complex. 9 (2), 100051 https://doi.org/10.1016/j.joitmc.2023.100051.
- Saidu, S., 2019. CEO characteristics and firm performance: focus on origin, education and ownership. J. Glob. Entrep. Res. 9 (1) https://doi.org/10.1186/s40497-019-0153-7.
- Saleh, M.W.A., Shurafa, R., Shukeri, S.N., Nour, A.I., Maigosh, Z.S., 2020. The effect of board multiple directorships and CEO characteristics on firm performance: evidence from Palestine. J. Account. Emerg. Econ. 10 (4), 637–654. https://doi.org/10.1108/ JAEE-12-2019-0231.

Sallemi, N., Zouari, G., 2023. The effect of CEO characteristics on Takaful performance. Int. J. Discl. Gov. 20 (1), 70–82.

- Sardari, R., Setayesh, M., Kordlouie, H., Banimahd, B., 2021. Studying the moderating role of audit committee independence in the relationship between CEO narcissism and real earnings management. Iran. J. Financ. 5 (3), 58–77. https://doi.org/ 10.30699/ijf.2021.247085.1155.
- Shahab, Y., Ntim, C.G., Ullah, F., Yugang, C., Ye, Z., 2020. CEO power and stock price crash risk in China: do female directors' critical mass and ownership structure matter? Int. Rev. Financ. Anal. 68 (May 2019), 101457 https://doi.org/10.1016/j. irfa.2020.101457.
- Suherman, S., Mahfirah, T.F., Usman, B., Kurniawati, H., Kurnianti, D., 2023. CEO characteristics and firm performance: evidence from a Southeast Asian country. Corp. Gov. 23 (7), 1526–1563. https://doi.org/10.1108/CG-05-2022-0205.
- Tariq, B., Najam, H., Han, H., Sadaa, A.M., Abbasi, A.A., Christopher, N., Abbasi, G.A., 2021. Examining mobile financial services in Pakistan: rural and urban perspective with gender as a moderator. Stud. Syst. Decis. Control 335, 225–245. https://doi. org/10.1007/978-3-030-64987-6 14.
- Thanos, I.C., Papadakis, V.M., 2012. The Use of Accounting-based Measures in Measuring M&A Performance: A Review of Five Decades of Research. In: Advances in Mergers and Acquisitions, Vol. 10. Emerald Group Publishing Ltd. https://doi. org/10.1108/S1479-361X(2012)000010009.

Thong, J.Y.L., Yap, C.-S., 1995. CEO characteristics, organizational characteristics and information technology adoption in small businesses. Omega 23 (4), 429–442.

Wiseman, R.M., Cuevas-Rodríguez, G., Gomez-Mejia, L.R., 2012. Towards a social theory of agency. J. Manag. Stud. 49 (1), 202–222. https://doi.org/10.1111/j.1467-6486.2011.01016.x.