Empirical Evidence of the Impact of Senior Executive Ownership on Firm Performance: Classification of Investments in Equity Instruments under IFRS 9 as a Mediator Variable

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Abstract

The study examines the relationship between ownership by senior executives (OSE) and firm performance (FP). In addition, the study investigates the impact of the classification of investments in equity instruments (CIEI) according to IFRS 9 as a mediating variable on this relationship. The study uses earnings per share (EPS), company liquidity (LIQ), and share price (SP) as proxies of FP. The study also relies on the ratio of investments in equity instruments at fair value through other comprehensive income to total equity instruments at fair value (referred to in this study as EICR) as a proxy for decision making related to CIEI under IFRS 9. Using stakeholder theory, the study develops a framework for defining , analyzing, and forecasting the relationships between OSE, CIEI under IFRS 9, and FP. Two groups of hypotheses were developed to test the study framework: the first group contains hypotheses that tested the direct relationships between OSE, CIEI under IFRS 9, and FP; and the second group contains hypotheses that tested the indirect impact of OSE on FP when making decisions related to CIEI under IFRS 9 as a mediator variable. The study relies on structural equation modeling as an approach to testing the research hypotheses. The data were gathered from 105 companies listed on the Saudi Stock Exchange over a four-year period (2019-2022). The study data also underwent path analysis to examine the different effects between the study variables and the consistency of the models and to gather empirical evidence. This study presents two groups of empirical findings. The first group provides empirical evidence related to the direct relationships between OSE, CIEI under IFRS 9, and FP. This empirical evidence shows that there is no direct impact of OSE on EPS or SP, but OSE has a positive and direct impact on LIQ. There is also a negative and direct impact of OSE on EICR. Furthermore, EICR has a negative and direct impact on EPS, LIQ, and SP. The second group affords empirical evidence related to the indirect impact of OSE on FP when making decisions related to CIEI under IFRS 9 as a mediator variable. This empirical evidence reveals that there is a positive and full indirect impact of OSE on SP and EPS through the EICR as a mediator variable. In addition, there is a positive and partial indirect impact of OSE on LIQ through EICR as a mediator variable.

Keywords: Ownership by senior executives, Investments in equity instruments, IFRS 9, Firm performance

1. Introduction

Financial Instruments: Recognition and Measurement (IAS 39) was a critical factor in causing the 2008 financial crisis (Gornjak, 2017). Therefore, stakeholders (such as the G20) suggested that accounting standards for financial instruments be improved. In this regard, the improvement process has focused on simplifying accounting standards and using fair value in the reporting of financial instruments (Gornjak, 2017). In responding to the G20 and other stakeholders, the International Accounting Standards Board (IASB) issued *International Financial Reporting Standards 9* (IFRS 9) in 2014, replacing IAS 39 (IASB, 2001). IFRS 9 came into effect as of January 1, 2018 and sets out the reporting principles for financial assets and liabilities and assists users in assessing the amounts, timing, and uncertainty of a company's future cash flows. IFRS 9 provides two alternatives for reporting investments in equity instruments. The first is to measure investments in equity instruments at fair value through other comprehensive income. This is an irrevocable option and focuses on reporting all changes in the fair value of investments in equity instruments in other comprehensive income. The second alternative is to measure investments in equity instruments at fair value through profit or loss. This approach focuses on reporting all changes in the fair value of investments in equity instruments in profit or loss statement. In both alternatives, the company recognizes the income from dividends in the income statement. The selection of the appropriate alternative depends on the business model of the company. A company's business model outlines how the company manages its financial assets in order to create cash flows. In other words, the company's business model explains whatever cash flows will arise from gathering contractual cash flows, selling financial assets, or both (IFRS 9). Therefore, choosing one of the two alternatives depends on the judgment and discretion of the company's senior management (Zang et al., 2022). For example, the senior executives may choose the first alternative if they want to decrease the variance in earnings, which is normally employed in remuneration arrangement. Under IFRS 9, the prevention of the recoverability of equity instruments in other comprehensive income creates new areas of

discussion on the relevance of the profit and loss statement (Pinto and Morais, 2022).

Identifying better ways to report changes in fair value under profit and loss or under other comprehensive income is a key issue in the accounting literature. In this regard, previous research has yielded mixed findings. For example, Khan et al. (2018) showed that comprehensive income provides more useful information for decision making than income statement. Conversely, Bratten et al. (2016) showed that unrealized earnings or losses led to increased errors of measurement, and thus a decrease in the relevance value of accounting information. In this respect, many issues remain unanswered in the accounting literature, such how and why does the management decide to classify investments in equity instruments and how does that decision affect firm performance(FP)?.

Ownership structure is a significant corporate governance mechanism because it reduces conflicts of interest between stakeholders and improves their wealth (Afifa et al., 2021; Akhtar et al., 2021). Ownership structure has a significant impact on business decisions and is, therefore, a key driver affecting company performance (Safdar et al., 2019). A major segment of the corporate governance literature investigates the association between managerial ownership, company strategies, and FP. In these respects, ownership by senior executives (OSE) is a corporate governance mechanism that allows the owners to control the company's assets, particularly cash holdings, and enhance the company's value. The stakeholder model predicts that the ownership structure will play a crucial role in increasing the value of a company (Afifa et al., 2021). For example, Chen et al. (2015) found that a company's return on equity and growth rate had an impact upon CEOs' compensation. Furthermore, ownership by executives has a substantial effect on executive remuneration. Senior executives who own shares in the company's capital have at least two motivations for enhancing FP through the classification of equity instrument decisions under IFRS 9. First, short-term incentives, which include maximizing annual share returns and annual compensation for senior executives. Compared to EICR, the classification of investments in equity instruments at fair value through profit and loss (EIPL) increases net

income through changes in the fair value of equity instruments. This translates into higher returns on equity, higher share prices, and hence, increased annual compensation for senior executives. In addition, EIPL increases net income through changes in the fair value of equity instruments, and hence increases the annual dividend received by senior executives. This means that EIPL maximizes the short-term return of senior executives through the cash dividends they receive and their annual remuneration. Second, long-term incentives, which are related to maximizing the long-term performance of shares owned by senior executives and increasing the value of the company. Compared to EICR, the classification of EIPL increases return on equity through changes in the fair value of equity instruments and enhances a company's share price. This leads to maximizing the company's value. Consequently, in the long run, senior executives will realize capitalistic profits from the sale of their shares.

There are two groups of studies that relate to the discussion above. The first group includes studies that examined the impact of managerial ownership on FP. Those studies yielded mixed results. Some provided empirical evidence that FP is significantly and positively affected by managerial ownership (i.e., Ellyana, 2023; Itan and Chelencia, 2022; Nurjanah, 2022; Puspitasari and Widiyaningsih, 2023; Wijayanto et al., 2022). Conversely, other studies have provided empirical evidence that managerial ownership had a significant and negative impact on FP (i.e., Shah et al., 2022; Sormin and Manona, 2022; Waseem et al., 2023). Moreover, a few studies provided empirical evidence that managerial ownership had no impact on FP (i.e., Fauziah and Winarso, 2023; Gibran and Armansya, 2023; Risa et al., 2022). The second group includes studies that investigated the economic outcomes of the adoption of IFRS 9, in particular, the classification of investments in equity instruments (CIEI). This group of studies can be subdivided into two subsets. The first subset includes studies that examined the impact of the adoption of IFRS 9 on the quality of financial reporting (measured by the quality of earnings and the relevance and credibility, comparability, and complexity of financial reporting). Some studies have shown that the application of IFRS 9 enhances the quality of earnings and the relevance and

credibility of the accounting information (i.e., Ahmed et al., 2021; El Haq and Pratama, 2021; Mechelli and Cimino, 2021; Mohammed and Al-Mashhadani, 2021; Saeed and Nikam, 2020). Other studies, however, found that the complexity of financial reporting had increased, and the relevance of the accounting reporting decreased after the adoption of IFRS 9 (Astolfi, 2021; Schaap, 2020). The second subset includes studies that examined the impact of CIEI according to IFRS 9 on FP. For example, Pinto and Morais (2022) demonstrated a negative association between leverage and EICR, whereas Zang et al. (2022) show that most companies selected EICR and that there is no relationship between earnings volatility and the choice of EICR.

Five gaps can be identified in respect of the studies referred to above. First, most of the previous studies used managerial ownership, which refers to shares owned by directors and supervisors and omitted senior executives. Second, there is a shortage of studies examining factors that affect decision making concerning CIEI under IFRS 9, particularly executive ownership. Third, there is a scarcity of studies that investigate the economic effects of decision making relating to CIEI under IFRS 9. Fourth, there are insufficient studies that examine the factors and economic effects of decision making concerning CIEI under IFRS 9 for non-financial corporations. Fifth, most of the previous research relied on questionnaires to collect empirical data. Few of the previous studies used quantitative data to investigate the impact of the application of IFRS 9 on the quality of accounting information or its economic effects.

The economic consequences of the replacement of IAS 39 with IFRS 9 can be examined from the point of view of the management of a company or the financial market participants, or both. In terms of the company, it is vital to learn what motivates senior executives in their decision making concerning CIEI under IFRS 9. For those involved in the financial markets, it is also important to examine the impact of decision making concerning CIEI under IFRS 9 on the quality of accounting information (McDonough et al., 2020).

In light of the above discussion, the main purpose of this study is to conduct an empirical investigation of the relationship between OSE and FP in the Saudi business environment. An addition purpose is to

examine empirically the impact of decision making concerning CIEI under IFRS 9 as an intermediary in this relationship. To accomplish this objective, this study aims to conduct an empirical investigation to answer the following questions:

- Does OSE have a significant impact on FP?
- Does decision making related to CIEI under IFRS 9 have a significant impact as a mediator variable between OSE and FP?

The results of this study are divided into two groups of empirical evidence. The first group provides empirical evidence regarding the direct relationships between OSE, CIEI according to IFRS 9, and FP. This group contains four pieces of empirical evidence, as follows:

1. There is no direct impact of OSE on earnings per share (EPS) or share price (SP).
2. OSE has a positive and direct impact on liquidity (LIQ).
3. OSE has a negative and direct impact on EICR.
4. EICR has a negative and direct impact on EPS, LIQ, and SP.

The second group presents empirical evidence relating to the indirect impact of OSE on FP through CIEI under IFRS 9 as a mediator variable. This group contains the following two pieces of empirical evidence:

1. There is a positive and full indirect impact of OSE on SP and EPS through EICR as a mediator variable.
2. There is a positive and partial indirect impact of OSE on LIQ through EICR as a mediator variable.

Based on the above-mentioned findings, this study contributes to the literature on IFRS 9 in several ways. First, the current study presents empirical evidence concerning the direct impact of OSE on decision making regarding CIEI under IFRS 9. Second, the present study yields empirical evidence of a direct impact on FP of decision making regarding CIEI under IFRS 9. Finally, the present study provides empirical evidence regarding the indirect impact of OSE on FP when decision making concerning CIEI under IFRS 9 as a mediator variable. At the professional level, this study presents empirical evidence for the IASB regarding the economic consequences of the adoption of IFRS 9. In addition, the study yields empirical evidence concerning OSE as a factor influencing the classification decisions relating to equity instruments under IFRS 9.

2. Theoretical framework

This section presents the research framework and a review of previous literature related to the purpose of the study. In light of the research objective, previous studies were classified into two groups: studies that investigated the impact of managerial ownership on FP; and studies that examined the economic consequences of the adoption of IFRS 9.

2.1 Proposed research framework

This study depends on stakeholder theory to develop a framework for the impact of OSE on FP through CIEI under IFRS 9 as a mediator variable. Figure 1 illustrates the proposed research framework.
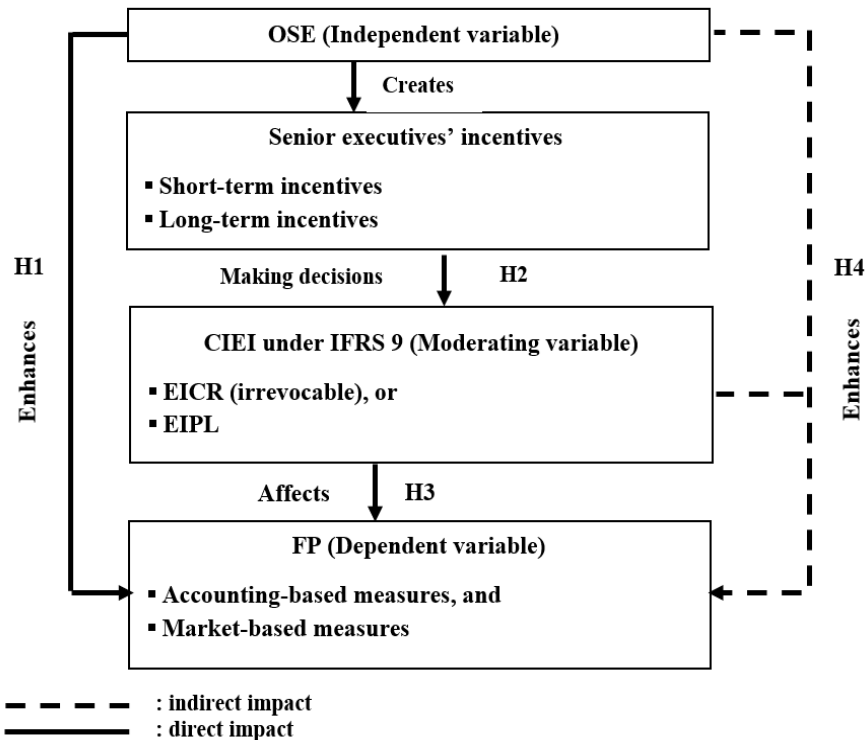

Figure 1. Impact of OSE on FP by CIEI under IFRS 9 as a mediator variable

Stakeholder theory assumes that monitoring tools are an essential mechanism for aligning the interests of principals and agents (Agarwal, 2020). Despite this, a rise in the management ownership ratio

expands the likelihood of senior management maximizing their own interests at the expense of stakeholders. For example, senior executives may increase the company's liquidity since it is less costly and subject to less market discipline. According to stakeholder theory, there are a large number of agency relationships at the company level, such as shareholders versus top management or senior executives versus other-level managers. In this respect, there are two viewpoints on the relationship between managerial ownership and FP (Agarwal, 2020). First, the motivation perspective: this viewpoint focuses on what managerial ownership contributes to harmonizing the self-interest of stakeholders, consequently mitigating agency issues and related costs among stakeholders (Jensen and Meckling, 1976). Therefore, the motivation point of view indicates that managerial ownership positively affects the performance of the company. Second, the entrenched perspective: this view focuses on increasing managerial ownership, leading to difficulties of control by external shareholders. From this perspective, managers may not have an incentive to increase the company's value, which creates a negative impact of managerial ownership on FP.

2.2 Managerial ownership and FP

Information asymmetry can occur in two ways: the phenomenon of asymmetry of information between management and external stakeholders (i.e., lenders); and the phenomenon of asymmetry of information between senior executives and other-level managers. The literature indicates that asymmetry in information between management and external stakeholders has an impact on company decisions, particularly when determining liquidity (Xiong et al., 2021). There is a lack of research that examines the impact of information asymmetry between executives and other-level managers on company decisions. According to Xiong et al. (2021), "Decision theory suggests that the quality of the decisions made by top executives is based on the quality of information they are able to obtain" (p. 2152). For example, Xiong et al. (2021) show that the relationship between the level of information asymmetry and liquidity has a positive impact. Capital structure represents one of the mechanisms of corporate governance. Ownership by senior managers improves the efficiency of corporate governance, thus reducing the asymmetry of internal information and increasing the efficiency of the decision making.

Theoretically, the concept of performance is at the heart of strategic management. Empirically, most researchers employ organizational performance to investigate the extent of strategy and process issues. In this context, there are two classes of company performance measures: accounting-based measures and market-based measures (Al-Matari et al., 2014). In this respect, previous research related to the objective of the current study can be classified into two groups: the first consists of studies looking at the impact of managerial ownership on a company's accounting-based measures; and the second contains studies on the impact of managerial ownership upon a company's market-based measures. The two groups of studies were gathered according to the following criteria:

- Collect and analyze only studies that directly examine the impact of managerial ownership on a company's market-based measures and a company's accounting-based measures.
- Exclude studies that focus on financial companies.

Table 1 provides a summary of studies examining the impact of managerial ownership on the accounting-based measures of a company. Table 2 below presents a summary of studies examining the impact of managerial ownership on the market-based measures of a company.

Table 1: Summary of studies on the impact of managerial ownership upon the accounting-based measures of a company				
Author	**Year**	**Title**	**Proxy of company performance**	**Results**
Ali et al.	2023	The moderating impact of board gender diversity on the relationship between ownership structure and firm performance. An empirical study	ROE, EPS, and ROA	Managerial ownership has a positive impact on FP
Waseem et al.	2023	Impact of managerial entrenchment on firm performance	ROA	Managerial ownership has a negative impact on FP
Gibran and Armansya	2023	The effect of liquidity ratio, solvability ratio, activity ratio and ownership structure to the company profitability of consumer goods industry in Indonesian capital market	ROA	Managerial ownership has no impact on FP
Puspitasari and Widiyaningsih	2023	Environmental performance analysis, environmental disclosure, company size and managerial ownership of the company's financial performance	ROA	Managerial ownership has a positive impact on FP
Sormin and Manona	2022	Analysis of the influence of intellectual capital and corporate governance on financial performance.	ROA	Managerial ownership has a negative impact on FP
Itan and Chelencia	2022	The mediating role of capital structure in corporate governance on firm performance of family companies	ROA	Managerial ownership has a positive impact on FP

Shah et al.	2022	The impact of capital structure and ownership structure on financial performance: A study on the KSE-100 listed firms in the Pakistan Stock Exchange	ROA	FP was insignificant and negatively associated with managerial ownership
Wijayanto et al.	2022	Profitability, capital structure, managerial ownership and firm value (empirical study of manufacturing companies in Indonesia 2016-2020)	ROA	Managerial ownership has a positive impact on FP
Salehi et al.	2022	The relationship between corporate governance and cost of equity: Evidence from the ISIS era in Iraq	COE	Managerial ownership has a negative impact on FP
Mevania et al.	2022	The effect of managerial ownership, company size, liquidity, and profitability on financial distress	FD	Managerial ownership does not affect financial distress
Fajri	2022	The effect of good corporate governance and profitability on company value	ROA	Managerial ownership has a positive impact on FP
Djanor and Erawati	2022	The effect of financial performance and managerial ownership on company value with company size as a moderating variable	ROA	Managerial ownership has a positive impact on FP
Manurung and Wijaya	2022	The effect of family ownership, institutional ownership, managerial ownership, block holder ownership, and board of directors on company performance	ROA	Managerial ownership has no impact on FP
Nicholas et al.	2022	Policy influence debt, ownership managerial and profitability against company value in the food and beverages sub-sector Indonesian securities in the 2019-2021 period	ROA	Managerial ownership has no impact on FP
Doloksaribu and Hutapea	2022	The effect of managerial ownership, institutional ownership, independent commissioners, audit committee on company value (IDX 30 2018-2020)	ROA	Managerial ownership has a positive impact on FP
Akhtar	2022	Corporate governance, excess-cash and firm value: Evidence from ASEAN-5	Liquidity	Managerial ownership has a positive impact on FP

Huang et al.	2022	The nonlinear effect of shareholder ownership structure on a firm's cash holdings: Type I and Type II agency problem perspectives in China's split-share reform	Liquidity	Managerial ownership has a positive impact on FP
Alkurdi et al.	2021	Ownership structure's effect on financial performance: An empirical analysis of Jordanian listed firms	ROA	Managerial ownership has a positive impact on FP
Doorasamy	2021	Capital structure, firm value, and managerial ownership: Evidence from East African countries	ROA	Managerial ownership has a negative impact on FP
Akhtar et al.	2021	Chief Executive Officers' monitoring, board effectiveness, managerial ownership, and cash holdings: Evidence from ASEAN	Liquidity	Managerial ownership has a negative impact on FP
Afifa et al.	2021	Direct and mediated associations among ownership structure, cash holdings and firm value: The case of Jordanian insurance firms	Liquidity	Managerial ownership has no impact on FP
Yuwono and Aurelia	2021	The effect of profitability, leverage, institutional ownership, managerial ownership, and dividend policy on firm value	ROE	Managerial ownership has a positive impact on FP
Handayani et al.	2020	Corporate financial performance on corporate governance mechanism and corporate value: Evidence from Indonesia	ROA	Managerial ownership has a positive impact on FP
Wu and Dong	2020	The impact of change in CEO ownership on future firm performance	ROA	There is a positive relation between FP and changes in CEO ownership
Adamu and Haruna	2020	Ownership structures and firm performance in Nigeria: A canonical correlation analysis	EPS and ROA	Managerial ownership has a negative impact on FP
Imade and Okoye	2020	Effect of ownership structure on the performance of selected listed firms in Nigeria	ROA	CEO ownership has no impact on FP
Adiputra et al.	2019	The influence of corporate social responsibility, managerial ownership, and firm size on firm performance: Evidence from manufacturing companies in Indonesia	ROE	Managerial ownership has no impact on FP
Ahmed et al.	2018	Determinants of corporate cash holdings: An empirical study of Chinese listed firms	Liquidity	Managerial ownership has a negative impact on FP
Sheikh et al.	2011	The impact of internal attributes of corporate governance on firm performance: Evidence from Pakistan	ROA and EPS	Managerial ownership has a negative impact on FP

ROA: return on assets
ROE: return on equity
EPS: earnings per share
FD: financial distress
COE: cost of equity

Table 1 shows that there are mixed findings in studies that examined the impact of managerial ownership on a company's accounting measures. For example, some studies find that there is a positive impact of managerial ownership on FP (e.g., Ali et al., 2023; Puspitasari and Widiyaningsih, 2023; Wijayanto et al., 2022; Wu and Dong, 2020). Conversely, other studies reported a negative impact of managerial ownership on FP (e.g., Waseem et al., 2023; Salehi et al., 2022; Adamu and Haruna, 2020), and others show that managerial ownership had no impact on FP (e.g., Mevania et al., 2022; Imade and Okoye, 2020).

Table 2 shows that there are varied results in studies that examined the impact of managerial ownership on the market-based measures of a company. Some studies find a negative impact of managerial ownership on FP (e.g., Martha and Rina, 2023; Waseem et al., 2023; Saniyah and Azmi, 2022). Conversely, other studies have indicated that there is a positive impact of managerial ownership on FP (e.g., Nurjanah, 2022; Yudha et al., 2022; Djanor and Erawati, 2022). Furthermore, some studies show that managerial ownership has no impact on FP (e.g., Fauziah and Winarso, 2023; Elia et al., 2022; Florackis et al., 2020; Risa et al., 2022).

Table 2: Summary of studies on the impact of managerial ownership upon the market-based measures of a company				
Author	Year	Title	Proxy of company performance	Results
Waseem et al.	2023	Impact of managerial entrenchment on firm performance	Tobin's Q	Managerial ownership has a negative impact on FP
Martha and Rina	2023	The effect of liquidity, managerial ownership, and leverage on the value of companies listed in the Indonesia Stock Exchange in 2016-2020	Tobin's Q	Managerial ownership has a negative and immaterial impact on FP
Ellyana	2023	The effect of ownership managerial, independent commissioners and audit committees on company value (banking companies listed on the Indonesia)	PBV	Managerial ownership has a positive impact on FP
Fauziah and Winarso	2023	The influence of intellectual capital component and managerial ownership on company value (case study of mining companies in the oil and gas subsector listed on the Indonesia Stock Exchange in 2016-2021)	PBV	Managerial ownership has no impact on FP
Sahrul and Novita	2023	Ownership structure, firm value and mediating effect of firm performance	Tobin's Q	Managerial ownership has no impact on FP

Saniyah and Azmi	2022	Managerial ownership, debt policy, and firm value (studies on manufacturing companies listed on the IDX for the 2014-2018 period)	Tobin's Q	Managerial ownership has a negative impact on FP
Shah et al.	2022	The impact of capital structure and ownership structure on financial performance: A study on the KSE-100 listed firms in the Pakistan Stock Exchange	Tobin's Q	FP was insignificantly and negatively associated with managerial ownership
Iwasaki et al.	2022	Ownership structure and firm performance in emerging markets: A comparative meta-analysis of East European EU member states, Russia and China	Tobin's Q	Managerial ownership has a positive impact on FP
Wijayanto et al.	2022	Profitability, capital structure, managerial ownership and firm value (empirical study of manufacturing companies in Indonesia 2016-2020)	Tobin's Q	Managerial ownership has a positive impact on FP
Elia et al.	2022	Influence factors of company value in technology sector	PBV	Managerial ownership has no impact on FP
Fajri	2022	The effect of good corporate governance and profitability on company value	PBV	Managerial ownership has a positive impact on FP
Djanor and Erawati	2022	The effect of financial performance and managerial ownership on company value with company size as a moderating variable	PBV	Managerial ownership has a positive impact on FP
Risa et al.	2022	The effect of dividend policy, managerial ownership, and profitability on company value with corporate social responsibility disclosure as	Tobin's Q	Managerial ownership has no impact on FP

		moderating variables in the banking sector listed on Indonesia Stock Exchange 2017-2021		
Nurjanah	2022	The influence of managerial ownership and characteristics of the board of commissions on company performance	Tobin's Q	Managerial ownership has a positive impact on FP
Yudha et al.	2022	The influence of managerial ownership and company growth on company value through institutional ownership as a moderation variable	PBV	Managerial ownership has a positive impact on FP
Alkurdi et al.	2021	Ownership structure's effect on financial performance: An empirical analysis of Jordanian listed firms	Tobin's Q	There is no association between FP and managerial ownership
Ardillah and Thenia	2021	Corporate social responsibility, investment decisions, and managerial ownership on value of the company: Evidence from Indonesia	PBV	Managerial ownership has no impact on FP
Doorasamy	2021	Capital structure, firm value, and managerial ownership: Evidence from East African countries	Tobin's Q	Managerial ownership has a negative impact on FP
Yuwono and Aurelia	2021	The effect of profitability, leverage, institutional ownership, managerial ownership, and dividend policy on firm value	Tobin's Q	Managerial ownership has a positive impact on FP

Handayani et al.	2020	Corporate financial performance on corporate governance mechanism and corporate value: Evidence from Indonesia	Tobin's Q	Managerial ownership has a positive impact on FP
Adamu and Haruna	2020	Ownership structures and firm performance in Nigeria: A canonical correlation analysis	Tobin's Q	Managerial ownership has a negative impact on FP
Lee and Ruy	2020	Management ownership and firm value: An empirical analysis using panel data	Tobin's Q	Managerial ownership has a positive impact on FP
Sutrisno	2020	Corporate governance, profitability, and firm value study on the Indonesia Islamic Index	Tobin's Q	Managerial ownership has no impact on FP
Soewarno and Ramadhan	2020	The effect of ownership structure and intellectual capital on firm value with firm performance as an intervening variable	Tobin's Q and PBV	Managerial ownership has a positive impact on FP
Fujianti et al.	2020	The effect of managerial ownership, dividend policy, and debt on firm value: The Indonesia Stock Exchanges cases	PBV	Managerial ownership has a negative impact on FP
Trisnadewi and Amlayasi	2020	Corporate values: The role of corporate social responsibility, managerial ownership, and profitability in Indonesia	Tobin's Q	Managerial ownership has a negative impact on FP
Florackis et al.	2020	Idiosyncratic risk, risk-taking incentives and the relation between managerial ownership and firm value	Tobin's Q	Managerial ownership has no impact on FP
Benson et al.	2020	So far away from me: Firm location and the managerial ownership effect on firm value	Tobin's Q	Managerial ownership has a positive impact on FP
Haghighi and Gerayli	2019	Managerial ownership and stock price crash risk: A case of Iranian firms	Stock price crash risk	Managerial ownership increases the corporate stock price crash risk
Sheikh et al.	2011	The impact of internal attributes of corporate governance on firm performance: Evidence from Pakistan	PBV	Managerial ownership has a negative impact on FP
PBV: price-to-book value ratio, calculated as the market price per share divided by the book value per share.				

In summary, Tables 1 and 2 show that there are mixed outcomes related to the impact of managerial ownership on FP. These findings vary for at least five reasons. First, previous studies used varying proxies for FP. Second, some empirical studies focused on one industry sector to investigate the impact of managerial ownership on FP, whereas other studies focused on the market as a whole to examine the relationship between managerial ownership and FP. Third, previous studies differed in the approach to measuring managerial ownership. For example, some studies were based on the concept of a dummy

variable as a measure of managerial ownership, whereas others measured managerial ownership according to the number of shares held by managerial ownership divided by the total number of the firm's outstanding shares. Fourth, previous studies differed in their proxies of the market measures and accounting measures of companies. Fifth, differences in the results of previous studies could be the consequence of variations in terms of the level of the area of application of the financial market for these studies (e.g., emerging markets versus advanced markets; Bagh et al., 2021).

The studies examined above reveal a research gap, which is related to determining the level of the management team whose shares are held within the company's capital structure. In other words, this deficiency is related to the definition of managerial ownership. Most previous studies used managerial ownership, which refers to internally owned actions by directors and supervisors and neglects senior executive ownership. To bridge that gap, this study's first research question can be expressed as follows:

Q.1. Does OSE have a significant impact on FP?

In order to provide an empirical answer to the above question, the following hypothesis is formulated:

H1: OSE has a positive impact on FP.
  H1a: OSE has a positive impact on firm profitability.
  H1b: OSE has a positive impact on firm liquidity.
  H1c: OSE has a positive impact on the firm's share price.

2.3 CIEI under IFRS 9
After IFRS 9 was issued, some studies investigated the impact of the adoption of the standards on accounting information quality. For example, El Haq and Pratama (2021) revealed that applying IFRS 9 led to an increase in the quality of accounting reporting as measured by the quality of earnings. In contrast, Taylor and Aubert (2022) demonstrated that adopting IFRS 9 reduced the quality of earnings, using EPS and the book value of the shares as a proxy of the value relevance of accounting information. In their work, Ahmed et al. (2021), Alkhresat and Almubaydeen (2019), Mohammed and Al-Mashhadani (2021), and

Saeed and Nikam (2020) demonstrated that the application of IFRS 9 enhanced the relevance of accounting information. Conversely, Schaap (2020) found that the relevance of accounting information declined after the adoption of IFRS 9. In this respect, Al-Hait and Shubita (2017) also revealed that the application of IFRS 9 improved the relevancy of accounting information. However, there was no impact on other attributes of the quality of accounting information, including credibility, suitability, and comparability (Essam et al., 2020). Furthermore, the application of IFRS 9 led to an increase in the complexity of financial reporting (Astolfi, 2021). According to Mechelli and Cimono (2021), improving the quality of accounting information after the application of IFRS 9 is conditional on the availability of efficient governance and a strong investor protection system. Depending on the company's business model, at initial recognition, management may elect either EICR (an irrevocable option) or EIPL (IFRS 9). In this regard, Pinto and Morais (2022) found a negative association between leverage and EICR. Furthermore, CEO compensation was shown to have a significant impact on decision making related to CIEI under IFRS 9. Zang et al. (2022) demonstrated that under IFRS 9, most companies chose EICR. Furthermore, no relationship was found between income volatility and EICR.

In summary, there are mixed results related to the impact of the adoption of IFRS 9 on the quality of financial reporting. There is also a lack of studies that empirically examine the impact of adopting IFRS 9 on FP. There are two gaps in earlier studies of the application of IFRS 9. First, there is a dearth of studies that examine factors that affect decision making related to CIEI under IFRS 9, particularly OSE. Second, there is a scarcity of studies that investigate the economic consequences of decision making related to CIEI under IFRS 9. To address both gaps, the second and third research questions addressed in this study can be expressed as follows:

Q.2. Does OSE have a significant impact on decision making related to CIEI under IFRS 9?

Q.3. Does decision making related to CIEI under IFRS 9 have a significant impact on FP?

To provide empirical evidence in answering the above two questions, the following two hypotheses are formulated:

H2: OSE has a negative impact on EICR.

H3: EICR has a negative impact on FP.

H3a: EICR has a negative impact on firm profitability.

H3b: EICR has a negative impact on firm liquidity.

H3c: EICR has a negative impact on a firm's share price.

Two trends in the management literature explain the relationship between FP and executive remuneration (Shi et al., 2021). The first orientation focuses on the remuneration of senior executives, particularly the CEO, being determined by the capital and labor markets. The second direction focuses on senior executives using remuneration as a tool to maximize their own interests to the detriment of the those of other stakeholders (Pinto and Morais, 2022). Executive remuneration is normally determined by reference to information in the income statement. In other cases, executive remuneration is based on the firm's share price (i.e., stock option plan). Management remuneration should permit a harmony of interests between management and other stakeholders (Jensen and Meckling, 1976). In this regard, research on the association between executive compensation and firm performance yields mixed results. For example, Abudy et al. (2020) and Rath et al. (2020) found that executive remuneration has no impact upon the value of the company. On the other hand, Al-Shammari (2021) documented a positive correlation between the remuneration of CEOs and the strategic risk of an enterprise. In contrast, Rehman et al. (2021) found that executive compensation and company profitability are positively correlated. In addition, Ahamed (2022), Amewu and Alagidede (2021), Kayani and Gan (2022), Mehran et al. (2022), Rehman et al. (2021), and Wang et al. (2021) demonstrated that executive compensation is positively associated with FP as measured by the return on assets (ROA), return

on equity (ROE), and market value. In other work, Nasrin (2022) concludes that executive compensation has an adverse influence on the stability of a business.

Coetzee and Hall (2020) note that there is a significant difference in the association between CEO compensation and FP depending on the indicator used to assess performance. Although EPS is positively associated with CEO remuneration, there is a negative relationship between ROA and CEO remuneration. Shi et al. (2021) conclude that there is a positive relationship between FP and CEO compensation based on the suitability of the strategic selection of CEOs. Changes in the fair value of assets and liabilities affect the statement of income over threefold more than the statement of comprehensive income (Pinto and Morais, 2022). Therefore, the application of fair value accounting increases income volatility. Furthermore, income volatility has a negative correlation with market assessments. Executives whose remuneration is based on market prices choose an accounting technique that decreases the volatility of company performance.

As mentioned above, executives who hold shares in the company's capital have at least two motivations to improve FP by making decisions related to CIEI under IFRS 9. First, short-term incentives (measured by the company's profitability and liquidity), which include maximizing annual share returns and annual compensation for senior executives; and second, long-term incentives (measured by the company's share price), which involve maximizing long-term returns on shares for senior executives and enhancing the company's value. As discussed above, the current study proposes that OSE affects decision making related to CIEI under IFRS 9 in two directions. The first direction focuses on the company decision making related to CIEI under IFRS 9 that increases annual net income and, hence, maximizes executive compensation. The second direction focuses on the company making decisions related to CIEI under IFRS 9 that enhance the company's share price and hence maximize company value. This brings us to the final research question:

Q.4 Does decision making related to CIEI under IFRS 9 have a significant impact as a mediator variable between OSE and FP?

To provide empirical evidence to answer the above question, the following hypothesis is formulated:

H4: There is a positive indirect impact of OSE on FP through decision making related to CIEI under IFRS 9 as a mediator variable.

> **H4a: There is a positive indirect impact of OSE on firm profitability through decision making related to CIEI under IFRS 9 as a mediator variable.**
>
> **H4b: There is a positive indirect impact of OSE on firm liquidity through decision making related to CIEI under IFRS 9 as a mediator variable.**
>
> **H4c: There is a positive indirect impact of OSE on a firm's share price through decision making related to CIEI under IFRS 9 as a mediator variable.**

3. Empirical study design

An empirical study was designed to test the research framework on a sample of companies listed on the Saudi Stock Exchange. To achieve this, the hypotheses of the study were divided into two groups: the first group contains hypotheses that test the direct impact of OSE on FP and CIEI in accordance with IFRS 9 (H1 and H2) and the direct impact of CIEI in accordance with IFRS 9 on FP (H3); the second group consists of hypotheses that test the indirect impact of OSE on FP through CIEI under IFRS 9 as a mediator variable (H4). This section is divided into six subsections: the first focuses on the definitions and measurement of the study variables; the second presents the development of the structural equation modeling (SEM) and path analysis; the third outlines how the study samples were selected and the data were gathered for the empirical study; the fourth describes the statistical methodology for testing the study hypotheses; the descriptive statistics of the study variables are shown in the fifth; and the final subsection presents and discusses the findings from the empirical study.

3.1 Study models variables: definitions and measurement

The primary objective of this study is to investigate the impact of OSE on FP and the role of CIEI under IFRS 9 as a mediator variable in these relationships. To test the study hypotheses, OSE

is the independent variable, FP is the dependent variable, and CIEI under IFRS 9 is a mediator variable. The present study uses both earnings per share (EPS) and liquidity (LIQ) as proxies for accounting-based measures and employs the company's share price (SP) as a proxy for market-based measures. Under the business model, the equity instruments can be classified at fair value through other comprehensive income or at fair value through profit and loss (IFRS 9). The study uses EICR as a proxy of CIEI in accordance with IFRS 9. EICR is the ratio of the value of the fair value of equity instruments through other comprehensive income divided by the total fair value of equity instruments. The study also uses OSE as a proxy for managerial ownership. OSE is measured as the number of shares held by senior executives divided by the total number of outstanding shares of the company. Table 3 below outlines the definitions and methods of measurement of all the variables in the study.

Table 3: Study variables: definitions and measuremen

Variable	Type	Proxy	Abbreviation	Measurement	Research
Managerial ownership	Independent	Ownership by senior executives	OSE	The number of shares held by senior executives divided by the total number of outstanding company shares *i* at year-end *t*.	Magerakis and Tzelepis (2020)
Company performance	Dependent	Liquidity	LIQ	Cash divided by total assets for company *i* at year-end *t*.	Akhtar (2022); Akhtar et al. (2021); Huang et al. (2022)
		Profitability	EPS	Earnings per share of company *i* at year-end *t*.	Adamu and Haruna (2020); Ali et al. (2023)
		Share price	SP	The company's closing share price after 2 weeks from the date of the issue of financial reporting.	Haghighi and Gerayli (2019); Waseem et al. (2023)
Classification of investments in equity instruments under IFRS 9	Mediator	The ratio of equity instruments classified at fair value through other comprehensive income divided by the total of equity instruments at fair value.	EICR	The fair value of equity instruments through other comprehensive income divided by the total balance of the fair value of the equity instruments of company *i* at year-end *t*.	Pinto and Morais (2022)
Audit committee effectiveness	Control	Financial expertise	ACF	Ratio of financial experts to non-financial experts on the audit committee of company *i* at year-end *t*.	Choi et al. (2020); Narwal and Jindal (2017)
		Number of meetings	ACN	Number of meetings of the audit committee of company *i* at year-end *t*.	
		Audit committee size	ACZ	Number of audit committee members of company *i* at year-end *t*.	
Company size	Control	Total assets	SIZ	The natural logarithm of total assets of company *i* at year-end *t*.	Al-Najjar and Clark (2017); Kwan and Lau (2020); Mouline and Sadok (2021); Narwal and Jindal (2017); Wu et al. (2017)
Financial constraints	Control	Leverage	LEV	Total liabilities divided by total assets of company *i* at year-end *t*.	Tsai et al. (2022); Zhang and Zhou (2022)
		Cash flow from operating activities	CFO	Cash flow from operating activities of company *i* at year-end *t*.	

i: number of company (n=1,…,105)
t: number of accounting period (n=1,…,4)
Cov: control variables for the study (n=1,…,6)
FP: firm performance

3.2 Development of SEM and path analysis

The study relied on SEM to test the research hypotheses. SEM helps to test a series of relationships simultaneously and is the preferred means of testing indirect (mediated) effects between study variables (Herda, 2013). In accordance with the framework, the study developed the following four structural equation models to test the study hypotheses:

$$FP_{i,t} = \beta_0 + \beta_1\, OSE_{i,t} + \Sigma\, \beta_M\, Cov_{i,t} + \varepsilon_{i,t}$$

$$EICR_{i,t} = \delta_0 + \delta_1\, OSE_{i,t} + \Sigma\, \delta_M\, Cov_{i,t} + \varepsilon_{i,t}$$

$$FP_{i,t} = \alpha_0 + \alpha_1\, EICR_{i,t} + \Sigma\, \alpha_M\, Cov_{i,t} + \varepsilon_{i,t}$$

$$FP_{i,t} = \gamma_0 + \gamma_1\, OSE_{i,t} + (\alpha_1 * \delta_1)\, EICR_{i,t} + \Sigma\, \gamma_M\, Cov_{i,t} + \varepsilon_{i,t}$$

SEM (1) was developed to test the impact of OSE on FP (H1). SEM (2) was established to test the impact of OSE on EICR (H2). SEM (3) was created to test the impact of the EICR on FP (H3). Finally, SEM (4) was produced to test the indirect impact of OSE on FP under EICR as a mediator variable (H4). The SEM was displayed using a path analysis chart (Hox and Bechger, 1999). Figure 2 below shows the four SEM approaches listed above. AMOS was used to estimate the four models proposed above.
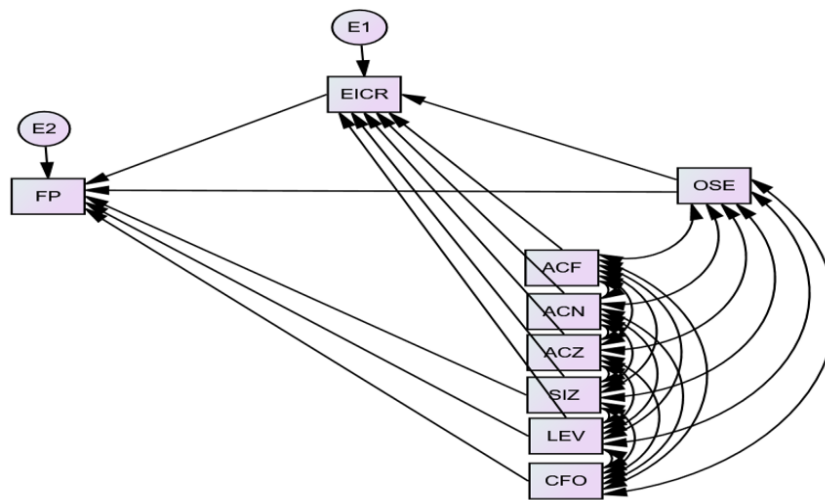

**Figure 2: Path analysis of the impact of OSE on FP in light of the EICR
under IFRS 9 as a mediator variable**

3.3 Sample selection and data collection

The research population encompasses companies that operate in the Saudi business environment and the research sample consists of companies listed on the Saudi Stock Exchange. The study sample was selected based on the following criteria:

1. The study period starts in 2019 as the date that IFRS 9 came into effect and ends in 2022.
2. The companies selected must be registered during the study period (2019-2022).
3. Companies for which data are not available over the study period are excluded from the final sample of the study.
4. Financial companies are excluded from the study sample.
5. Non-financial companies that do not have investments in equity instruments under IFRS 9 during the study periods are excluded.

The final study sample contains 105 non-financial companies listed on the Saudi Stock Exchange between 2019 and 2022. The sample contains 420 observations. Table 4 presents a summary of the study sample. Data were gathered from the financial statements of the companies in the final sample of the study and the Saudi Stock Exchange database.

Table 4: Study sample

Industrial sector	Number of companies per sector	Ratio by sector (%)
Materials	44	42
Real-estate management and development	12	11
Retailing and production of goods	10	10
Capital goods	10	10
Telecommunication and transportation services	10	10
Healthcare equipment and services	9	9
Energy	6	5
Commercial and professional services	4	3
Total	105	100

3.4 Statistical methodology for testing the study hypotheses

Figure 2 above shows that there are three types of impact between the study variables: direct, indirect, and overall impacts. A direct impact concerns the impact of the independent variable on the dependent variable without there being other variables between the two. An indirect impact concerns the impact of the independent variable on a dependent variable through another variable (i.e., the mediator variable). The overall impact is the sum of the direct and indirect impacts. An indirect impact can be further classified (mediator variable) into four types (Little et al., 2007). The first is a full indirect impact, which is incurred when the relationship between the independent variable and the mediator variable, as well as that between the mediator variable and a dependent variable, is significant, and the direct relationship between the independent variable and the dependent variable is not significant. The second is a partial indirect impact, which occurs when the relationship between the independent variable and the mediator variable, as well as between the mediator variable and the dependent variable, is significant, as well as there being a direct significant relationship between the independent variable and the dependent variable. The third is inconsistent mediation, which takes place when the relationship between the independent variable and the mediator variable is significant, as well as there being a significant relationship between the mediator variable and the dependent variable. In addition, the direct relationship between the independent variable and a dependent variable is significant, but these relationships vary in nature. Finally, the mediator variable does not have any impact. This circumstance takes place if:

- the relationship between the mediator variable and the dependent variable is not significant, but the relationship between the independent variable and the dependent variable is significant, or

- the relationship between the independent variable and the dependent variable is not significant, or

- the relationship between the independent variable, the dependent variable, and the mediator variable is not significant.

3.5 Descriptive statistics of the study variables

The descriptive statistics for the study variables are presented in Table 5.

Table 5: Descriptive statistics of the study variables

	N	Minimum	Maximum	Mean	Std. deviation
OSE	420	.10	20.30	.79	3.19
EICR	420	.00	1.00	.76	.39
LIQ	420	.01	.56	.05	.070
EPS	420	-6.20	8.21	.87	2.35
SP	420	8.20	165.60	34.77	30.30
ACF	420	.14	.71	.40	.18
ACN	420	4.00	12.00	5.89	2.02
ACZ	420	5.00	7.00	5.58	.75
SIZ	420	4.80	8.68	6.42	.71
LEV	420	.01	.93	.39	.24
CFO	420	-.37	.35	.05	.097

As shown in Table 5, OSE has a minimum value of .10, a maximum value of 20.30, and a mean of .79. These results indicate that the study sample has different levels of OSE. In addition, EICR has a minimum value of .00, a maximum of 1.00, and a mean of .76. These results suggest that most of the sample companies classify equity instruments at fair value through profit and loss. In addition, LIQ, EPS, and SP have mean values of .05, .87, and 34.77, respectively; and ACF, CAN, ACZ, SIZ, LEV, and CFO have mean values of .40, 5.89, 5.58, 6.42, .39, and .05, respectively.

3.6 Empirical results
3.6.1 Multicollinearity test results

Table 6 shows the results of testing for multicollinearity between the study variables. The results show that the variance inflation factor (VIF) values between all the variables in the study are less than 3. This finding indicates that there is no problem of multicollinearity between the variables in any of the models used in the study (Neter et al., 1996).

Table 6: Multicollinearity test results for the study variables

Coefficients[a]

Variable	Collinearity statistics	
	Tolerance	VIF
OSE	.876	1.141
LIQ	.811	1.233
EPS	.871	1.148
EICR	.739	1.354
ACF	.816	1.394
ACN	.686	1.459
ACZ	.650	1.003
SIZ	.446	2.242
LEV	.785	1.275
CFO	.441	2.670

a. Dependent variable: SP

Coefficients[a]

Variable	Collinearity statistics	
	Tolerance	VIF
OSE	.888	1.127
LIQ	.757	1.322
EICR	.688	1.453
ACF	.816	1.394
ACN	.686	1.457
ACZ	.660	1.013
SIZ	.446	2.242
LEV	.799	1.252
CFO	.441	2.670
SP	.769	1.300

a. Dependent variable: EPS

Coefficients[a]

Variable	Collinearity statistics	
	Tolerance	VIF
OSE	.896	1.116
EICR	.687	1.456
ACF	.716	1.305
ACN	.688	1.453
ACZ	.450	1.103
SIZ	.447	2.237
LEV	.741	1.349
CFO	.441	2.670
SP	.474	2.110
EPS	.500	1.998

a. Dependent variable: LIQ

3.6.2 Correlation analysis

Table 7 shows a small degree of correlation between the study variables (under 80%). These results demonstrate that there is no correlation between the independent variables of the models. In other words, these results endorse the results of the multicollinearity test presented in Table 6. In addition, a negative correlation exists between EPS, SP, LIQ, and EICR. OSE is positively correlated with LIQ. In contrast, there is no association EPS, SP, and OSE.

Table 7: Correlation analysis results

		OSE	EICR	LIQ	ACF	ACN	ACZ	SIZ	LEV	CFO	EPS	SP
OSE	Pearson Correlation	1	-.187	.140	.029	-.012	-.038	-.025	.175	.285	.087	.140
	Sig. (2-tailed)		.001	.015	.611	.840	.517	.667	.002	.000	.131	.115
EICR	Pearson Correlation		1	-.218	-.175	.298	.176	.339	.121	.069	-.119	-.293
	Sig. (2-tailed)			.000	.002	.000	.002	.000	.036	.235	.039	.000
LIQ	Pearson Correlation			1	-.246	.001	-.163	-.212	-.192	-.289	.010	.311
	Sig. (2-tailed)				.000	.990	.005	.000	.001	.000	.866	.000
ACF	Pearson Correlation				1	-.341	.333	-.266	.050	.050	-.018	-.105
	Sig. (2-tailed)					.000	.000	.000	.393	.389	.760	.069
ACN	Pearson Correlation					1	.049	.398	-.073	.123	.128	.038
	Sig. (2-tailed)						.402	.000	.205	.033	.027	.510
ACZ	Pearson Correlation						1	.407	.171	.163	.175	.053
	Sig. (2-tailed)							.000	.003	.005	.002	.356
SIZ	Pearson Correlation							1	.357	.446	.372	.215
	Sig. (2-tailed)								.000	.000	.000	.000
LEV	Pearson Correlation								1	.007	-.147	.098
	Sig. (2-tailed)									.906	.011	.091
CFO	Pearson Correlation									1	.638	.322
	Sig. (2-tailed)										.000	.000
EPS	Pearson Correlation										1	.635
	Sig. (2-tailed)											.000
SP	Pearson Correlation											1
	Sig. (2-tailed)											
Correlation is significant at the 0.05 level (2-tailed).												

3.6.3 Goodness of fit of the SEM

The study used four measures to determine if the SEM proposed for the study was suitable for the sample data (Hooper et al., 2008). Table 8 shows the goodness-of-fit measurements of the study models.

Table 8: Goodness-of-fit measurements of the study models

SEM / Fit indices	Criterion	SEM (1): EPS as a proxy of firm performance	SEM (2): LIQ as a proxy of firm performance	SEM (3): SP as a proxy of company performance
GFI	More than .90	.998	.984	.992
AGFI	More than .90	.979	.984	.956
NFI	More than .90	.997	.963	.982
CFI	More than .90	1.000	.967	.987

GFI: goodness-of-fit statistic
AGFI: adjusted goodness-of-fit statistic
NFI: normed fit index
CFI: comparative fit index
Source: Hair et al. (2010)

GFI measures the level of variance in the matrix analyzed by the proposed model. AGFI adjusts the GFI upon degrees of freedom. NFI evaluates the model by comparing the χ^2 value of the model to the χ^2 of the null model. CFI is an adjusted measure of NFI that considers sample size. The values of all four measures vary from (0) to (1). Table 8 shows that the four

measures are above 95% for any model, which indicates the quality of the three SEMs.

3.6.4 SEM results

Four of the above SEMs (from SEM (1) to SEM (4)) were organized to test the four study hypotheses. Table 9 summarizes the statistical findings from three SEMs (from SEM (1) to SEM (3)).

Table 9: Results of the path analysis for the study hypothesis tests (direct impacts)

			SEM (1) EPS as a proxy of firm performance						SEM (2) LIQ as a proxy of firm performance						SEM (3) SP as a proxy of firm performance		
			Estimate	CR	P				Estimate	CR	P				Estimate	CR	P
EICR	<---	OSE	-.024	-3.624	.000	EICR	<---	OSE	-.024	-3.624	.000	EICR	<---	OSE	-.024	-3.624	.000
EPS	<---	OSE	-.053	-1.576	.115	LIQ	<---	OSE	.006	4.860	.000	SP	<---	OSE	-.143	-.269	.788
EPS	<---	EICR	-1.440	-5.461	.000	LIQ	<---	EICR	-.026	-2.635	.008	SP	<---	EICR	-30.252	-7.198	.000
EICR	<---	ACF	-.236	-1.699	.089	EICR	<---	ACF	-.236	-1.699	.089	EICR	<---	ACF	-.236	-1.699	.089
EICR	<---	ACN	.040	3.436	.000	EICR	<---	ACN	.040	3.436	.000	EICR	<---	ACN	.040	3.436	.000
EICR	<---	ACZ	.064	1.863	.062	EICR	<---	ACZ	.064	1.863	.062	EICR	<---	ACZ	.064	1.863	.062
EICR	<---	SIZ	.074	1.842	.066	EICR	<---	SIZ	.074	1.842	.066	EICR	<---	SIZ	.074	1.842	.066
EICR	<---	LEV	.169	1.803	.071	EICR	<---	LEV	.169	1.803	.071	EICR	<---	LEV	.169	1.803	.071
EPS	<---	SIZ	.920	5.230	.000	LIQ	<---	SIZ	.012	1.792	.073	SP	<---	SIZ	8.656	3.085	.002
EPS	<---	LEV	-1.994	-4.554	.000	LIQ	<---	LEV	-.075	-4.530	.000	SP	<---	LEV	8.971	1.285	.199
EPS	<---	CFO	13.326	11.048	.000	LIQ	<---	CFO	-.298	-6.501	.000	SP	<---	CFO	81.371	4.231	.000

- Significant at the 5% confidence level.
- CR: construct reliability (similar to the concept of test design in regression analysis).

Table 10 shows the direct and indirect impacts of OSE on FP. The remainder of this section presents the results in respect of the study hypotheses.

Table 10: Results of the path analysis for direct and indirect impacts of OSE on FP

SEM (1)					
EPS as a proxy of firm performance					
Path			Type of effect	Effect	Two-tailed significance
EPS	<---	OSE	Direct	-.053	.115
Ratio				143%	
EICR	<---	OSE	Direct	-.024	.000
EPS	<---	EICR	Direct	-1.440	.000
EPS	<---	OSE	Indirect	.016	.005
Ratio				-43%	
EPS	<---	OSE	Total	-.037	
SEM (2)					
LIQ as a proxy of firm performance					
Path			Type of effect	Effect	Two-tailed significance
LIQ	<---	OSE	Direct	.006	.000
Ratio				86%	
EICR	<---	OSE	Direct	-.024	.000
LIQ	<---	EICR	Direct	-.026	.008
LIQ	<---	OSE	Indirect	.001	.012
Ratio				14%	
LIQ	<---	OSE	Total	.007	
SEM (3)					
SP as a proxy of firm performance					
Path			Type of effect	Effect	Two-tailed significance
SP	<---	OSE	Direct	-.143	.788
Ratio				-25%	
EICR	<---	OSE	Direct	-.024	.000
SP	<---	EICR	Direct	-30.252	.000
SP	<---	OSE	Indirect	.714	.004
Ratio				125%	
SP	<---	OSE	Total	.571	

3.6.4.1 First hypothesis: test results

The first hypothesis of the study was developed to test empirically the impact of OSE on FP. Concerning the impact of OSE on EPS, Table 9 shows that the path coefficients, CR, and significance level are -.053, -1.576, and .115, respectively. These results indicate that OSE has no direct impact on EPS as a proxy of firm profitability. These results do not support those in Ali et al. (2023), Adamu and Haruna (2020), and Sheikh et al. (2011). One possible reason for the conflict between the results of the current study and those of the previous studies is the definition and measurement of managerial ownership. In contrast to most of the previous studies, the current work uses senior executives' shareholding as a proxy for managerial ownership. As a result, H1a is not supported. With regard to the impact of OSE on LIQ, Table 9 shows that the path coefficient, CR, and significance level are .006, 4.860, and .000, respectively. These results indicate that OSE has a positive and direct impact on LIQ. This result is similar to those in Akhtar (2022) and Huang et al. (2022). As a result, H1b is supported. These results are consistent with stakeholder theory, which assumes that there is no optimum level of liquidity, but that liquidity is determined on the basis of managerial interests (Naumoski and Bucevska, 2022). With regard to the impact of OSE on SP, Table 9 shows that the path coefficient, CR, and significance level are -.143, -.269, and .788, respectively. These results indicate that OSE has no direct impact on SP. This result is similar to those in Alkurdi et al. (2021), Risa et al. (2022), Sahrul and Novita (2020), and Sutrisno (2020). As a result, H1c is not supported.

In summary, the results above indicate that there is no direct impact of OSE on EPS or SP, whereas there is a positive and direct impact of OSE on LIQ.

3.6.4.2 Second hypothesis: test results

The second hypothesis of the study was developed to test empirically the impact of OSE on EICR. Table 9 shows that the path coefficient, CR, and significance level are -.024, -3.624, and .000, respectively. These results indicate that OSE has a negative and direct impact on EICR as a proxy for CIEI under IFRS 9. As a result, H2 is supported.

3.6.4.3 Third hypothesis: test results

The third hypothesis of the study was developed to test empirically the impact of EICR as a proxy for CIEI under IFRS 9 on FP. Concerning the impact of EICR on EPS, Table 9 shows that the path coefficient, CR, and significance level are -1.440, -5.461, and .000, respectively. These results indicate that EICR has a negative and direct impact on EPS. As a result, H3a is supported. Table 9 also shows that for LIQ, the path coefficient, CR, and significance level are -.026, -2.635, and .008, respectively. These results indicate that EICR has a negative and direct impact on LIQ. As a result, H3b is supported. With regard to SP, Table 9 shows that the path coefficient, CR, and significance level are -30.252, -7.198, and .000, respectively. These results indicate that EICR has a negative and direct impact on SP. As a result, H3c is supported.

In summary, the results provide empirical evidence that there is a negative and direct impact of EICR on EPS, LIQ, and SP as proxies of firm performance.

3.6.4.4 Fourth hypothesis: test results

The fourth hypothesis aims to test the indirect impact of OSE on FP through EICR as a mediator variable. With regard to EPS, Table 10 shows that the path coefficient and significance level are .016 and .005, respectively. These results show that there is a significant and positive indirect impact of OSE on EPS through EICR as a mediator variable. Table 10 also shows that the indirect impact of OSE on EPS through EICR as a mediator variable represents -43% of the total impact of OSE on EPS. Table 9 provides empirical evidence that there is no direct impact of OSE as an independent variable on EPS as a dependent variable, as expressed earlier in Figure 2. In addition, there is a significant and negative direct impact of OSE as an independent variable on EICR as a mediator variable, as expressed in Figure 2. There is also a significant and negative direct impact of EICR as a mediator variable on EPS as a dependent variable, as expressed in Figure 2. Taking the preceding results together, using EICR as a mediator variable, the study provides empirical evidence that there is a significant and positive full indirect impact of OSE on EPS. As a result, H4a is supported. Figure 3

shows the results of the study hypotheses for the direct and indirect impacts between OSE and EPS through EICR as a mediator variable.
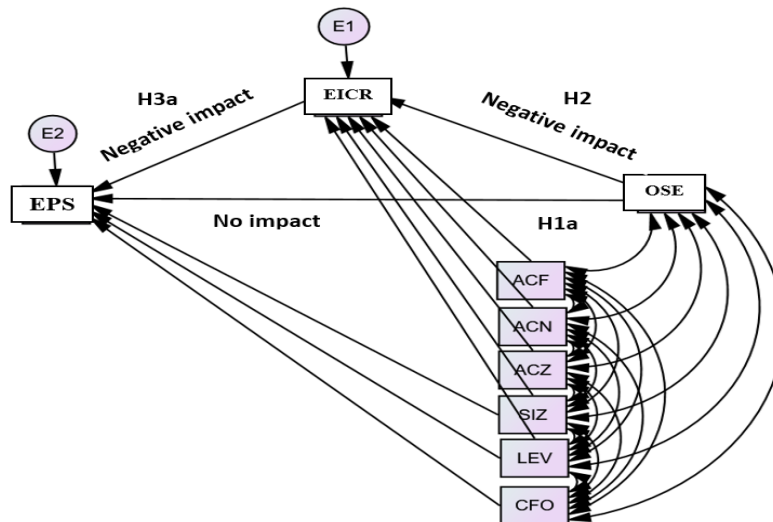

Figure 3: Direct and indirect impacts between OSE and EPS under EICR as a mediator variable

Based on Figure 3, H1a provides empirical evidence that there is no direct impact of OSE on EPS. H2 provides empirical evidence that there is a significant and negative direct impact of OSE on EICR. H3a provides empirical evidence that there is a significant and negative direct impact of EICR on EPS. H4a provides empirical evidence that there is a significant and positive full indirect (intermediate) impact of OSE on EPS through EICR as a mediator variable. From the results relating to H1a, H2, H3a, and H4a together, this study provides empirical evidence that increasing OSE encourages companies to adopt investment strategies (a business model) that classify investments in equity instruments at fair value through profit and loss.

In short, increasing OSE enhances the efficiency of investment decisions and encourages companies to classify equity instruments at fair value through profit and loss, thus increasing the company's net income and EPS.

In respect of LIQ, Table 10 shows that the path coefficient and significance level, are .001 and .012, respectively. These results show that there is a significant and positive indirect impact of OSE on LIQ through EICR as a mediator variable. Table 10 also shows that the indirect impact of OSE on LIQ through EICR represents 14% of the total impact of OSE on LIQ. Table 9 provides empirical evidence that there is a significant and positive direct impact of OSE as an independent variable on LIQ as a dependent variable, as shown earlier in Figure 2. In addition, there is a significant and negative direct impact of OSE as an independent variable on EICR as an intermediate variable, as shown in Figure 2. There is also a significant and negative direct impact of EICR as an independent variable on LIQ as a dependent variable, as indicated in Figure 2. Table 10 shows a partial indirect impact of 14%, representing only part of the impact of the independent variable (OSE) on the dependent variable (LIQ) through EICR as an intermediate variable, as shown in Figure 2. A significant part of the impact (86%) is also due to a positive direct impact of the independent variable (OSE) on the dependent variable (LIQ). Considering the previous results together, the study provides empirical evidence that there is a significant and positive partial indirect impact of OSE on LIQ through EICR as an intermediate variable. As a result, H4b is supported. Figure 4 presents the results in respect of the study hypotheses for the direct and indirect impacts between OSE and LIQ under EICR as a mediator variable.
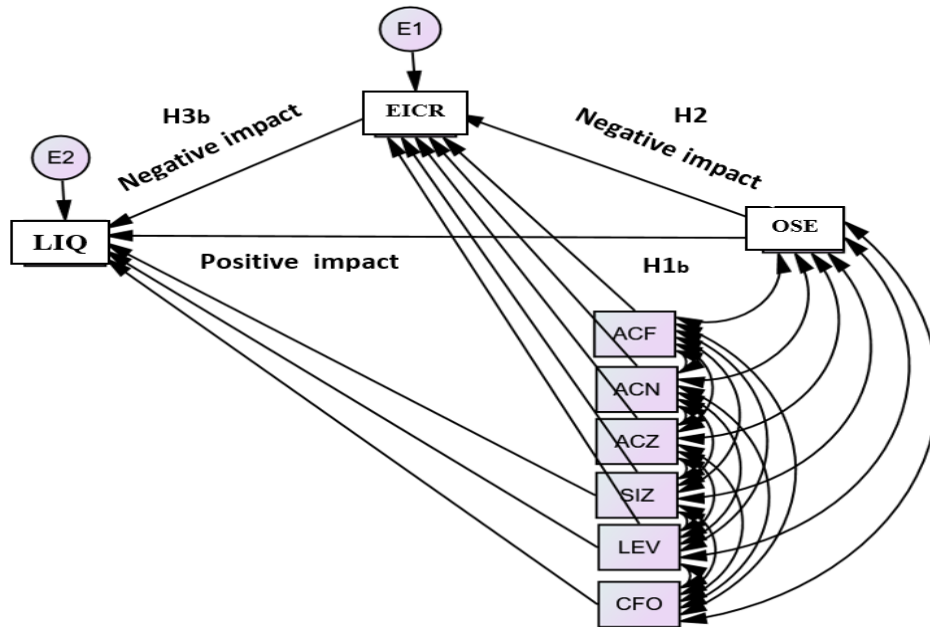
Figure 4: Direct and indirect impacts between OSE and LIQ under EICR as a mediator variable

Based on Figure 4, H1b provides empirical evidence that there is a significant and positive direct impact of OSE on LIQ. H2 provides empirical evidence that there is a significant and negative direct impact of OSE on EICR. H3b provides empirical evidence that there is a significant and negative direct impact of EICR on LIQ. H4b provides empirical evidence that there is a significant and positive partial indirect impact of OSE on LIQ through EICR as a mediator variable. From the results of testing H1b, H2, H3b, and H4b together, this study provides empirical evidence that increasing OSE encourages companies to adopt investment strategies (a business model) that classify investments in equity instruments at fair value through profit and loss. As a result, annual net earnings will increase due to changes in the fair value of equity instruments and hence lead to an increase in the holding of cash for the cash dividends payable to shareholders. Therefore, an increase in OSE encourages companies to increase their cash holding to take advantage of good investment opportunities and to pay cash dividends to shareholders.

In short, increasing OSE motivates companies to classify equity instruments at fair value through profit and loss and hence increase the company's liquidity.

Concerning SP, Table 10 shows that the path coefficient and significance level are .714 and .004, respectively. These results show that there is a significant and positive indirect impact of OSE on SP through EICR as a mediator variable. Table 10 also shows that the indirect impact of OSE on SP through EICR represents 125% of the total impact of OSE on SP. Table 9 provides empirical evidence that there is no impact of OSE as an independent variable on SP as a dependent variable, as shown earlier in Figure 2. In addition, there is a significant and negative direct impact of OSE as an independent variable on EICR as a dependent variable, as shown in Figure 2. There is also a significant and negative direct impact of EICR as an independent variable on SP as a dependent variable (see Figure 2). Considering the previous results together, using EICR as a mediator variable, the study provides empirical evidence that there is a significant and full positive indirect impact of OSE on SP. As a result, H4c is supported. Figure 5 shows the results of the study hypotheses in respect of the direct and indirect impacts between OSE and SP under EICR as a mediator variable.
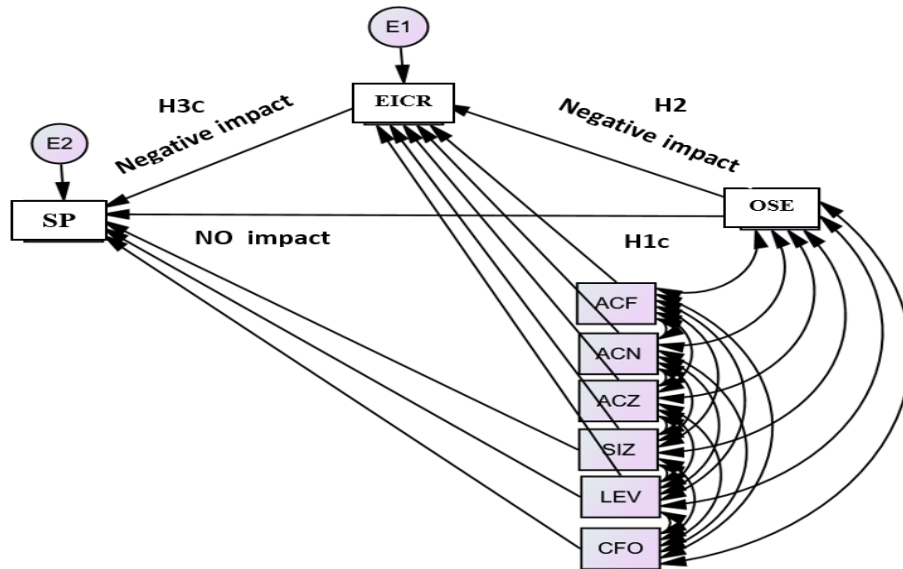
Figure 5: Direct and indirect impacts between OSE and SP under EICR as a mediator variable

According to Figure 5, testing H1c provided empirical evidence that there is no direct impact of OSE on SP. H2 provides empirical evidence that there is a significant and negative direct impact of OSE on EICR. H3c provides empirical evidence that there is a significant and negative direct impact of EICR on SP. H4c provides empirical evidence that there is a significant and full positive indirect impact of OSE on SP through EICR as a mediator variable. Taking the results of testing H1c, H2, H3c, and H4c together, this study provides empirical evidence that increasing OSE encourages companies to adopt investment strategies (a business model) that classify investments in equity instruments at fair value through profit and loss. An increase in OSE improves the efficiency and effectiveness of investment decisions and, as a result, increases the company's net income due to fluctuations in its fair value, hence increasing the company's share price.

In short, increasing OSE enhances the efficiency of investment decisions and encourages companies to classify equity instruments at fair value through profit and loss, thereby increasing the company's net income and its share price.

Table 11 presents a summary of the results regarding the study hypotheses.

Table 11: Summary of the study hypothesis results

Independent variables	Dependent variables			
	EPS	LIQ	SP	EICR
OSE	No impact	Positive impact	No impact	Negative impact
Type of impact	Direct	Direct	Direct	Direct
Hypotheses	H1a	H1b	H1c	H2
EICR	Negative impact	Negative impact	Negative impact	
Type of impact	Direct	Direct	Direct	
Hypotheses	H3a	H3b	H3c	
OSE	Full positive impact	Partial positive impact	Full positive impact	
Type of impact	Indirect	Indirect	Indirect	
Hypotheses	H4a	H4b	H4c	

4. Conclusions, limitations, recommendations, and future research

The purpose of the study was to examine the impact of ownership by senior executives on firm performance, as well as to investigate the impact of the classification of investments in equity instruments under IFRS 9 as a mediator variable on these relationships. In order to achieve these objectives, the framework of the study was developed using stakeholder theory. Two groups of hypotheses were developed to test the study framework: the first group contained hypotheses that tested the direct relationships between ownership by senior executives, the classification of investments in equity instruments under IFRS 9, and firm performance; and the second group contained hypotheses that tested the indirect impact of ownership by senior executives on firm performance when making decisions related to the classification of investments in equity instruments under IFRS 9 as a mediator variable. The study relied on structural equation modeling and path analysis to test the research hypotheses.

Using a sample of companies listed on the Saudi Arabia Stock Exchange, this study presented two groups of empirical findings. The first group provided empirical evidence related to the direct relationships between ownership by senior executives, the classification of investments in equity instruments under IFRS 9, and firm performance. This empirical evidence shows that there is no direct impact of ownership by senior executives on the

earnings per share or share price , but that ownership by senior executives has a positive and direct impact on company liquidity. There is also a negative and direct impact of ownership by senior executives on the classification of investments in equity instruments at fair value through other comprehensive income. Furthermore, the classification of investments in equity instruments at fair value through other comprehensive income has a negative and direct impact on earnings per share, company liquidity, and share price. The second group of findings presented empirical evidence that there is a positive and full indirect impact of ownership by senior executives on share price and earnings per share through the classification of investments in equity instruments under IFRS 9 as a mediator variable. In addition, there is a positive and partial indirect impact of ownership by senior executives on company liquidity through the classification of investments in equity instruments under IFRS 9 as a mediator variable. The aforementioned empirical results reflect an increase in ownership by senior executives motivating the company's management to classify investments in equity instruments at fair value through profit and loss. As a result, the earnings per share increases through changes in the fair value of investments. Therefore, senior executives have the incentive to increase the liquidity of the company to take advantage of good investment opportunities and pay cash dividends to shareholders. Consequently, the value of the company is positively affected. These findings were supportive of the proposed study framework. The study framework focused on increasing executives' ownership leads to making a classification of investments in equity instruments decision that maximizes the value of the company. An increase in ownership by senior executives encourages senior executives to classify equity instruments at fair value through profit and loss, in order to enhance their self-interest and maximize company value. Therefore, making decisions related to the classification of investments in equity instruments under IFRS 9 contributes to aligning the interests of shareholders with those of the management, senior executives in particular. Thus, one positive effect of issuing IFRS 9 is the contribution it makes to reducing agency costs.

Based on the empirical evidence above, the present study makes three contributions to the IFRS 9 literature. First, this study presents empirical evidence of the direct impact of ownership by senior executives on decision making regarding the classification of investments in equity instruments under IFRS 9. Second, the current study provides empirical evidence of the direct impact of decision making related to the classification of investments in equity instruments under IFRS 9 on firm performance. Finally, this study provides empirical evidence of the role of the classification of investments in

equity instruments under IFRS 9 as a mediator variable in the relationship between ownership by senior executives and firm performance. Professionally, this study provides the IASB with empirical evidence of the economic consequences of adopting IFRS 9. Moreover, this study provides empirical evidence regarding ownership by senior executives as a factor influencing the classification of investments in equity instruments under IFRS 9.

There are two limitations to this research. First, the proposed study framework was tested in one market. Second, the study sample consisted of non-financial companies and excluded financial companies. Financial companies were excluded from the study sample because they prepare financial reporting using the IFRS and other regulations.

The current study highlights the importance of senior executives having a share in the company's capital, which has been shown to have a positive impact on the value of their companies and hence on the financial markets. In addition, the study seeks to emphasize the importance of continuing to investigate the economic implications of the adoption of IFRS 9. In this regard, many opportunities exist for future research. For example, future research could examine the impact of companies' operating characteristics on decision making related to the classification of investments in equity instruments under IFRS 9. Future researchers could also investigate the impact of decision making related to the classification of investments in equity instruments under IFRS 9 on earnings quality. There is also scope for studying the impact of making decisions related to the classification of investments in equity instruments under IFRS 9 on the comparability of accounting information, as well as on the earnings management strategy.

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