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Value Relevance of Accounting Information and Non-accounting Information: Evidence from Oman

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ABSTRACT

This study examines the value relevance of accounting information (AI) and non-accounting information (NAI) of listed non-financial firms in an emerging market; namely, Oman, for the period 2010-2019 using the Ohlson (1995) model. The ordinary least squares, generalized least squares (GLS), fixed effects and feasible GLS were used to test the hypotheses of the study. The results of the study show that the value relevance of earnings per share (EPS) is higher than that of book value (BV) and operating cash flow (OCF) in the Omani capital market. The results support the argument of the conceptual framework for financial reporting (2018) that earnings are the most relevant AI. The results also show that the combination of AI (i.e. EPS) and NAI (i.e. corporate social responsibility (CSR)) is more value relevant than the combination of BV, EPS, OCF and CSR. The study concludes that investors perceive that firms give less weight to OCF and BV in their investment decisions. The important contribution of this study is that it finds that the increase in the value relevance of EPS and the decrease in the value relevance of OCF, BV and CSR should be a concern for new investors in developing their investment decision making in the Omani capital market.

Keywords: Value relevance, Accounting information, Non-accounting information, Corporate social responsibility, Oman.

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قيمة الملاءمة للمعلومات المحاسبية وغير المحاسبية: دليل من سلطنة عُمان

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ملخص

تهدف هذه الدراسة إلى فحص قيمة الملاءمة للمعلومات المحاسبية والمعلومات غير المحاسبية للشركات غير المالية المدرجة في أحد الأسواق الناشئة، وهو السوق المالي في سلطنة عُمان للمدة من 2010 لغاية 2019 باستعمال نموذج Ohlson (1995). استخدمت الدراسة طريقة المربعات الصغرى، والمربعات الصغرى العامة، والتأثيرات الثابتة، والمربعات الصغرى المنظورة في اختبار فرضيات الدراسة. وأظهرت نتائج الدراسة أن قيمة الملاءمة لإيراد السهم الواحد أعلى من القيمة الدفترية للسهم الواحد، وكذلك التدفق النقدي التشغيلي في سوق المال العُماني. هذه النتائج تدعم منطق الإطار الفكري للإبلاغ المالي عام 2018؛ إذ إن الإيرادات هي أكثر المعلومات المحاسبية ملاءمة. كذلك أظهرت الدراسة أن الجمع بين المعلومات المحاسبية (إيراد السهم الواحد) والمعلومات غير المحاسبية (معلومات المساهمات الاجتماعية) أكثر ملاءمة من الجمع بين القيمة الدفترية، وإيراد السهم الواحد، والتدفق النقدي التشغيلي، ومعلومات المساهمات الاجتماعية. استنتجت هذه الدراسة أن المستثمرين يدركون أن الشركات تعطي وزناً أقل للتدفق النقدي التشغيلي والقيمة الدفترية للسهم عند اتخاذ القرارات المتعلقة باستثماراتها. إن المساهمة المهمة التي تقدمها الدراسة هي أنها تحدد أن على المستثمرين الجدد أن يهتموا بأية زيادة في قيمة الملاءمة لإيراد السهم الواحد وأي انخفاض في قيمة الملاءمة للتدفق النقدي التشغيلي، والقيمة الدفترية، ومعلومات المساهمات الاجتماعية، عند تطوير نماذج اتخاذ القرار في سوق المال العُماني.

الكلمات الدالة: قيمة الملاءمة، المعلومات المحاسبية، المعلومات غير المحاسبية، المسؤولية الاجتماعية، سلطنة عُمان.

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1. Introduction

Relevance is one of the most important characteristics of financial information, as stated in the Statement of Financial Accounting Concepts, No. 1 (FASB, 2010), "Objectives of Financial Reporting by Business Enterprises". The relevance of financial information, or value relevance, focuses primarily on accrual earnings, which are measured using the Ohlson (1995) model. According to this model, earnings and book value (BV) of shares are the main components of value relevance, because they provide significant value-relevant information for predicting a firm's earnings. Previous studies (e.g. Kadri et al., 2009; Chandrapala, 2013; Alfraih & Alanezi, 2015; Adetunji, 2016; Jelodari & Kordshouli, 2016; Elbakry et al., 2017; Tahat et al., 2021; Mashoka, 2022; Mubarika & Handayani, 2022) used the traditional Ohlson (1995) approach to examine the value relevance of earnings and BV of shares. Such studies found that accrual earnings (earnings and BV of shares) have satisfactory value predictability for earnings.

Meanwhile, other studies (Charitou et al., 2000; Choi & Jang., 2006; Kwon, 2009; Der et al., 2016; Vichitsarawong, 2011; Ragab & El-Chaarani, 2018; Bepari et al., 2013; Mirza et al., 2019; Puspa et al., 2023) improved the Ohlson (1995) model for the earnings and BV of shares by adding operating cash flow (OCF).

Findings on the role of OCF in improving earnings quality are mixed. Some previous studies found a positive relationship between OCF and value relevance, while other studies found that OCF plays a small role in enhancing value relevance. Charitou et al. (2000) found that CF plays a more important role than earnings in the capital market. Choi and Jang (2006) reported that accrual earnings are more value relevant than CF in the growth stage, but CF is more value relevant than earnings in the decline stage. Kwon (2009) found that CFs are more value relevant than earnings in the Korean capital market, suggesting that CFs can be a substitute for earnings in equity valuation models. Bepari et al. (2013) claimed that OCFs have value relevance that is incremental to BV and earnings. Ragab and EL-Chaarani (2018) indicated that CF has value relevance in emerging and frontier markets, while Mirza et al. (2019) showed the increasing importance of OCF in the Malaysian capital market. Puspa et al. (2023) found that earnings and cash flow information are helpful for investors in making investment decisions.

Conversely, Der et al. (2016) argued that CFs play an insignificant role in the value relevance of accounting information (AI). Meanwhile, Vichitsarawong (2011) concluded that the ability of CFs to explain stock returns is very low. Acaranupong (2017) found that the combined value relevance of earnings and BV of shares is greater than that of CF and BV. In addition, Eugenio et al. (2019) found that CF does not add value when firms engage in earnings management, which leads to the loss of relevance of operating cash flow.

Nguyen and Nguyen (2020) found that investors do not care about OCF when making investment decisions when a firm's earnings are growing positively.

This issue has yet to be explored in Oman, despite the increasing growth of the country's capital market. Oman's economy is primarily dependent on the oil and gas sector. Oman is a fast-growing country in the region with a "vision" for 2040 and a "corporate governance code" (CGC; Shehata, 2015). Oman's vision 2040 reveals the importance of economic diversification, which is one of the most attractive themes in this vision. Khayat (2020) pointed out that the GCC countries, including Oman, have started to implement a policy of economic diversification. Accordingly, some new trends have emerged in the capital market of the GCC countries. For example, all six GCC countries issued new laws on foreign investment (Oman, 2019; Qatar, 2019; UAE, 2018; Bahrain, 2016 [amendment]; Kuwait, 2001; Kingdom of Saudi Arabia, 2000). These laws offer many benefits to foreign investors, such as 100% ownership of

companies, tax holidays for up to 10 years, and 10-year investment visas. Increasing foreign investment is at the heart of the economic diversification of the GCC economies. For example, ALHarithi (2018) pointed out that in 2016, GCC policymakers made foreign direct investment one of the main plans to diversify the GCC economies and attract additional foreign portfolio investments.

Meanwhile, the importance of non-accounting information (NAI) has received considerable attention in the accounting literature and in practice. Examples of NAI disclosed by companies include corporate social responsibility (CSR), environmental, social and governance (ESG) information, and sustainability information. Nikolina (2016) emphasized that the importance of NAI has increased in recent years due to changes in accounting guidelines, which introduce NAI as well as AI. NAI is positively associated with market share, quality management and environmental protection decisions (Mbabazize et al., 2015), credit decisions (Suroso et al., 2018), accountability and legitimacy (Saraite-Sariene et al., 2020), and firm success (Monteiro et al., 2022).

There are numerous issues related to NAI, some of which are presented in this study. First, how can a balance be struck between AI and NAI in terms of disclosure and transparency? Second, how should AI and NAI be disclosed in financial reports? Third, how does NAI affect the decision making of financial statement users?

The main objective of this study is to investigate the relationship between value relevance of AI and NAI and earnings quality. This study tests four value relevance models to examine the role of AI and NAI in improving earnings quality. From one perspective, this study examines the role of OCF as one of the most important information provided to financial statement users. CF is useful information in financial statements, because it provides incremental information and has additional explanatory power for share prices, such as earnings and BV (Kown, 2009; Usman et al., 2022). Furthermore, the importance of CF information is demonstrated by the relationship between CF and market performance and financial performance (Andreas, 2017). From a different perspective, this study examines the role of NAI (measured by CSR) in enhancing earnings quality.

In addition, this study addresses the following research questions. First, which is the most value-relevant variable among AI in terms of BV, earnings, CF and NAI in terms of CSR in earnings quality models for Omani non-financial firms? Second, has the value relevance of BV, earnings, CF and CSR increased or decreased?

This study aims to make four contributions. First, this research is conducted in an emerging market, specifically the Omani capital market, where value relevance studies are scarce. Second, although the idea of the relationship between EPS, BV, OCF and share price is not new, it is an important issue in Oman as a new capital market for investors to consider. The results of this study can serve as a guide for such investors. Third, the study provides guidance on how the combination of AI and NAI can enable Omani corporate managers to improve transparency, accountability, and communication with all stakeholders by providing substantive information to help investors assess corporate sustainability. Finally, this study contributes to the development of future regulations on NAI, as Omani policymakers need to organize NAI to manage high quality voluntary disclosure. In the Omani business environment, these contributions enable investors and policy makers to improve their knowledge about the value relevance of AI and NAI.

The remainder of this paper is organized as follows. The second section outlines previous studies that have examined the value relevance of BV, earnings and CF, and the third section presents the empirical models used in this study. The fourth section discusses the empirical results of the value relevance of BV, earnings, CF and NAI (CSR) from 2010 to 2019, and the fifth section concludes the study.

2. Literature Review and Hypothesis Development

2.1 Value Relevance and Predictive Value of AI

Mirza et al. (2019) defined the value relevance of AI as a statistical association between AI and firm value or stock returns. Imhanzenobe (2022) noted that value relevance is a concept used to refer to the extent to which investors consider accounting numbers in financial statements when making equity investment decisions. Value relevance is used as a satisfactory indicator of the ability of AI to capture or summarize information and its effect on share price, because the FASB and IASB pointed out that relevance is one of the two fundamental characteristics of financial information; namely, relevance and faithful representation. These two characteristics reflect the quality of AI, which should assist investors in making investment decisions by selecting among alternative uses of limited resources through the provision of such characteristics. Relevance is an accounting concept with three important characteristics: predictive value, timeliness, and feedback to decision makers. The information generated by an accounting process should have a positive impact on the decision-making ability of users (Tracy, 2013). For example, AI that is provided to decision makers quickly is considered to have a high degree of relevance. In the accounting literature, the predictive value of AI has received considerable attention, as some studies (e.g. Mirza et al., 2019; Adetunji, 2016; Chandrapala, 2013) have emphasized that it is related to relevance.

Most of the studies in this area are based on the research of Ball and Brown (1968) and Beaver (1968) on earnings and Ohlson (1995) and Feltham and Ohlson (1996) on BV. Ball and Brown (1968) and Beaver (1968) confirmed the value of financial statements as a research tool and provided empirical evidence that BV is value relevant and that financial statements contain valuable information. Ohlson (1995) and Feltham and Ohlson (1996) provided evidence that earnings are value relevant to investors. Mirza et al. (2019) found that the shift from BV to earnings (EPS) was caused by the increase in the rate at which firms reported losses, the size of the non-recurring items adjusted for earnings, and changes in the average firm size. The main idea behind the use of BV and EPS is that they are value relevant for investment decisions and firm valuation. For example, Tahat et al. (2021) found that investors consider accounting information when making investment decisions. Elbakry et al. (2017) found that the value relevance of both EPS and BV is considerably higher in the long term, as they are used by market analysts to reduce opportunities for abnormal returns on shares. In addition, the BV and EPS models can be used to measure the net asset value, including the investors' earrings when buying a share. Abu Rumman and Al-Debi'e (2020) found that financial performance measures based on Ohlson's (1995) model are value-relevant for measuring the value of the company to help investors make investment and credit decisions.

The valuable information in financial statements is value relevant due to the predictive value of AI. Previous studies (e.g. Azar, 2019; Zhou et al., 2021; Pronobis & Zülch, 2011; Mbobo & Ekpo, 2016; Camodeca et al., 2014; Eugenio et al., 2019; Zalloum, 2015; Jadallah et al., 2023) discussed the role of the predictive value of AI in decision-making models. These studies found two important results regarding the predictive value of AI. First, AI has predictive value and can be used for decision-making. For example, Zalloum (2015) found that accounting information has predictive value and is used as a good indicator to measure earnings quality. Second, the contents of financial statements have different levels of explanatory power and different abilities to capture or summarize the information that affects the share value. For example, Jones and Smith (2011) found that special items, gains and losses have a stronger predictive value for future net income and future CFs than other types of comprehensive income. Tahat et al. (2021) showed that AI-based accounting measures can explain variations in a firm's market value over time. Therefore, this study proposes Hypothesis 1 (H1) as follows:

H1: EPS and BV are value relevant in the Omani capital market.

2.2 Value Relevance of OCF

Aktaş and Karğın (2012) asserted that CF information plays a crucial role in providing stakeholders with the information that they need about a firm's ability to generate CF, which is very important, because such ability can affect the firm's or shareholders' value.

A firm's ability to generate CF is one of the most important factors in predicting the firm's performance, because CF is an essential element in ensuring the survival of a firm in the long run, as cash inflows must exceed cash outflows (Lious et al., 2015). In addition, OCF can be used to determine whether a firm's operations are sufficient to pay off short-term debt, interest, and other costs associated with operations (Andreas, 2017). OCF can help improve the efficiency and effectiveness of managerial decisions, such as assessing the liquidity position of the firm, share pricing, and the ability to pay dividends to shareholders (Abdul Rahman & Sharma, 2020).

The main issue regarding OCF as value-relevant information in accounting is how the market views this AI and a firm's ability to predict future CFs. Charitou et al. (2000) found that CFs have information beyond earnings to explain security returns, suggesting that CFs can provide significant relevant information in the Japanese capital market. Lious et al. (2015) found that OCF and earnings have additional explanatory power for share prices in Australia, France, and the United Kingdom after their transition to IFRS in 2005.

In many investor decision models, investors believe that future decisions regarding OCF can be informed by examining whether and how to compare net income and CF. Lious et al. (2015) showed that investors are interested in managers' earnings management activities when they try to increase OCF by delaying payments to suppliers. According to Kwon (2009) and Farichah (2017), earnings can cause the deterioration of value relevance, because it can negatively affect the quality of earnings. However, in the IFRS environment, such activities are absent due to the lack of flexibility to use different accounting methods in IFRS. Rodríguez-Masero and López-Manjón (2020) observed that OCF is used as a tool to determine the probability of bankruptcy of a company.

Meanwhile, Comporek (2019) expressed that financial statement users can derive numerous benefits from the OCF for several reasons. First, the OCF amount is an actual economic measure that decision models can rely on. Second, OCF can provide a clear picture of the evaluation of the relationship between profit (loss) and CF. Puspa et al. (2023) pointed out that OCF has a higher value relevance than earnings, because earnings information has a managerial bias. Accordingly, OCF can reduce earnings management activities and improve EQ, as it can show the reality of economic measures. Therefore, this study proposes Hypothesis 2 (H2), as follows:

H2: OCF adds value to the value relevance of share price.

2.3 Value Relevance of NAI (CSR)

Due to the availability of information, this study selects CSR as a type of NAI to examine the incremental effect of AI and NAI on share price.

All GCC countries (including Oman) adopted a CGC in 2006 (with the exception of Oman, which adopted the code in 2002). As CSR is one of the topics included in the code, the GCC countries have come to appreciate the importance of CSR (Shehata, 2015). The field of accounting and finance has become increasingly interested in CSR. According to Budianto and Suyono (2020: 242), "CSR is a genuine effort by business entities to minimize the negative impacts and maximize the positive impacts of their operations". Previous accounting and finance studies have discussed the relationship between CSR as an NAI and other variables, such as earnings management (Kim et al., 2012), cost of equity (El Ghoul et al., 2011), risk

(Botero, 2015), firm value (D'Amato & Falivena, 2020), corporate governance (Sahut et al., 2019), share prices (Fiori et al., 2015), earnings quality (Rezaee et al., 2020), and financial reporting quality (Siueia & Wang, 2019).

Fiori et al. (2015) investigated the effect of CSR on share prices to measure the perception and reaction of financial markets to the socially responsible behaviour of companies, and found that CSR has a negative effect on share prices in the Italian stock market. Ender and Brinckmann (2019) examined the relationship between CSR news and share prices and found a strong relationship between the two factors, as share prices are affected by news about CSR. Tasnia et al. (2021) reported a positive and significant relationship between CSR and share price volatility, and Utami and Hasan (2021) argued that share prices are influenced by CSR in the Indonesian capital market. Usman et al. (2022) found that non-financial information (CSR) has a positive and significant relationship with firm profitability.

Regarding the stakeholder theory, which is used in many studies, Tasnia et al. (2021) pointed out that companies disclose a lot of information about their CSR activities in order to gain a good reputation and thus satisfactory performance. In this case, investors are interested in such firms, because they prefer to contribute to socially responsible firms. Therefore, investors may withdraw from the market and penalize firms that are not socially responsible, which may increase share price volatility. This assumption depends on the level of CSR awareness of firms and investors. For example, Fiori et al. (2015) assumed that the Italian financial market does not reward socially responsible listed firms, thereby showing a negative correlation between share prices and social performance. Utami and Hasan (2021) suggested that a firm's satisfactory response to CSR increases the value of the firm, thereby increasing its share price. Furthermore, Usman et al, (2022) stated that several firms can optimize the benefits of disclosing CSR information to the public, which leads to a positive impact on firm profitability.

In Oman, the CGC was issued in 2002, and CSR was one of the topics included in the code. Thus, Oman came to understand the importance of CSR (Shehata, 2015). Therefore, this study proposes Hypothesis 3 (H3), as follows:

H3a: CSR (as an NAI) adds value (BV and EPS) to the value relevance of share price in the Omani capital market.

H3b: CSR (as an NAI) adds value (BV, EPS and OCF) to the value relevance of share price in the Omani capital market.

3. Research Methodology

This study examines the value relevance of the AI and NAI of a sample of 70 Omani listed non-financial companies from 2010 to 2019. This study uses a quantitative approach based on secondary data collected from the Refinitiv Eikon database.

3.1 Sample Selection

This study begins the sample selection process by identifying all Omani company year observations in the Refinitiv Eikon database for the period 2010-2019, thereby eliminating financial and banking company year observations, or 36 firms. This process results in a possible sample size of 720 observations (72 firms). However, about 2.77% of the firms (n = 2) have missing data on the EQ variables. As this study tests the dynamic relationships in the data, it is important to have a complete time series to give the empirical models the best chance of capturing such relationships. Alternatively, it is crucial to minimize the likelihood of the lack of value relevance resulting from the selected firms. Table 1 shows the progress of the sample and the final sample.

Table 1
Sample of the study

Items	Number of firms	Number of Observations
Total firms	108	1080
Financial, Insurance and banking firms	36	360
Non- financial firms	72	720
Firms with missing data	2	20
Final sample	70	700

3.2 Model Specification and Variables

The idea of earnings quality research is to establish a relationship between the market value of shares and AI (Chandrapala, 2013), which can be formally expressed as follows:

$$P = f(AI), \qquad (1)$$

where P represents the market price of shares, and AI represents accounting information.

If NAI is added to Equation (1), the model will become:

$$P = f(AI) + (NAI). \qquad (2)$$

This study uses the model framework of Ohlson (1995), which establishes a relationship between the market share price and the two accounting variables. The basic model consists of earnings and BV of shares. This model has been used in many previous studies, such as Eugenio et al. (2019) and Charitou et al. (2000).

In the first model, this study tests the original Ohlson model (1995) to examine the effect of the BV of shares and EPS on the share price. In the second model, this study adds OCF to test the incremental effect of OCF on share price, while in the third model; this study adds CSR to the original Ohlson (1995) model to test the incremental effect of NAI (CSR) on share price. Finally, in model 4, this study adds OCF and CSR to test the incremental effect of OCF and CSR on share price.

This study performs basic statistical tests as well as several advanced statistical tests to test the hypotheses. For the basic statistical tests, this study performs skewness/kurtosis tests for normality and descriptive statistics, such as mean and standard deviation. In addition, this study uses correlation and variance inflation factor (VIF) to detect multi-collinearity in the regression models. Furthermore, this study performs a Breusch-Pagan/Cook-Weisberg test for heteroskedasticity and feasible generalized least squares (FGLS) to correct the autocorrelation problem. Finally, this study performs a Hausman test to choose between random effect regression and fixed effect regression.

4. Empirical Results

4.1 Test for Normality

This study uses skewness/kurtosis tests for normality. Table 2 shows the results of the tests.

Table 2
Results of skewness/kurtosis tests for normality

Variable	Obs.	Pr(Skewness)	Pr(Kurtosis)	Adj. $chi^2(2)$	Prob>chi^2
BV	700	0.96537	1.263	0.488	0.31287
EPS	700	0.96253	1.516	0.770	0.22064

OCF	700	0.1292	0.5582	2.85	0.2400
CSR	700	0.9925	0.423	0.301	0.2324
P	700	0.189	0.998	0.72733	0.908

The above results indicate that the data is normally distributed, as (Prob > chi^2) is greater than 0.05 for all variables.

4.2 Descriptive Statistics

Table 3 presents the results of the means and standard deviations of the variables of this study.

Table 3

Descriptive statistics of variables

Variable	Obs.	Mean	SD	Min.	Max.
BV	700	0.607	1.234	1.2	8.06
EPS	700	0.152	0.498	-0.922	3.705
OCF	700	5.896	1.090	3.05	8.14
CSR	700	0.213	0.416	0	1
P	700	1.359	0.875	0.05	8.66

The results in Table 3 show that the mean of BV is positive, because the market value of a share is higher than its BV (1.359/0.607 = 2.24), which indicates that the market valuation of the companies does not reflect the BV of the share. The mean of OCF is positive and quite high, indicating that Omani companies have the ability to generate sufficient positive CF to sustain and grow their operations. The mean of EPS is quite low, indicating that the ability of firms to distribute their profits is low. The mean of CSR is 0.213, which indicates that only one-fifth of the Omani firms disclose CSR activities, which is quite low.

4.3 Correlation, Multi-collinearity and VIF

Table 4 reports the correlation and multi-collinearity results.

Table 4

Results of correlation, multi-collinearity and VIF

Variable	BV	EPS	OCF	CSR	P	Variance inflation factor
BV	1.000					1.51
EPS	0.137**	1.000				1.62
OCF	0.064	-0.003	1.000			1.12
CSR	-0.1537	0.0443	-0.0071	1.000		1.03
P	0.030	0.596**	-0.063	-0.0307	1.000	

The results in Table 4 show the positive and significant relationship between EPS and P, indicating that any increase in EPS will lead to an increase in the share price. The results indicate that there is no multi-collinearity problem and that there is no significant relationship between the independent variables, except for the relationship

between BV and EPS, which is less than 0.60. In order to detect multi-collinearity in the regression analysis, this study conducts a VIF test. Yoo et al. (2014) pointed out that the VIF measures the strength of linear dependencies and the amount of variance of each regression coefficient. In general, a VIF value greater than 10 can be detrimental. As shown in Table 4, the VIF values in the model are less than 10, which means that multi-collinearity is not a problem.

4.4 Test for Heteroskedasticity and Autocorrelation

To make the data reliable for regression analysis, this study conducts a Breusch-Pagan/Cook-Weisberg test for heteroskedasticity and shows that heteroskedasticity is not present in the research data. Therefore, this study uses an ordinary least squares (OLS) or GLS estimator to test the robustness of the analysis. Table 5 shows the results of the Breusch-Pagan/Cook-Weisberg test for heteroscedasticity.

Table 5

Results of Breusch–Pagan/Cook–Weisberg test for heteroskedasticity

Model	**Breusch-Pagan / Cook-Weisberg test for heteroskedasticity** **Ho: Constant variance** **Variables: fitted values of P**	
	$chi^2(1)$	**Prob > chi^2**
Model 1	1.12	0.2898
Model 2	0.04	0.8367
Model 3	1.34	0.9896
Model 4	1.17	0.2625

In addition, this study examines the data for possible autocorrelation and performs a Durbin-Watson (DW) test. The value of the DW statistic is 0.635, indicating that the data suffer from the autocorrelation problem. Since this study detects the existence of the autocorrelation problem, in order to increase the robustness and solve the problem, this study performs FGLS regression. FGLS is more efficient than OLS in the presence of autocorrelation. The value of the DW statistic after correcting for the autocorrelation problem is 1.87, indicating that the autocorrelation problem was a serious problem.

4.5 Hausman Test Results

This study conducts a Hausman test to choose between fixed effect regression or random effect regression to improve the regression results. Table 6 shows that fixed effects should be used in all models because Prob > chi^2 is greater than 0.05.

Table 6

Hausman test results

Models	**Test: Ho: difference in coefficients not systematic** **$chi^2(3)$ = (b-B)'[(V_b-V_B)^(-1)](b-B(**	**Prob>chi^2**
1	1.10	0.7761
2	4.75	0.1911
3	5.52	0.075
4	5.57	**0.2340**

4.6 Regression Results

Table 7 presents the results of the regression models, including the OLS, GLS (fixed effects), and FGLS.

Table 7
Results of regression models (OLS, GLS [fixed effects] and FGLS)

Models		OLS				GLS-Fixed Effects				FGLS			
		AI			NAI	AI			NAI	AI			NAI
		BV	EPS	OCF	CSR	BV	EPS	OCF	CSR	BV	EPS	OCF	CSR
Model 1	Coef.	-0.013	4.305	NA	NA	0.011	1.506	NA	NA	-0.013	4.305	NA	NA
	P>|t|	0.872	0.000	NA	NA	0.806	0.000	NA	NA	**0.871**	0.000	NA	NA
	F-Value	138.26				14.70				-			
	R^2	0.3566				0.3564				-			
Model 2	Coef.	-0.105	3.083	-0.034	NA	-0.034	3.978	0.096	NA	-0.105	3.083	-0.034	NA
	P>|t|	0.263	0.000	**0.7**87	NA	0.636	0.000	0.254	NA	0.258	0.000	0.785	NA
	F-Value	28.75				17.38				-			
	R^2	**0.2550**				0.2508				-			
Model 3	Coef.	-0.051	**4.393**	NA	-0.713	0.005	1.513	NA	0.109	-0.051	4.394	NA	-0.713
	P>|t|	0.519	0.000	NA	0.002	0.901	0.000	NA	0.724	0.517	0.000	NA	0.002
	F-Value	96.79				9.80				-			
	R^2	0.3635				0.3441				-			
Model 4	Coef.	-0.122	3.106	-0.033	-0.306	-0.034	3.976	0.091	0.271	-0.122	3.106	-0.033	-0.306
	P>|t|	0.199	0.000	0.794	0.245	0.637	0.000	0.275	0.524	0.194	0.000	0.792	0.240
	F-Value	21.83				13.10				-			
	R^2	0.2589				0.2436				-			
Prob>chi^2		0.000				0.000				0.000			
Status										Homoscedastic no autocorrelation			

The OLS regression in Table 7 shows that EPS has a positive and significant effect on P at the 0.001 level in all four models (Model 1: $\beta = 4.305$, $P < 0.01$; Model 2: $\beta = 3.083$, $P < 0.01$; Model 3: $\beta = 4.394$, $P < 0.01$; Model 4: $\beta = 3.106$, $P < 0.01$). In all four models, BV and OCF have an insignificant effect on P ($P > 0.05$), indicating that a change in BV and OCF does not affect P. In model 3, CSR has a negative and significant effect on P ($\beta = -0.713$, $P < 0.01$), indicating that an increase in disclosure of CSR activities will lead to a decrease in P. In model 4, BV, OCF, and CSR have an insignificant effect on P. The R-squared value supports the OLS results, as it is 35.66% in model 1, 25.50% in model 2, 36.93% in model 3, and 25.89% in model 4.

The GLS regression results show that EPS has a positive and significant effect on P at the 0.01 level in all models (Model 1: $\beta = 1.506$, $P < 0.01$; Model 2: $\beta = 3.978$, $P < 0.01$; Model 3: $\beta = 1.513$, $P < 0.01$; Model 4: $\beta = 3.106$, $P < 0.01$). In the GLS regression, BV, OCF and CSR have an insignificant effect on P. The R-squared value supports the GLS results (fixed effects), as it is 35.64% in model 1, 25.08% in model 2, 34.41% in model 3 and 24.36% in model 4.

To improve the results of the models, this study uses FGLS, and the results show that EPS has a positive and significant effect on P at the 0.01 level ($P < 0.01$) in all four models. In addition, BV and OCF have an insignificant effect on P at the 0.05 level in all four models, and CSR has a negative and significant effect on P in Model 3 ($\beta = -0.713$, $P < 0.01$). The FGLS results show that there is no heteroskedasticity and no autocorrelation in the models.

The OLS and GLS results indicate that the explanatory power of Model 1 in terms of R-squared

value (35.66% without OCF) is greater than that of Model 2 in terms of R-squared value (25.50%), which means that OCF does not add value to the relevance of earnings. The results show that accrued earnings (EPS) is more value relevant than BV and CF, as they are less value relevant than earnings. According to the results, OCF and BV do not add value to share price. The results of this study partially support H1, as EPS is value relevant in the Omani capital market, but do not support H2, as OCF is not value relevant in the Omani capital market.

In Model 3, NAI (CSR) shows a negative and significant relationship with share price, which increases the explanatory power of the model in terms of R-squared value to 0.3635, indicating that the combination of EPS and CSR can improve the R-squared value by 1.27%, which may increase due to CSR. In model 4, CSR is insignificant at the 0.05 level, which indicates that CSR has no effect on P when it is combined with BV, EPS and OCF. This result shows that Model 3 supports H3a, but Model 4 does not support H3b.

5. Discussion

Oman is a new capital market for investors, especially foreign investors. The Omani economy has long relied on oil and gas. Recently, the government has prepared a plan to move away from oil and gas and diversify the Omani economy. The government has determined that increased investment can improve the performance indicators of the economy. One of the most important steps to adapt to this situation is to improve the quality of disclosure and transparency of information generated by companies to attract investment. Therefore, the main question is whether investors can rely on AI, such as EPS, BV and OCF. The models show that in Oman, value relevance cannot be described for BV and OCF, but EPS can represent the value relevance of AI.

This study found that BV and OCF have no effect on share prices and concluded that investors consider only earnings as value-relevant information for investment decisions in the Omani capital market. There are several reasons for this finding. First, Oman is a new capital market for investors who need reliable information before making investment decisions. Second, although Oman is a safe and stable country, investor protection rules and regulations need to be strengthened to assist investors in making investment decisions. Third, about 44.5% of the OCF observations are negative, indicating that Omani companies are unable to generate positive OCF during the study period, which makes investors more concerned about its cash flows. Fourth, the P: BV ratio is high (2.24, which is more than 1) during the study period, which indicates that the capital market of Oman values the equity of the firms lower than their BV. This result means that the market value of shares is overstated, as this market value is traded higher than the BV per share, which leads to a decrease in the explanatory power of the models.

While these findings support the argument of the Conceptual Framework for Financial Reporting (2018) that earnings are the most relevant AI, they conclude that in the Omani capital market, investors perceive that firms do not engage in earnings management practices, and thus give less weight to OCF in their investment decisions compared to EPS. Alternatively, investors focus on information related to a company's profitability and sustainability in the long run, which is provided by EPS as an indicator of earnings generation.

This study provides interesting evidence from a new emerging market; namely, Oman, with respect to one type of NAI; namely, CSR. In general, the empirical analysis shows that the Omani listed non-financial firms are lagging behind in the disclosure of NAI compared to financial information, despite the efforts made in this regard, which are clearly stated in the Omani CGC and Oman Vision 2040. However, listed non-financial companies in Oman disclose only

a few types of NAI. For example, the financial reports of Omani companies do not include information on ESG, corporate strategic issues and efforts to reduce carbon emissions. One of the main reasons for this situation is that Oman's capital market is new and needs experience in this area. In addition, Omani rules and regulations need to organize NAI disclosers to help investors make investment decisions.

The result of this study is in line with Vichitsarawong (2011), Der et al. (2016), Acaranupong (2017) and Eugenio et al. (2019), who found that CF plays an insignificant role in the value relevance of AI. In terms of BV, the result is consistent with Mubarika and Handayani (2022), who found that BV has no value relevance in investment decisions. Conversely, the results of this study are not in line with Bepari et al. (2013), Ragab and EL-Chaarani (2018), and Mirza et al. (2019), who found that OCF has value relevance in addition to BV, and the results indicate that CF has value relevance in emerging and frontier markets. On the other hand, the results of this study are in line with those of Fiori et al. (2015), who observed a negative relationship between CSR (NAI) and share price. However, the results of this study are inconsistent with those of Utami and Hasan (2021); Tasnia et al. (2021) and Usman et al. (2022), who reported a positive and significant relationship between CSR and share price.

6. Conclusion

In response to Oman's new direction to diversify the economy away from oil and gas revenues, studies have been conducted on the role of disclosure quality, corporate governance and financial investment decisions. Conversely, studies on the role of AI (BV, EPS and OCF) and NAI (CSR) in improving investment decisions are scarce. This study examines the value relevance of AI and NAI in the Omani capital market. The results show that OCF and BV have an insignificant effect on share price. However, EPS has a positive and significant effect on share price, suggesting that investors prefer to use AI of earnings in investment decision making by giving more weight to EPS than OCF and BV.

This study has several practical implications for investors, regulators, and auditors. First, this study contributes new empirical results that can improve the understanding of the predictive ability and valuation usefulness of AI and NAI. Second, since this study found that OCF has no effect on share price, policymakers should pay considerable attention to CF statement disclosure. Such a statement should be a useful source of information in investment decision making by providing OCF information to financial statement users. Given that the manipulation of OCF has less flexibility, it is important to understand why the value relevance of OCF has decreased in Oman. Third, the increase in the value relevance of EPS suggests that investors rely on the amount of earnings rather than on OCF and BV in determining share prices when deciding to enter the Omani capital market. Fourth, the sustained value relevance of EPS suggests that policymakers should focus on the accuracy and reliability of firms' reported earnings. Auditors should also pay close attention to the quality of their clients' reported earnings, as it is a key indicator that investors primarily rely on. Finally, the increase in the value relevance of EPS and the decrease in the value relevance of OCF and BV should be of concern to new investors in strengthening their investment decisions in the Omani capital market.

This study has several limitations. First, this study is based on the non-financial listed companies in the Muscat Securities Market and financial, insurance and banking companies have been excluded. Therefore, it is not possible to generalize the findings to all sectors in the Omani capital market. Further studies can be conducted in other sectors in Oman. Second, this study uses the Ohlson (1995) model. Further studies may be conducted using the portfolio return approach or the return model of the regression variation approach to

provide a more in-depth understanding and increase the robustness of the results of this study. Finally, this study focuses on AI (BV, EPS, and OCF) and only one type of NAI (CSR) to examine their effect on share price. However, other types of NAI, such as innovation and environmental information, may be considered in future studies.

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