LOCUS JOURNAL: Research & Devotion
Volume 4 No. 9 September 2025
E-ISSN 2829-7334| P-ISSN 2829-5439
Homepage: https://locus.rivierapublishing.id/index.php/jl

The Influence of EPS, DER, ROA, and NPM on Firm Value and the Impact on Stock Price: Empirical Evidence from Coal Production Subsector Companies (2021–2024)

Andini Wulan Sukmayanti, Andika Ramadhan, Gemilang Adi Perdana, Jerry Heikal
Universitas Bakrie, Indonesia
Email: sway168888@gmail.com, andhika.ramadhan26@gmail.com, gperdana@gmail.com, jerry.heikal@bakrie.ac.id

Abstract:
This study analyzes the influence of two main groups of financial ratios, namely the ratio of capital structure (Earnings Per Share/EPS and Debt to Equity Ratio/DER) and profitability ratios (Return on Assets/ROA and Net Profit Margin/NPM), on the value of companies and the share prices of firms in the coal production subsector listed on the Indonesia Stock Exchange during the period 2021–2024. The coal sector plays a strategic role in energy security and national exports but operates under government regulation through the Domestic Market Obligation (DMO) policy, which requires 25% of production to be sold to the domestic market at a fixed price. Although financial performance indicators have been widely studied in a general context, research that specifically examines their impact on commodity-based and regulated sectors such as coal remains limited. This study used the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach with secondary data from IDX and Yahoo Finance and was tested at a 5% significance level. The results show that EPS has a significant effect on stock price, and ROA has a significant effect on firm value. DER and NPM did not demonstrate a significant effect. These findings indicate that profit and asset efficiency indicators have a more pronounced influence on market (investor) perception compared to capital structure or margin, in the context of the coal subsector facing domestic pricing policies.

Keywords: Profitability Ratio, Capital Structure Ratio, Company Value, Stock Price, Coal Industry

Corresponding: Andini Wulan Sukmayanti
E-mail: sway168888@gmail.com

INTRODUCTION

In the trend of global change or commonly known as Megatrends, geopolitical influences, technological developments, climate change, and competition for natural resources have prompted many countries to reduce their dependence on fossil fuels and switch to renewable green energy. The globally adopted Net Zero Emissions target by 2050 poses a major challenge for industries that still depend on coal (Annisa & Chabachib, 2017). However, in the Indonesian context, coal commodities continue to play an important role in national energy security as part of the Golden Indonesia 2045 vision, as stated in Law No. 59 of 2024 concerning the National Long-Term Development Plan (RPJPN) 2025–2045 (Adevi & Heikal, 2022).

Data from the Ministry of Energy and Mineral Resources (EMR) in 2023 shows that coal accounts for around 40.46% of the national primary energy mix, making it the largest energy source in Indonesia, even surpassing petroleum and natural gas (Ibrahim & Heikal, 2024; Indonesia Stock Exchange, 2024; Kettipusem & Heikal, 2024). Coal's role in meeting

electricity needs is also very dominant, with more than 60% of national power plants still dependent on coal supply (Arviana & Lapoliwa, 2013). From the economic side, the mineral and coal sectors contribute around Rp2,198 trillion or 10.5% of the total Gross Domestic Product (GDP), and are Indonesia's main export commodities with an annual volume of more than 500 million metric tons. This means that the role of coal is not only vital in meeting domestic energy needs, but also makes a major contribution to the country's trade balance and fiscal stability (Astuti & Setiawati, 2024).

However, behind this strategic role, the coal industry faces significant domestic regulatory pressures, one of which is the implementation of the Domestic Market Obligation (DMO) policy (Fajri & Heikal, 2022). This policy requires each mining company to sell at least 25% of its total production to the domestic market at a fixed selling price set by the government. Although this policy aims to guarantee domestic energy supply, on the other hand, it creates a disparity between domestic selling prices and global market prices which has a direct impact on profit margins and financial flexibility of companies (Brigham & Houston, 2018). In practice, many companies have to sell coal at a price lower than the international price, which ultimately suppresses net profit, profitability, and business expansion potential (Astuti & Heikal, 2024).

This provision is a challenge, especially for companies that have limited production volumes or a large dependence on the domestic market (Hair et al., 2019l; Heikal et al., 2021; Heikal et al., 2022). Companies that have high cost structures or significant leverage are also more susceptible to margin pressures. Therefore, in a highly regulated industrial climate such as the coal subsector, the company's ability to manage financial indicators is a key factor in maintaining company value and attracting investors' attention (Gitman & Zutter, 2015).

The impact of the DMO policy on financial performance and market perception can be observed through the following graph showing a comparison of the Price to Book Value (PBV) trends and share prices of several coal subsector companies during the 2021–2024 period.

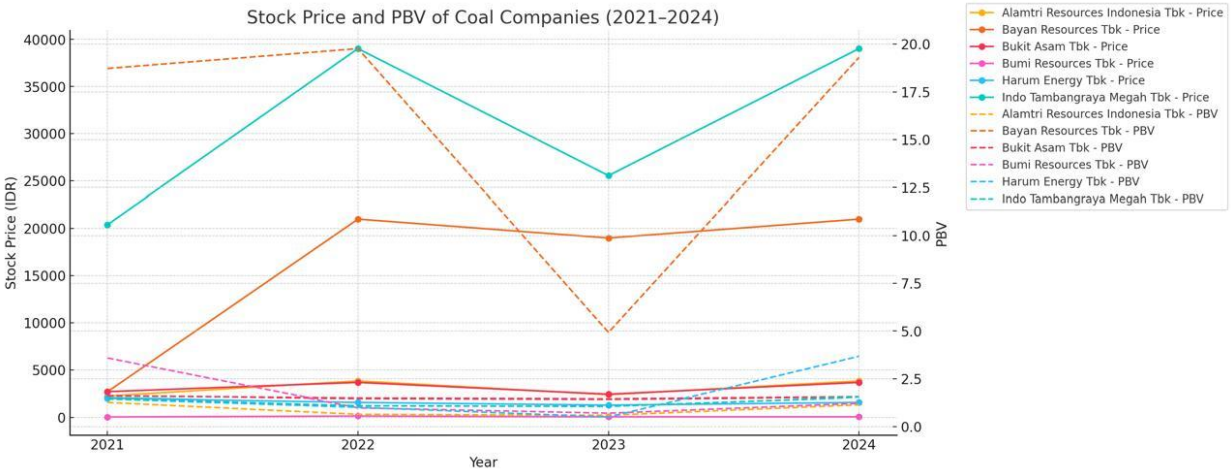

Figure 1. Composite Chart of PBV and Coal Company Stock Prices (2021–2024)

2023 (down more than 75%), but the stock price remains in the high range. In contrast, Bumi Resources Tbk's PBV increased from 0.72 to 1.24 between 2023 and 2024, but the share

price remained unchanged. This discrepancy reflects the possible distortion of market perception of the value of the company influenced by regulatory interventions such as the DMO. This condition shows that investors do not always respond directly to fundamental performance, but rather consider policy risks, global trends, and expectations of future demand.

In such uncertain conditions, it is important to identify which financial performance indicators are most relevant in shaping firm value and stock price. Financial ratios such as Earnings Per Share (EPS), Debt to Equity Ratio (DER), Return on Assets (ROA), and Net Profit Margin (NPM) are the main tools to measure a company's internal strength. EPS indicates how much profit is earned per outstanding share, DER indicates capital structure and funding risk, ROA assesses the efficiency of assets in generating profits, while NPM indicates net profit margin of all revenue.

A company's value is generally measured through the PBV ratio, which compares between the stock market price and the company's book value. PBV is considered an important indicator because it reflects investors' perception of a company's long-term prospects based on its fundamental performance (Marlina & Heikal, 2023; Rialialie & Heikal, 2023; Ross et al., 2013). Meanwhile, stock prices describe the market's response in real-time to all expectations and sentiment towards the company. In the context of the coal subsector, it is important to not only look at the direct relationship between financial ratios and stock prices, but also examine how the company's value (PBV) plays a mediator or intermediary in the relationship (Lestari & Susetyo, 2020).

Various previous studies have shown a relationship between financial performance indicators and company value as well as stock prices Lestari, A. P., & Susetyo, A. (2020) found that EPS has a positive effect on stock prices in LQ45, while Annisa, R, & Chabachib, M (2017) shows that ROA has a significant influence on company value in the manufacturing sector. However, studies that specifically examine the influence of EPS, DER, ROA, and NPM on PBV and stock prices in the context of the coal production subsector in Indonesia are still very limited. Research by Ibrahim & Heikal (2024) using the SEM-PLS approach also shows that the effectiveness of financial variables is highly dependent on industry characteristics and the influence of regulatory policies.

In addition, most previous studies have examined the direct relationship between variables without considering the role of company value as an intermediate variable. In fact, PBV as an indicator of the company's internal value has the potential to bridge the influence of financial indicators on stock prices. This means that financial performance can affect market perception through an increase in PBV, before it is finally reflected in the stock price. Therefore, it is necessary to take a model approach that is able to capture the simultaneous and complex relationships between these variables.

This study aims to analyze how the influence of EPS, DER, ROA, and NPM on company value (PBV), as well as their impact on stock prices in coal production subsector companies listed on the Indonesia Stock Exchange from 2021 to 2024. Using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach, this research is expected to make a significant empirical contribution both theoretically and practically, especially in the context of commodity-based industries that are strictly regulated by government policies. The findings

of this study are expected to provide insight for investors in assessing the fundamental performance of coal issuers, for company managers in optimizing financial structures, and for regulators in formulating energy policies that are balanced between supply sustainability and national business competitiveness.

RESEARCH METHOD

This study used a quantitative approach with the type of explanatory research. The purpose of this approach was to test the causal relationship between the variables of financial performance indicators, namely EPS, DER, ROA, and NPM, on the company's value (PBV) and stock price. With this approach, the research not only described the phenomena that occurred but also explored and identified the direct and indirect influences between variables analyzed simultaneously in one integrated structural model.

The population in this study included all companies classified as coal production subsectors and listed on the Indonesia Stock Exchange (IDX) for the period from 2021 to 2024. Based on the classification of the energy and mining sectors on the IDX, the total population of companies in this subsector reached 45 entities. However, not all companies in the population could be sampled due to limited data availability and operational sustainability during the observation period.

This study used a purposive sampling technique, which is a deliberate selection based on the suitability of the company's characteristics to the research objectives. The sample was selected based on three main considerations: companies that were consistently listed on the IDX during the research period, had complete annual financial statements accessible to the public, and had annual stock price data available from 2021 to 2024. Based on these considerations, nine companies were obtained that met all the criteria and were considered representative in reflecting the characteristics of the coal subsector population, both in terms of financial performance and existence in the Indonesian capital market.

This study used secondary data obtained from reliable sources. The company's financial statement data were taken from the official website of the Indonesia Stock Exchange (www.idx.co.id), while the annual share price data were sourced from the official website of Yahoo Finance (finance.yahoo.com). The types of data collected included the values of financial ratios (EPS, DER, ROA, NPM), the value of the Price to Book Value (PBV), and the year-end share price of each company that met the criteria.

Each variable used in this study was defined operationally based on formulas and indicators commonly used in financial literature. EPS measured net income per share, DER indicated a company's leverage level, ROA reflected asset management efficiency, and NPM described net profitability. PBV was measured by the ratio between the stock market price and the book value per share, while the stock price was taken from the year-end value.

Table 1. Variable Operations

Variable	Dimension	Indicator	Scale
Earnings Per Share (EPS)	Profitability	Net Profit ÷ Number of Outstanding Shares	Ratio
Debt to Equity Ratio (DER)	Leverage	Total Debt ÷ Total Equity	Ratio
Return on Asset (ROA)	Asset Efficiency	Net Profit ÷ Total Assets	Ratio
Net Profit Margin (NPM)	Profitability	Net Profit ÷ Revenue	Ratio

Price to Book Value (PBV)	Company Values	Stock Price ÷ Book Value per Share	Continuous Data
Stock Price	Market Valuation	Year-End Stock Price	Continuous Data

The data analysis in this study was carried out using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach, assisted by SmartPLS software version 3.2.9. This method was chosen because it is able to test the structural relationships between variables that have high complexity, including direct and indirect influences, and do not require normal data distribution.

Model evaluation is carried out through two main stages. First, evaluate the outer model used to test the validity and reliability of the construct. Second, the internal evaluation of the model which aims to test the relationship between constructs through the path coefficient value, R-square, and statistical significance value (p-value) with a significance level of 5% ($\alpha = 0.05$).

The results of this test were used to identify the extent of the influence of the free variable on the bound variable, in accordance with the structural relationship framework that has been formulated in this study.

RESULTS AND DISCUSSION

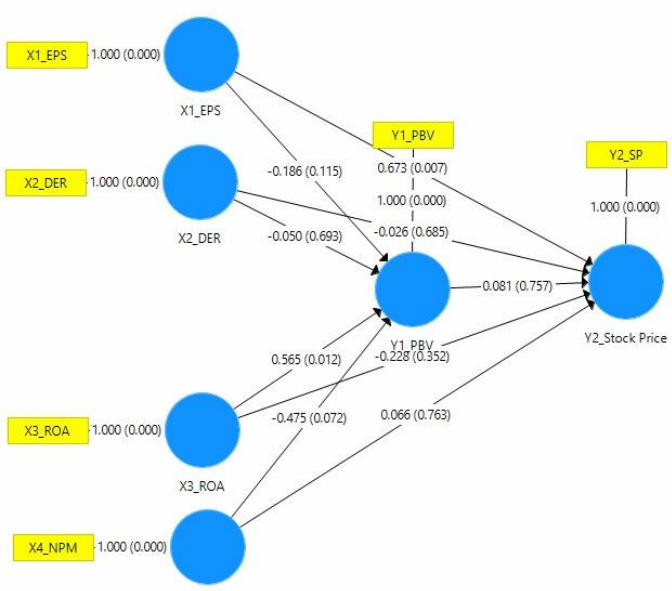

Figure 2. SEM-PLS Model Diagram Path between EPS, DER, ROA, NPM against PBV and Stock Price

The model shows the direction and strength of direct influence between latent variables in this study. The results of the path coefficient test and its significance value are presented in the following table:

Table 2. SEM-PLS Line Coefficients

Relationships Between Variables	Line Coefficient (β)	p-value	Significance
EPS → PBV	-0,186	0,115	Insignificant
Stock Price EPS →	0,673	0,007	Significant
DER → PBV	-0,050	0,693	Insignificant

DER → Stock Price	-0,026	0,685	Insignificant
ROA → PBV	0,565	0,012	Significant
ROA → Stock Price	-0,228	0,352	Insignificant
NPM → PBV	-0,475	0,072	Insignificant
NPM → Stock Price	0,066	0,763	Insignificant
PBV → Stock Price	0,081	0,757	Insignificant

Based on the results of the analysis using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) method using SmartPLS software, the following variable models were obtained:

PBV = β1 * EPS + β2 * DER + β3 * ROA + β4 * NPM + ζ1
PBV = -0,186(EPS) – 0,050(DER) + 0,565(ROA) – 0,475(NPM)
Harga Saham = β5 * EPS + β6 * DER + β7 * ROA + β8 * NPM + β9 * PBV + ζ2
Stock Price = 0.673(EPS) – 0.026(DER) – 0.228(ROA) + 0.066(NPM) + 0.081(PBV)

The value of the determination coefficient (R^2) for each dependent variable is as follows:

- R^2 PBV = 0.103, indicating that only 10.3% of PBV variability can be explained by EPS, DER, ROA, and NPM.
- R^2 Stock Price = 0.438, indicating that 43.8% of stock price variability can be explained by EPS, DER, ROA, NPM, and PBV.

Based on the classification of Hair et al. (2019), R^2 of 0.10 is included in the weak category, and R^2 of 0.438 is included in the medium category.

Table 1. Path Coefficients & Significance

Matrix	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
X1_EPS → Y1_PBV	-0.186	-0.19	0.118	1.577	0.115
X1_EPS → Y2_Stock Price	0.673	0.591	0.247	2.72	0.007
X2_DER → Y1_PBV	-0.05	-0.091	0.126	0.395	0.693
X2_DER → Y2_Stock Price	-0.026	-0.067	0.065	0.405	0.685
X3_ROA → Y1_PBV	0.565	0.638	0.223	2.53	0.012
X3_ROA → Y2_Stock Price	-0.228	-0.149	0.244	0.931	0.352
X4_NPM → Y1_PBV	-0.475	-0.551	0.263	1.805	0.072
X4_NPM → Y2_Stock Price	0.066	0.123	0.218	0.302	0.763
Y1_PBV → Y2_Stock Price	0.081	0.24	0.262	0.31	0.757

These results show that EPS has a positive and significant influence on the stock price, indicating that earnings per share is an important factor that investors consider. While ROA has a significant effect on the value of a company, it shows the importance of efficient asset management in increasing market valuation. In contrast, DER and NPM do not exert a significant influence on either PBV or stock price, indicating that leverage and profit margins are not yet the main determinants in this subsector.

Table 2. Coefficient of Determination (R-Square)

Variable	R Square	R Square Adjusted
Y1_PBV	0.103	-0.013
Y2_Stock Price	0.438	0.345

The R^2 value of 0.103 for PBV is relatively weak, which means that the ability of EPS, DER, ROA, and NPM to explain the variation in company values is still limited. Meanwhile, the R^2 value of 0.438 for the share price is moderate, which shows that the combination of the five variables (including PBV) is quite adequate in explaining the variation in stock prices in coal production subsector companies.

Tabel 3. Total Indirect Effect

	X1_EPS	X2_DER	X3_ROA	X4_NPM	Y1_PBV	Y2_Stock Price
X1_EPS						-0.015
X2_DER						-0.004
X3_ROA						0.046
X4_NPM						-0.039
Y1_PBV						
Y2_Stock Price						

The indirect effect through a relatively small PBV suggests that PBV has not exerted a significant additional influence on the relationship between financial performance and stock prices. Although the ROA → Stock Price through PBV shows the highest value (0.046), it remains in the weak category and not statistically significant.

Tabel 4. f2 (Effect Size)

	X1_EPS	X2_DER	X3_ROA	X4_NPM	Y1_PBV	Y2_Stock Price
X1_EPS					0.036	0.726
X2_DER					0.003	0.001
X3_ROA					0.098	0.023
X4_NPM					0.068	0.02
Y1_PBV						0.011
Y2_Stock Price						

The largest contribution effect to the stock price comes from the EPS ($f^2 = 0.726$) which is relatively large according to the classification of Cohen (1988), confirming the dominance of the EPS variable in the formation of stock prices. In contrast, the contribution of DER and

NPM to stock prices, as well as most predictors of PBV, is relatively low (< 0.02). This reinforces the conclusion that only EPS and ROA have significant and relevant influence power in this model.

Overall, the results of this study show that only EPS has a significant positive effect on stock prices, and ROA has a significant positive effect on company value (PBV). The other variables did not show a significant influence. This indicates that in the coal production subsector, profitability reflected in EPS and asset efficiency (ROA) are the main factors that the market is paying attention to. Leverage factors (DER) and profit margin (NPM) are less of an investor concern. In addition, external factors such as government policies and global coal price volatility are likely to have a greater influence on stock prices (Yahoo Finance, 2024).

CONCLUSION

Based on the SEM-PLS analysis, this study found that not all financial ratios significantly influence company value or stock price in the coal subsector. Earnings Per Share (EPS) positively and significantly affected stock prices but had no significant impact on company value (PBV), indicating that investors prioritize EPS in their investment decisions. Debt to Equity Ratio (DER) and Net Profit Margin (NPM) showed no significant effects on either company value or stock price, suggesting that capital structure and profit margin are less influential for investors in this sector. Return on Assets (ROA), however, had a positive and significant impact on both company value and stock price, highlighting the importance of asset management efficiency in enhancing firm attractiveness. Price to Book Value (PBV) did not significantly affect stock prices, implying that investors favor earnings-related indicators over book value measures in this subsector. Based on these findings, coal companies are advised to focus on improving EPS and asset management efficiency to attract investors. Future research could explore additional factors such as market sentiment, regulatory changes, or macroeconomic variables to better understand their combined impact on firm valuation and stock performance in commodity-based subsectors.

REFERENCES

Adevi, I. R., & Heikal, J. (2022). Analysis the influence of brand, offering, relationship equity on learning outcomes and their implications for the employability. Adpebi Science Series. http://adpebipublishing.com/index.php/AICMEST/article/view/149

Annisa, R., & Chabachib, M. (2017). Analisis pengaruh Current Ratio (CR), Debt to Equity Ratio (DER), Return on Assets (ROA) terhadap Price to Book Value (PBV), dengan Dividend Payout Ratio sebagai variabel intervening. Diponegoro Journal of Management. https://ejournal3.undip.ac.id/index.php/djom/article/view/17551

Arviana, N., & Lapoliwa, N. (2013). Pengaruh ROA, DER, EPS, PER, dan PBV terhadap harga saham. Ultimaccounting: Jurnal Ilmu Akuntansi. https://scholar.archive.org/work/2gyqq42lcbd6zah6yg67qpofj4/access/wayback/http://ejournals.umn.ac.id/index.php/Akun/article/download/149/121

Astuti, A. P., & Setiawati, E. (2024). Pengaruh EPS, ROA, DER dan PBV terhadap harga saham (Studi kasus pada perusahaan LQ 45 yang terdaftar di Bursa Efek Indonesia tahun 2018–2021). Jurnal Rimba: Riset Ilmu Manajemen Bisnis dan Akuntansi, 2(2), 112–126. https://doi.org/10.61132/rimba.v2i2.697

Astuti, D., & Heikal, J. (2024). The influence of social media marketing and brand awareness on purchasing interest and its implications on brand loyalty (Study: Madame Gie by Gisella...). Jurnal Scientia. https://infor.seaninstitute.org/index.php/pendidikan/article/view/2339

Brigham, E. F., & Houston, J. F. (2018). Fundamentals of financial management (15th ed.). Cengage Learning.

Fajri, M. I., & Heikal, J. (2022). The influence of marketing mix towards consumer purchase intention: The case of Bank Aceh Syariah. Emerging Markets: Business and Management Journal. https://journal.sgu.ac.id/ijembm/index.php/ijembm/article/view/203

Gitman, L. J., & Zutter, C. J. (2015). Principles of managerial finance (14th ed.). Pearson Education.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Heikal, J., Rialialie, V., Rivelino, D., & Others. (2022). Hybrid model of structural equation modeling PLS and RFM (Recency, Frequency and Monetary) model to improve bank average balance. Aptisi Transactions on Technopreneurship. https://att.aptisi.or.id/index.php/att/article/view/221

Heikal, Jerry and Rahmadanti, Azzahra and Rachmadi, Roy (2021) Analisa Rasio Keuangan Untuk Mengukur Kinerja Laporan Keuangan Pt. Himalaya Energi Perkasa. Tbk, Terhadap Industri Utilitas Gas Periode Tahun 2019-2020. Project Report. Universitas Bakrie, Jakarta. (Unpublished). https://repository.bakrie.ac.id/id/eprint/5601

Ibrahim, A., & Heikal, J. (2024). The impact of quality and cost on tenant satisfaction and loyalty. Jurnal Scientia, 13(4), 1293–1301. https://infor.seaninstitute.org/index.php/pendidikan/article/view/2608

Indonesia Stock Exchange. (2024). Financial Reports and Ratio Summary 2021–2024. Diakses dari https://www.idx.co.id

Kettipusem, S. P., & Heikal, J. (2024). Pengaruh kompetensi dan profesionalisme terhadap kinerja penyuluh pertanian dengan kepuasan kerja sebagai variabel moderasi pada Dinas Pertanian Kota... CBJIS: Cross-Border Journal of Indonesian Studies. https://journal.iaisambas.ac.id/index.php/CBJIS/article/view/3067

Lestari, A. P., & Susetyo, A. (2020). Pengaruh NPM, EPS, DER dan PBV terhadap harga saham pada perusahaan terdaftar IDX HIDIV20 dengan DPR sebagai variabel intervening. Jurnal Ilmiah Mahasiswa Manajemen, Bisnis dan Akuntansi, 2(2), 184–195. https://www.academia.edu/51783219/

Marlina, R., & Heikal, J. (2023). Technology acceptance model on digital banking service Livin' Bank Mandiri on trust and its impact on customer loyalty. Jurnal Scientia. http://seaninstitute.org/infor/index.php/pendidikan/article/view/1817

Rialialie, V., & Heikal, J. (2023). The effect of marketing mix 7P on decisions purchase and consumer loyalty of Units Central Apartment East Residence. Jurnal Scientia. http://seaninstitute.org/infor/index.php/pendidikan/article/view/1897

Ross, S. A., Westerfield, R. W., & Jaffe, J. (2013). Corporate finance (10th ed.). McGraw-Hill Education.

Yahoo Finance. (2024). Stock Price Data of Coal Production Companies in IDX 2021–2024. Diakses dari https://finance.yahoo.com