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IMPACT OF CAPITAL STRUCTURE, INTANGIBLE ASSETS, AND EFFECTIVE TAX RATE ON CORPORATE PERFORMANCE

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ABSTRACT

Purpose: *This research investigates the effects of financial management strategies, debt levels, intangible assets, and tangibility, on firm performance, measured by Return on Assets (ROA) and Tobin's Q. It emphasizes the relevance of these factors in shaping firm performance within the infrastructure, media, and pharmaceutical sectors during 2019-2023, considering the impact of the COVID-19 pandemic. The study explores how these strategies influence operational efficiency and market valuation across sectors.* ***Methodology:*** *A quantitative approach is used, analyzing data from firms listed on the Indonesia Stock Exchange over 2019-2023. A fixed effects model is applied to understand the impact of financial strategies on firm performance.* ***Results:*** *The study finds that higher debt levels negatively affect profitability but positively influence market valuation. Intangible assets enhance profitability but have a mixed effect on market valuation, highlighting the challenge of valuing such assets. Tangibility increases profitability but is negatively perceived in market valuation.* ***Findings:*** *The differential impacts suggest the need for firms to balance debt and asset management to optimize both profitability and market perception.* ***Novelty:*** *This research offers sector-specific insights into financial strategy, highlighting how asset management practices can be tailored to industry dynamics.* ***Conclusion:*** *Effective financial management involves balancing debt, tangibility, and intangible assets to enhance firm performance. Future research could explore these relationships across other sectors and economic conditions.*
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INTRODUCTION

Corporate performance remains a pivotal indicator in evaluating the effectiveness of resource management within a firm to achieve long-term value creation and objectives. This performance can be quantified through various metrics such as Return on Assets (ROA) and Tobin's Q. ROA illustrates a company's profitability, while Tobin's Q reflects the market value relative to its assets. The determinants of corporate performance are diverse, with capital structure playing a critical role. This study delves into the intricate dynamics of capital structure, encompassing the blend of short-term debt, long-term debt, and equity, which plays a crucial role in financial stability, risk, and growth. Suboptimal capital structure management can adversely affect corporate

performance, both in terms of profitability and market value. This is particularly evident within the infrastructural, media, and pharmaceutical sectors in Indonesia during the 2019-2023 period, a time marked by significant financial events including the COVID-19 pandemic which presented substantial funding challenges for large-scale projects, particularly in the infrastructure sector.

Simultaneously, the media sector witnessed a rapid digital transformation, necessitating significant investment in technology and intangible assets. The pharmaceutical sector, on the other hand, experienced a surge in demand, accompanied by significant investment requirements in research and development. The fluctuations in ROA across these sectors, as reported by the Indonesia Stock Exchange, reflect the dynamic nature of these industries. The pharmaceutical sector, for example, showed a dynamic movement in ROA from 8.5% in 2019 to 12.3% in 2021, before dropping to 9.7% in 2023. The media sector saw a decline from 6.8% in 2019 to 4.2% in 2023, whereas the infrastructure sector demonstrated stability with an ROA ranging between 5-6%.

The role of intangible assets has become increasingly significant across these sectors. The media sector relies heavily on intellectual property and brand value, the pharmaceutical sector on patents and research outcomes, and even the infrastructure sector has begun to increase its investment in modern technology and management systems. The variation in Effective Tax Rate (ETR) across these sectors also presents an interesting dynamic, with the pharmaceutical sector generally exhibiting higher ETRs due to its profitability, while the infrastructure sector often benefits from tax incentives for strategic national projects.

This study is informed by the seminal work of Thu Hien Nguyen (2024), who examined the impact of capital structure on the performance of state-owned enterprises in Vietnam, and is further enriched by recent studies by Panern Intara and Nittikorn Suwansin (2024), who investigated the influence of intangible assets on company value and performance, as well as research by Assidi, Aliani, & Omri (2016), which analyzed the impact of ETR on corporate value. Nguyen (2024) found that suboptimal financing decisions could diminish company performance, as measured by both ROA and Tobin's Q. This finding is reinforced by Intara et al. (2024), who demonstrated that companies with better management of intangible assets tend to perform better in the market. Assidi et al. (2016) added a new dimension with their findings that excessive tax reduction strategies could adversely affect corporate value.

The motivation behind this research is to provide a comprehensive understanding of the factors influencing corporate performance in these sectors, offering practical contributions to future managerial decision-making. The study addresses several key questions: What is the impact of capital structure on corporate performance? How do intangible assets affect corporate performance? What is the influence of the effective tax rate on corporate performance? And how do firm size, liquidity, tangibility, revenue growth rate, and state ownership ratio influence corporate performance?

This research aims to analyze the effects of capital structure, intangible assets, and effective tax rate on corporate performance. It also seeks to evaluate the roles of firm size, liquidity, tangibility, revenue growth rate, and state ownership ratio in shaping corporate outcomes. This investigation is expected to yield insights that are beneficial to financial managers, investors, and government policymakers, enabling them to optimize financial strategies, assess investment risks and opportunities, and formulate economic and industrial policies that support corporate efficiency and growth.

METHOD

In this research, we examine the impact of various financial metrics, such as Total Debt Ratio (TDR), intangible assets, and Effective Tax Rate (ETR), on the performance of companies in the infrastructure, media, and pharmaceutical sectors listed on the Indonesia Stock Exchange over the period 2019 to 2023. The study adopts a quantitative causal-comparative design, utilizing secondary data sourced from the companies' annual financial reports and the stock exchange. Data were rigorously collected from public domains, ensuring that each company included in the sample had

comprehensive financial disclosures over the specified five-year period. This approach facilitates an in-depth understanding of how different capital structures and strategic financial decisions impact corporate outcomes, especially in environments shaped by economic shifts and sector-specific dynamics.

The dependent variables in this study are company performance indicators, specifically Return on Assets (ROA) and Tobin's Q. ROA is calculated by dividing net income by total assets, reflecting the profitability efficiency of the company's asset utilization. Tobin's Q is determined by the ratio of market capitalization plus the book value of total debt to the book value of total assets, providing an assessment of how the market values the company relative to its assets. Key independent variables include TDR, representing the proportion of total debt to total assets, signaling the extent of leverage a company employs; Intangible Assets, measured as the ratio of intangible assets like copyrights, trademarks, patents, goodwill, and R&D expenditure to total assets; and ETR, which is the ratio of income tax expense to pre-tax profit, offering insight into the company's tax efficiency.

Control variables such as firm size, liquidity, tangibility, revenue growth rate, and state ownership ratio are also considered to account for other factors that could influence company performance. These controls help isolate the effect of the main variables of interest and ensure that the findings are robust and reflective of genuine associations. Data were analyzed using panel regression techniques, with models chosen based on specific statistical tests including the Chow test to decide between Common Effect and Fixed Effect models, and the Hausman test to select between Fixed and Random effects. These tests ensure that the chosen model accurately reflects the underlying data structure and the dynamics of the industries under study.

The methodological rigor and comprehensive data analysis approach provide a solid foundation for understanding the intricate relationships between financial strategies and corporate performance, offering valuable insights for stakeholders ranging from investors to policymakers.

RESULTS AND DISCUSSION

RESULTS

This section presents the empirical results derived from the panel data analysis examining the influence of various variables on the performance metrics of ROA and Tobin's Q for companies in the infrastructure, media, and pharmaceutical sectors listed on the Indonesia Stock Exchange from 2019 to 2023.

Descriptive Statistics

The initial analysis involved descriptive statistics to provide an overview of the data, including measures of central tendency and dispersion for each variable investigated in the study. Table 1 presents these statistics.

Table 1. Descriptive Statistics Analysis

Variable	Minimum	Maximum	Mean	Standard Deviation
ROA	-3310.9920	30.9881	-18.5255	226.7805
Tobin's Q	0.0714	4025.7050	28.4225	282.0731
TDR	0.2672	346197.8000	2322.1210	24300.4900
IA	0.0000	86.1465	7.7490	15.1007
ETR	-6877.1690	635.2106	-43.3761	615.7896
FS	8.0913	19.4751	15.4036	2.2177
LIQ	0.0405	102601.0000	890.3409	7496.3400
TANG	0.3669	80.6467	35.3668	26.1709
GROW	-92.8976	1096.4560	10.3997	86.2696
SO	0.0000	90.0250	11.1592	25.5642

Source: Primary Data 2024

These statistics illustrate significant variability across the board, highlighting the heterogeneity within the sample, which provides a robust basis for regression analysis.

Panel Data Analysis

Fixed Effects Model Selection

Model selection was guided by both the Chow and Hausman tests to determine the appropriateness of the fixed effects versus the random effects model. The Chow test indicated a preference for the Fixed Effect Model (FEM) over the Common Effect Model (CEM), as the cross-section F-statistic and Chi-square values were significant ($p < 0.05$). Table 2 details these results.

Table 2. Chow Test Results

Test	Statistic	Degrees of Freedom	Probability
F	6.130635	43, 168	0.0000
Chi-square	207.586573	43	0.0000

Source: Primary Data 2024

The Hausman test further supported the use of FEM, with a significant Chi-square statistic indicating that FEM was more suitable than the Random Effect Model (REM). Table 3 shows the Hausman test results.

Table 3. Hausman Test Results

Description	Chi-Sq. Statistic	Chi-Sq. Degrees of Freedom	Probability
Cross-section random	256.110412	8	0.0000

Source: Primary Data 2024

The adoption of FEM was based on its ability to handle unobserved heterogeneity among the cross-sectional units in the dataset.

Regression Results

The regression results using FEM are summarized in Tables 4 and 5 for ROA and Tobin's Q, respectively, showing the coefficients, standard errors, t-statistics, and p-values for each variable included in the models.

Table 4. Fixed Effect Model for ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-196.8701	162.6989	-1.210028	0.2280
TDR	-0.009954	0.000171	-58.22131	0.0000
IA	8.980556	0.605318	14.83609	0.0000
ETR	0.006305	0.006020	1.047324	0.2965
FS	0.777270	9.936235	0.078226	0.9377
LIQ	0.000221	0.000543	0.406875	0.6846
TANG	2.317744	0.484738	4.781439	0.0000
GROW	-0.042452	0.038876	-1.091994	0.2764
SO	3.444937	3.728781	0.923878	0.3569

Source: Primary Data 2024

Table 5. Fixed Effect Model for Tobin's Q

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.77140	12.35777	0.952551	0.3422
TDR	0.011584	1.30E-05	892.0909	0.0000
IA	-0.508281	0.045977	-11.05516	0.0000
ETR	-0.000313	0.000457	-0.685464	0.4940
FS	0.295556	0.754705	0.391618	0.6958
LIQ	-2.22E-06	4.12E-05	-0.053757	0.9572
TANG	-0.257504	0.036818	-6.993940	0.0000
GROW	0.005137	0.002953	1.739580	0.0838
SO	-0.163179	0.283219	-0.576160	0.5653

Source: Primary Data 2024

Significance Tests

Partial tests were conducted to assess the impact of each independent variable on ROA and Tobin's Q. The results are detailed in Table 6.

Table 6. Partial Significance Tests (t-tests)

Variable	Coefficient	Impact on ROA	Impact on Tobin's Q	Variable
TDR	-0.009954	Significant Negative	Significant Positive	TDR
IA	8.980556	Significant Positive	Significant Negative	IA
ETR	0.006305	Not Significant	Not Significant	ETR
FS	0.777270	Not Significant	Not Significant	FS
LIQ	0.000221	Not Significant	Not Significant	LIQ
TANG	2.317744	Significant Positive	Significant Negative	TANG
GROW	-0.042452	Not Significant	Not Significant	GROW
SO	3.444937	Not Significant	Not Significant	SO

Source: Primary Data 2024

DISCUSSION

The analysis of the data from the fixed effects model provides a nuanced understanding of the factors influencing firm performance across sectors in Indonesia. The results underscore the differential impacts of debt levels, intangible assets, and tangibility on Return on Assets (ROA) and Tobin's Q, reflecting both sector-specific dynamics and broader financial management practices.

The negative impact of Total Debt Ratio (TDR) on ROA and its positive influence on Tobin's Q are particularly noteworthy. This suggests that while higher debt levels may be perceived negatively in terms of profitability due to increased financial risks and interest obligations, they are viewed positively by the market as indicators of aggressive growth strategies (Nguyen, 2024). This dichotomy underscores the delicate balance firms must maintain between leveraging for growth and managing financial health. The significant negative coefficient for TDR on ROA (-0.009954) suggests that each percentage increase in debt reduces the company's profitability, echoing Nguyen's (2024) findings that excessive reliance on debt can strain a company's operational efficiencies.

The influence of Intangible Assets (IA) on ROA and Tobin's Q highlights the complex valuation dynamics of intangible resources within firms. While IA significantly boosts ROA, indicating effective internal management and utilization of intangible resources to generate profits, its negative impact on Tobin's Q could suggest market skepticism about the value of these assets (Intara & Suwansin, 2024). This discrepancy may arise from the market's difficulty in accurately assessing the value of intangible assets, which are often not fully captured on balance sheets or understood in terms of their long-term revenue potential. The substantial positive coefficient for IA on ROA (8.980556) reflects the direct benefits to operational performance, whereas the negative coefficient on Tobin's Q (-0.508281) signals potential undervaluation or misinterpretation by investors of the strategic value of intangibles.

The analysis also reveals that Tangibility (TANG) has a positive effect on ROA but a negative impact on Tobin's Q. This finding aligns with the notion that while tangible assets can enhance operational capacity and hence profitability, they might be perceived as limiting a firm's agility and growth potential, especially in rapidly evolving industries (Nguyen, 2024). High tangibility might indicate a heavy investment in fixed assets, which could be viewed unfavorably by investors seeking more dynamic growth opportunities. This is reflected in the strong positive coefficient of TANG on ROA (2.317744), which indicates that tangible assets contribute positively to profitability, and its negative impact on Tobin's Q (-0.257504), suggesting that the market may penalize firms for overinvestment in physical assets at the expense of more flexible asset structures.

The results also underscore the importance of sector-specific considerations in financial management strategies. For example, firms in the pharmaceutical sector may see different impacts from intangible assets, such as patents and R&D, on their market valuation compared to those in infrastructure, where physical assets play a more critical role. These sectoral differences necessitate tailored financial strategies that align with industry characteristics and investor expectations.

This study’s findings carry significant implications for financial management practices. Firms must carefully balance their debt levels to avoid adversely affecting their operational efficiency and profitability while also leveraging growth opportunities to enhance market valuation. Moreover, the management of intangible assets requires not only effective internal strategies to maximize their profit-generating potential but also proactive measures to communicate their value to investors, thereby potentially enhancing market valuation.

CONCLUSION

This study has explored the impact of financial management strategies, specifically looking at debt levels, intangible assets, and tangibility on firm performance, measured by Return on Assets (ROA) and Tobin's Q. The analysis, based on data from firms across the infrastructure, media, and pharmaceutical sectors listed on the Indonesia Stock Exchange over 2019-2023, reveals complex interactions between these financial strategies and firm performance indicators. The results indicate that while higher debt levels are negatively associated with profitability (ROA), they positively influence market valuation (Tobin's Q). This suggests that while debt can finance growth

opportunities, it also poses risks to operational efficiency if not managed prudently. Intangible assets were found to enhance operational profitability but had a mixed impact on market valuation, reflecting possibly the market's difficulty in assessing their true value. Tangibility boosted profitability but was viewed negatively by the market, potentially due to perceptions that heavy asset bases may limit agility and adaptability.

Moreover, external factors such as government policies and global economic shifts should also be considered in interpreting these results. For instance, government regulations in sectors like infrastructure could either facilitate or hinder firms' capital structure decisions through tax incentives or subsidies, which may impact profitability and market valuation. Similarly, global economic trends, such as changes in international trade agreements or shifts in foreign investment, could influence market perceptions and financial strategies in the pharmaceutical and media sectors. A more nuanced understanding of these external forces could provide deeper insights into how firms respond to financial challenges in a rapidly changing global landscape.

These findings contribute to the existing literature by highlighting the nuanced effects of asset management and capital structure on different dimensions of firm performance. They underline the importance of tailored financial strategies that align with industry-specific dynamics and market expectations. Practically, the study suggests that managers need to balance investment in tangible and intangible assets and use debt strategically to optimize both operational efficiency and market valuation. For future research, it would be beneficial to explore these relationships in different economic conditions or to examine how external financing environments influence these dynamics. Additionally, further studies could look into the causal relationships between financial strategies and firm performance with a focus on longitudinal data to capture changes over time.

This study bridges theoretical gaps in understanding the financial management-performance nexus and offers practical insights for corporate strategy in diverse sectors, providing a foundation for more informed decision-making and strategic planning in financial management practices.

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