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Assessing Corporate Resilience Through Financial Metrics: Indonesian Case Studies in a Time of Crisis

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PREFACE

This edited volume presents a comprehensive exploration of corporate financial performance in Indonesia during a period marked by profound economic disruptions and transformative recovery. Focusing on the years 2019 to 2024, the book compiles empirical research that employs robust analytical tools such as **DuPont Analysis**, **financial ratio analysis**, and the **Altman Z-Score model** to evaluate the profitability, financial health, and strategic resilience of both **state-owned** and **publicly listed enterprises** across a wide array of sectors.

Through in-depth case studies—including those of PT Samator Indo Gas Tbk, PT Indofarma Tbk, PT Mayora Indah Tbk, PT ANTAM Tbk, and PT Astra International Tbk—the chapters provide evidence-based insights into how firms adapted their financial strategies to survive and thrive during and after the COVID-19 pandemic. The volume further investigates the impact of **acquisitions**, **sectoral shifts** (e.g., the rise of electric vehicles), and **consumer perceptions** (such as the influence of brand country of origin) on corporate financial indicators.

By bridging theory with real-world data, this collection offers invaluable perspectives for academics, financial analysts, policy makers, and business practitioners seeking to understand the evolving financial landscape of Southeast Asia's largest economy. The findings not only contribute to the literature on financial performance assessment but also serve as a reference for strategic decision-making in times of economic uncertainty and transition.

The chapter titles in the book are; Profitability Evaluation Using DuPont System of of PT. Samator Indo Gas Tbk During Covid-19 Pandemic, Financial Health Analysis of PT Indofarma, Tbk: A Six-Year Study (2019-2024), Profitability and Financial Health of PT Pembangunan Perumahan (PP) (Persero) Tbk using Du Pont Analysis and State Owened Enterprise (SOE) Performance Evaluation (2020–2024), Financial Performance Analysis of Indonesian Food and Beverage Enterprise PT. Garudafood Putra Putri Tbk During and After the Covid-19 Pandemic, Financial Efficiency of PT. Sariguna Primatirta through Du-Pont Analysis During and Post-Pandemic Recovery Period of 2019-2024, Financial Performance Analysis of PT Acset Indonusa,Tbk. Post-Acquisition by Astra and Post-COVID-19 Pandemic Using the DuPont Analysis, The Impact of Electric Vehicle Adoption on Financial Ratios: Evidence of PT Astra International Tbk for 2020-2024, The Influence of Brand Country of Origin on Indonesian Gen Z's Perceived Quality and Purchase Intention toward Thai Fast Fashion Brands, Financial Health Analysis of PT. Mayora Indah Tbk. facing Covid-19 Pandemic and Global Economic Uncertainty for the period of 2020 – 2024, Financial Health Analysis to Predict Potential Bankruptcy Using Financial Ratio Analysis and the Altman Z-Score Method (Evidence of PT Smartfren Telecom Tbk for 2020-2024), Corporate Financial Health Analysis and Profitability Measurement Using the Du Pont Method Evidence of PT. ANTAM Tbk for the year 2020-2024, Uncovering Financial Performance Trends of PT Prodia Widyahusada Tbk in a Post Pandemic Economy (2020 – 2024) through DuPont and Financial Ratio Analysis

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CHAPTER 1

Profitability Evaluation Using Du Pont System of PT. Samator Indo Gas Tbk During Covid-19 Pandemic

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ABSTRACT

The Covid-19 pandemic has highlighted the critical role of medical gases, particularly oxygen. PT Samator Indo Gas Tbk (AGII) is a leading industrial gas company with the largest and most extensive network in Indonesia, contributed to medical oxygen fulfilment, especially during Covid-19 pandemic. As of 30 Sept 2021, Samator's sales had increased 31.6% , gross profit increased 42.3%, and profit increased 456% year-on-year. This was due to a surge in demand for medical oxygen during the third quarter of 2021. This study aims to evaluate the profitability of Samator in 2019-2023 using the DuPont System for a comprehensive profitability evaluation and financial ratio. The financial data used for this study have been audited and published by Samator for period of 2019-2023. The findings of this study conclude that throughout the period, the average Net Profit Margin (NPM) was 5%, Asset Turnover (ATO) 3%, Return on Assets (ROA) 2%, and Return on Equity (ROE) 4%, which are classified as modest average levels. Overall, a notable increase occurred in 2021, driven by a surge in oxygen demand, followed by a decline in 2022 due to new asset investments or expansions that had yet to generate returns and lower asset utilization. However, by 2023, these indicators showed a recovery, reflecting improved profitability, more efficient use of capital and assets, and stronger operational performance in the post-pandemic period.

Keywords: Covid-19 Pandemic, Medical Oxygen, Profitability Evaluation, Financial Ratio, Samator.

INTRODUCTION

The year of 2020 has been challenging globally as the coronavirus lingering. In March 2020, COVID-19 was declared by World Health Organization as a pandemic, which caused a major impact on various sectors. In Indonesia, the first case of Covid-19 was announced in early March 2020. The Covid-19 pandemic has had a wide range of consequences from economic perspectives. From the demand side, the pandemic condition reduces consumption, travel and transportation activities, and increases transportation and trade costs. Meanwhile, from the supply side, it is likely to cause a contraction in worker productivity, a decline in investment and financing activities, as well as disruptions in the global value chain (Ministry of Energy & Mineral Resources, 2020).

Globally, gas industry faced a sharp decline in profits in 2020, marking one of the lowest points in recent history (see Figure 1). The drop began in 2019, when the total profit of the oil and gas industry experienced a mild decline to 1.4 trillion USD. In 2020, the downturn deepened, with profits falling further to **0.8 trillion USD**. This recent historical drop reflects weakening demand, reduced oil prices, and major economic disruption due to the **COVID-19 pandemic** in 2020. While the profitability of the industry is not at an all-time low, COVID-19 has disrupted the global oil and gas market in terms of supply and demand.

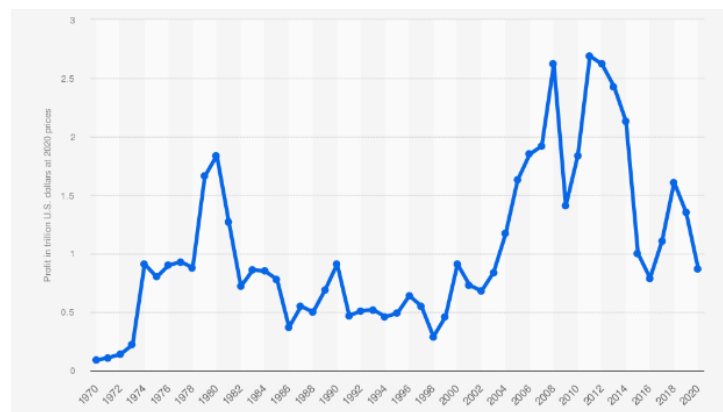


Figure-1: Estimated Profits of the Oil and Gas Industry Worldwide from 1970 to 2020 (in Tn USD)

Source: Statista, 2024

In the domestic gas industry, there was a downward trend due to limitations on public activities, especially in transportation and manufacturing industry, which also led to a reduction in energy supply. As shown in Figure 2, the total export dropped significantly from 776.8 thousand BOEPD in 2018 to 554.3 thousand BOEPD, and further to 571.5 thousand BOEPD in 2020. While the domestic market obligation is remained stagnant, imports also showing a declined (Ministry of Energy & Mineral Resources, 2020).

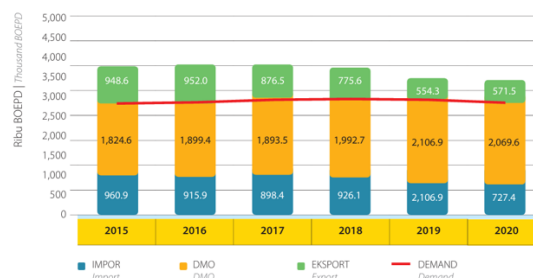


Figure-2: Supply Demand for Indonesia's Oil and Gas 2016-2020

Source: Ministry of Energy & Mineral Resources, 2020

While most sectors within the industry were negatively impacted by the pandemic, the medical gas sector experienced the opposite trend. The rapid spread of the highly contagious Delta variant led to a sharp rise in COVID-19 cases, causing hospital bed occupancy rates to soar. This surge created an urgent demand for oxygen, resulting in a critical shortage in supply across healthcare facilities. According to the ministry of Health in 2020, Indonesia needed a total of 1,928 tonnes of oxygen per day for patients under intensive care. The Indonesian Government has placed a priority on increasing its supply of medical oxygen to meet the growing demand across the country. With the largest and most extensive network in Indonesia, operating in 55 plants and 103 filling stations across 29 provinces in Indonesia, PT Samator Indo Gas Tbk contributed on medical oxygen fulfilment.

The distribution of Samator's installed medical oxygen production capacity throughout Indonesia is illustrated in Figure 3. The map highlights key production sites and daily supply capacities in various regions, including Samator Medan (76 tons/day), Samator Bontang (41 tons/day), Samator Pulogadung (101 tons/day), and Samator Cikande (223 tons/day), among others. These facilities are strategically positioned to support major hospitals across the archipelago, ensuring timely and adequate oxygen delivery, especially during high-demand periods such as the COVID-19 pandemic.



Figure-3: Mapping of Samator's installed production capacity across the country

Source: Samator, 2023

Given the strategic role played by PT Samator Indo Gas Tbk in addressing this national health emergency, it becomes essential to evaluate how the surge in oxygen demand translated into the company's financial performance. While increased demand often suggests higher revenues, it does not automatically equate to improved profitability, particularly during crisis conditions that may involve higher operational costs, supply chain disruptions, and logistical challenges. To gain a deeper understanding of how effectively Samator managed its financial resources during this extraordinary period, this study applies the **Du Pont System** as the financial analytical framework. This analysis translated as a process of determining and interpreting relationships between the items of financial statement to present a thorough understanding of the performance and financial position of the company (Jencova et al., 2018).

By breaking down **return on equity (ROE)** into **net profit margin (NPM)**, **asset turnover (ATO)**, and **return on assets (ROA)**, the Du Pont analysis enables us to identify the specific drivers behind profitability and assess whether the company's performance was driven by operational efficiency, financial leverage, or improved sales margins. This comprehensive approach provides valuable insight into the resilience and adaptability of Samator's business model during the COVID-19 pandemic.

1. LITERATURE REVIEW

According to Mulyadi (in Irmaningsih, 2017), a company's financial performance is the periodic assessment of the operational effectiveness of an organization, its divisions, and its employees. Meanwhile, J. Fred Weston and Eugene F. Brigham (in Irmaningsih, 2017) state that Du Pont analysis is an analysis that encompasses all activity ratios and profit margins on sales to show how these ratios affect profitability. Du Pont System is chosen based on the advantages it offers (Munawir S, 2010), which includes:

- As a comprehensive financial analysis tool, it enables management to assess how efficiently the company's assets are being utilized.
- It allows for benchmarking the company's equity efficiency against similar firms, helping to determine whether the company is performing below, at, or above industry average.
- It serves as a means to evaluate how effectively each division or department carries out its activities.
- It can also be applied to assess the profitability of individual products, helping identify which ones have the most potential.
- This method offers a more integrated approach to financial statement analysis by leveraging financial reports as a key component in the evaluation process.

Furthermore, this approach allows for assessing gaps between actual and target performance indicators, benchmarking the company against competitors, tracking deviations from industry norms or top performers, and forecasting future trends based on the relationships between various indicators (Sedlacek, 2007; Jencova, 2016 in Jencova et al., 2018).

2. METHODS

This research served using secondary data from audited financial report of PT Samator Indo Gas Tbk from 2019 to 2023, annual report from 2019 to 2023, and previous studies in Du Pont System. The design of this research is library research, and the data analysis techniques used are descriptive analysis and inductive reasoning. According to Soekanto et al. (1999), descriptive research is a problem-solving process that involves describing the state of a subject or group of objects (individuals, institutions, communities) and then investigating it based on the facts that appear as objects. Meanwhile, library research can be interpreted as a method of collecting information and data with the help of various aspects of the library, including reference books, similar previous research results, scientific articles, notes, and various journals that have relevance to the problem. To find solutions to the issues faced, systematic activities are carried out to gather, process, and draw conclusions from data using specific methodologies or procedures (Sari & Asmendri, 2020).

This research also performed several stages of data analysis using Du Pont System, including return on equity (ROE), net profit margin (NPM), asset turnover (ATO), and return on assets (ROA). According to (Syahyunan, 2015), the ratios used in the Du Pont System analysis are as follows:

- Asset Turnover**, which indicates the company's ability to manage its total assets/investments to generate sales.

$$\frac{\text{Net Sales}}{\text{Average Total Assets}}$$

2. **Net Profit Margin (Return on Sales)**, which shows how much net profit the company earns from its sales.

$$\frac{\text{Net Profit After Tax}}{\text{Net Sales}}$$

3. **Return on Investment (Return on Assets)**, which measures the return level generated by the business based on the company's assets.

$$NPM \times ATO$$

4. **Return on Equity (ROE)**, which measures the return generated by the business on the total capital employed. In the Du Pont System, ROE is calculated by multiplying ROA by the Equity Multiplier.

$$ROA \times \frac{\text{Total Assets}}{\text{Total Equity}}$$

3. RESULTS & DISCUSSION

3.1 Net Profit Margin (NPM)

Table-1: NPM Analysis on PT Samator Indo Gas Tbk from 2019 to 2023 (in Mn IDR)

Year	Earnings After Tax	Sales Revenue	NPM
2019	103,431	2,203,617	4.69
2020	99,862	2,188,179	4.56
2021	211,485	2,738,813	7.72
2022	103,896	2,612,464	3.98
2023	169,814	2,822,745	6.02
Average			5.00
Maximum			7.72
Minimum			3.98

Source: Author Analysis, 2025

The average value of NPM is shown in Table 1 as 5.00, indicating that for every revenue of IDR 1, approximately IDR 0.05 was earned in net profit. This result is likely influenced by increased selling, general, and administrative expenses during the transition era to post-COVID-19 recovery. The highest margin was recorded in 2021, likely driven by a surge in medical oxygen demand during the Delta variant wave. NPM was dropped to its lowest point in 2022, possibly due to increased operational or financial expenses and asset expansion, which had not yet contributed to earnings. Post-2022, profit margin was improved, suggesting financial stabilization, potentially better cost management, and demand recovery in the market.

To improve its Net Profit Margin (NPM) going forward, PT Samator Indo Gas Tbk should focus on several strategic areas. The company can reduce its cost of goods sold (COGS) by making improvement on operational efficiency and renegotiating supplier contracts, especially for raw materials and logistics that saw volatility during and after the pandemic. Streamlining selling, general, and administrative expenses (SG&A) through digitalization, automation, or restructuring can also yield margin gains. Furthermore, optimizing the capital structure, by refinancing debt, could reduce finance costs, which were a notable burden during the shifting period. Refocusing toward higher-margin industrial gas segments and improving the product mix would help boost revenue quality without proportional cost increases. These efforts, if implemented effectively, would strengthen the company's profitability and enhance resilience against external shocks, leading to a more consistent and sustainable NPM in the future.

3.2 Assets Turnover (ATO)

Table-2: ATO Analysis on PT Samator Indo Gas Tbk from 2019 to 2023 (in Mn IDR)

Year	Sales Revenue	Total Assets	ATO
2019	2,203,617	7,020,980	0.3
2020	2,188,179	5,625,356	0.4
2021	2,738,813	8,164,599	0.3
2022	2,612,464	8,041,989	0.3
2023	2,822,745	7,797,759	0.4
Average			0.3
Maximum			0.4
Minimum			0.3

Source: Author Analysis, 2025

Asset turnover analysis used to indicate the company's ability to manage its total assets/investments to generate sales. AGII shows moderate asset efficiency from 2019 to 2023. Referred to Table 2, the ATO consistently ranges between 0.3 and 0.4, indicating that for every IDR 1 in total assets, the company generates IDR 0.30 in revenue annually.

Despite a notable increase in sales revenue, ATO dropped to 0.3 in 2021. The primary reason for this decline was a substantial rise in total assets, which increased by more than **Rp 2.5 trillion** compared to the previous year. The notable increase on asset base may reflect a large investments or assets expansions made in response to the massive **oxygen demand** during the COVID-19 Delta wave. The higher of demand resulting in higher purchase of new equipment, production capacity, or infrastructure that had **not yet translated proportionally into revenue**, resulting in **lower asset efficiency**. Recovery was happened at 2023, where ATO improved to 0.4. This suggested leaner operation, better asset management, disposal of idle assets, or depreciation of previously expanded capacity.

With an ATO below 1.0, AGII reflects characteristics of a capital-intensive business, which is typical for the industrial gas sector. However, improving this ratio through better asset use or higher productivity would likely enhance efficiency.

3.3 Return on Assets (ROA)

Table-3: ROA Analysis on PT Samator Indo Gas Tbk from 2019 to 2023 (in Mn IDR)

Year	Earnings After Tax	Total Assets	ROA
2019	103,431	7,020,980	1.47
2020	99,862	5,625,356	1.78
2021	211,485	8,164,599	2.59
2022	103,896	8,041,989	1.29
2023	169,814	7,797,759	2.18
Average			2.00
Maximum			2.59
Minimum			1.29

Source: Author Analysis, 2025

ROA measures how effectively the company uses its **total assets to generate net income**. On average, the return on assets amounted 2% from 2019-2023, indicating that for every IDR 1 in total assets, the company received IDR 0.02 in net profit, which considered as a modest outcome. The best performance occurred in **2021**, which aligns with a **significant rise in earnings** during the oxygen demand surge (COVID Delta variant). Despite relatively stable total assets, ROA dropped to its lowest point in

2022 primarily due to a significant decline in earnings after tax, while total assets remained relatively stable compared to the previous year, as seen in the balance sheet. This suggests that **new investments or asset expansions in 2022 had not yet translated into income**, resulting in diluted asset productivity.

Profit recovery and slight reduction in total assets helped ROA climb again in 2023, indicating **improved utilization** of the asset base and possibly more efficient operations. To further improve ROA, the company needs to either **grow profits faster than assets** or **optimize asset usage** (e.g., avoid idle or underperforming investments).

3.4 Return on Equity (ROE)

Table-4: ROE Analysis on PT Samator Indo Gas Tbk from 2019 to 2023 (in Mn IDR)

Year	Earnings After Tax	Total Equity	ROE
2019	103,431	3,299,564	3.13
2020	99,862	2,957,751	3.38
2021	211,485	3,582,925	5.90
2022	103,896	3,695,974	2.81
2023	169,814	3,728,146	4.55
Average			4.00
Maximum			5.90
Minimum			2.81

Source: Author Analysis, 2025

ROE measures the company's ability to generate profits from shareholders' equity. It reflects how efficiently management is using invested capital to produce earnings. Averagely, the number of AGII's ROE is modest, where for every IDR 1 in total equity, the company received IDR 0.04 in net profit.

In 2021, ROE value hits the maximum, driven by a **strong increase in net income** (111.8% increase compared to 2020). This number was driven by the surge in demand for medical oxygen during the COVID-19 Delta wave. In 2022, **ROE fell to its lowest point**, primarily because **total equity increased** continuously, but the net income declined by more than 50% compared to 2021. This condition suggests that **new equity/funding** or **retained earnings** weren't yet generating proportional profit due to **normalization after COVID-related spikes**. In 2023, net income rose 63% year-on-year, while equity growth was stable, which leading to a rebound in ROE. This result indicates improving profitability and **better capital utilization** post-pandemic.

To improve ROE, AGII must increase net income via margin improvements or revenue growth and ensure new equity or retained earnings are invested in productive, high-return assets.

CONCLUSION AND RECOMMENDATION

4.1. CONCLUSION

Based on the analysis using the Du Pont System, which evaluates Return on Equity (ROE), Net Profit Margin (NPM), Asset Turnover (ATO), and Return on Assets (ROA), this study indicates that all metrics experienced fluctuations from 2019 to 2023. From a financial perspective, these variations are likely driven by changes in selling expenses, general and administrative expenses, income tax expenses, finance costs, and other expenditures. Nevertheless, the five-year average reflects modest performance across all categories. This is considered healthy for a company in the gas industry, which is typically capital-intensive, where large infrastructure investments yield slow but steady returns.

Net Profit Margin (NPM) averaged 5%, peaking in 2021 during the heightened demand for medical oxygen amid the COVID-19 Delta variant wave. However, margin contraction in 2022 underscores rising operational expenses and underutilized asset investments, suggesting the need for more cost-efficient operations and better expense control. **Asset Turnover (ATO)** remained modest, ranging between 0.3 and 0.4, consistent with the firm's capital-intensive nature. ATO fluctuations reflect the timing mismatch between asset expansion and revenue realization, particularly visible in 2021 and 2022. The rebound in 2023 suggests improved asset utilization and leaner operations.

The firm's **Return on Assets (ROA)** and **Return on Equity (ROE)** further emphasize these dynamics. ROA averaged around 2%, with the highest efficiency observed in 2021, while the lowest in 2022 signals earnings lagging behind asset base expansion. ROE trends support this view; the sharp rise in 2021 driven by extraordinary income gains was followed by a decline in 2022 due to reduced profitability and equity growth outpacing earnings. Recovery in 2023 indicates resumed profitability and improved capital efficiency.

Overall, a unique trend was observed during 2021, where most likely all metrics was at their peaked level, likely due to a

significant surge in demand for medical oxygen during the COVID-19 Delta variant wave. In contrast, 2022 marked the lowest point for these indicators, possibly due to new asset investments or expansions that had not yet contributed to revenue, along with lower asset utilization or idle capacity following the post-COVID oxygen boom. By 2023, the trend had rebounded, indicating improved profitability, more effective capital and asset utilization, and greater operational efficiency in the post-pandemic recovery phase.

4.2. RECOMMENDATION

PT Samator Indo Gas Tbk has demonstrated good resilience during the pandemic and the capacity to stabilize financially in the post-pandemic period. However, to achieve sustained performance, the company must focus on improving profitability through cost efficiency, better asset utilization, strategic capital investment, and strengthened financial resilience. These steps will be critical to enhancing shareholder value and ensuring long-term competitiveness in the industrial gas sector.

To enhance cost efficiency, tighter control over selling, general, and administrative (SG&A) expenses should be implemented. The company could also explore automation and digital solutions to reduce recurring costs in production and logistics, thereby increasing operational efficiency. In order to improve asset utilization, the company should maximize output from existing facilities before initiating new capital expenditures. It is also recommended to evaluate the ROI of recently acquired assets to ensure they are effectively integrated into operations.

To guide strategic capital investment, the company should adopt a project evaluation framework that emphasizes cash flow timing and revenue potential. Leasing or forming joint ventures for expansion in uncertain markets is also recommended to reduce upfront capital burdens. To build financial resilience, the company should maintain healthy cash reserves and buffer capacity to absorb economic shocks. Additionally, it should regularly review and update its financial risk management strategies, particularly concerning debt, equity structure, and return expectations.

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CHAPTER 2

Financial Health Analysis of PT Indofarma, Tbk: A Six-Year Study (2019-2024)

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ABSTRACT

The pharmaceutical industry plays a vital role in maintaining and improving the quality of public health. The availability of safe, effective, and affordable medicines is the main foundation in supporting the health service system. PT Indofarma Tbk is a player in the pharmaceutical industry. This study evaluates PT Indofarma's financial health over a six-year period of 2019–2024. The method used in this study is the Altman Z-score model adapted for manufacturing companies. Key financial ratios (working capital/total assets, retained earnings/total assets, EBIT/total assets, market value of equity/total liabilities, and sales/total assets) are calculated from annual consolidated financial statements. The results of this study indicate that in the period 2019-2021 the company was at risk of financial distress, as indicated by a Z score of 1.606 in 2019; 1.323 in 2020; and 1.708 in 2021. And in the period 2022–2024, the company was in a distress zone, with a Z-Score of 1.408 in 2022; -6.758 in 2023; and -8.184 in 2024. Implications for management and recommendations to improve liquidity and operational efficiency will be analyzed.

Keywords: PT Indofarma Tbk, Altman Z-Score, Financial Distress.

INTRODUCTION

The pharmaceutical industry is a strategic sector in the economy that has a direct impact on people's welfare. Not only as a manufacturer of medicines for the treatment and prevention of diseases, this industry also supports the national health system and maintains public health resilience. Due to disease, changing lifestyles, and global challenges, the need for access to safe, effective, and affordable medicines is becoming increasingly urgent.

In the context of Indonesia, the pharmaceutical industry faces various structural challenges, ranging from high dependence on imported raw materials (Active Pharmaceutical Ingredients/APIs), limited research and development (R&D) capacity to dynamic regulations.

The financial health of a company is a key indicator for assessing the company's ability to maintain operations and meet financial obligations. Financial health analysis is performed using financial ratios that measure the company's liquidity, solvency, profitability, and activity (Asriani, 2015). By conducting this analysis, management can take the right strategic steps to improve performance and competitiveness, thus avoiding the possibility of bankruptcy (liquidation) of the company. The occurrence of liquidation and bankruptcy in a company will certainly cause many problems related to owners and employees who have to lose their jobs.

PT Indofarma Tbk earned a net profit in 2019, but from 2020 to 2024 it continuously experienced losses with an amount that increased from year to year, and then in 2024 the loss value decreased. The data is listed in the audited financial report of PT Indofarma, which has been announced and can be accessed by the public, as shown in Figure 1.1.

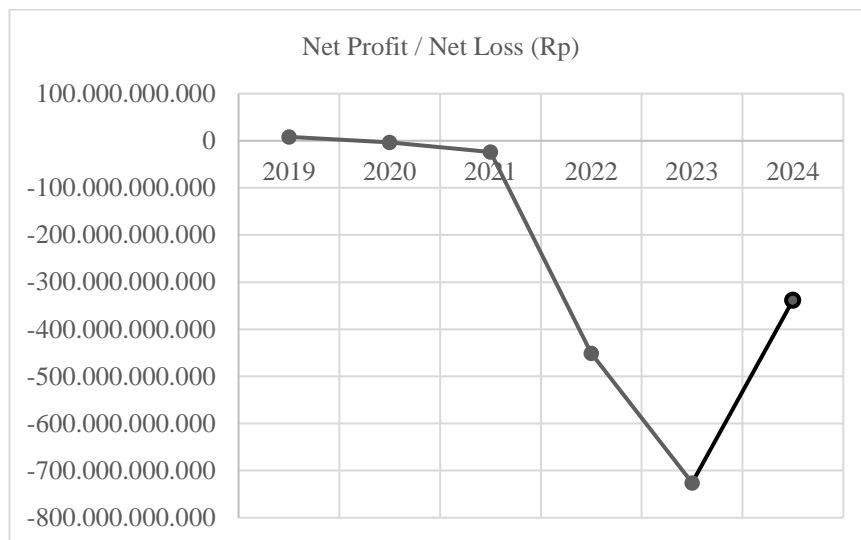


Figure 1.1 Net Profit / Net Loss (Rp)
Source : processed data, 2025

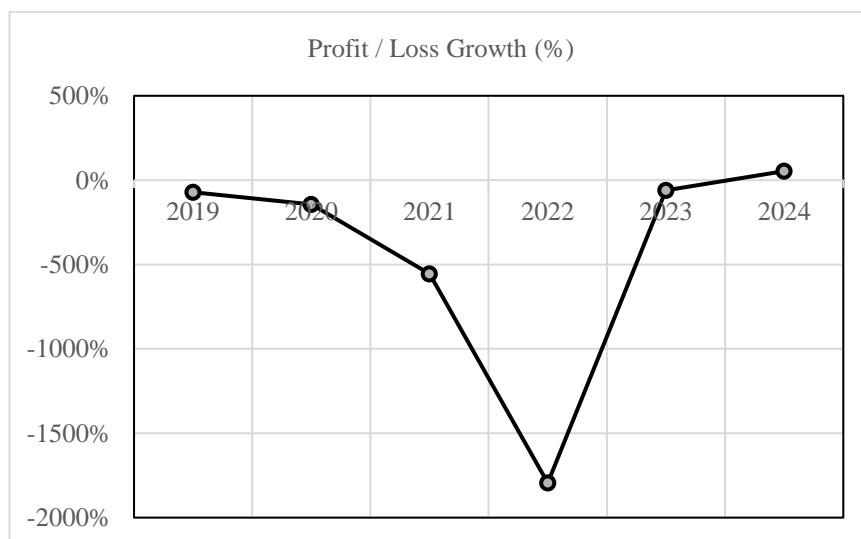


Figure 1.2 Profit / Loss Growth (%)
Source : processed data, 2025

The growth of PT Indofarma Tbk's profit and loss from 2019 to 2024 is shown in Figures 1.1 and 1.2, which face fluctuations every year. Such as in 2019, PT Indofarma earned a profit of Rp 8,288,467,178. But in 2020, PT Indofarma suffered a loss of Rp 3,629,956,496. In 2021 the loss increased to Rp 23,814,079,562; in 2022 it suffered a large loss of Rp 451,123,035,802; in 2023 it suffered a loss of Rp 725,869,728,541; and in 2024 the loss decreased to Rp 338,656,132,321.

Bankruptcy of a company through the stages of decreasing Return on Assets (ROA), cash shortage, financial distress & bankruptcy (Ubbe, 2020). In this case, ROA is an important metric in analyzing the financial condition and operational efficiency of PT Indofarma. By measuring how effectively a company generates profits from the assets it owns, ROA provides a comprehensive picture of the overall business performance. ROA, as shown in Figure 1.3, visualizes the grade of profitability and the efficiency of asset utilization and management's ability to manage the company's resources (Saputra, 2024).

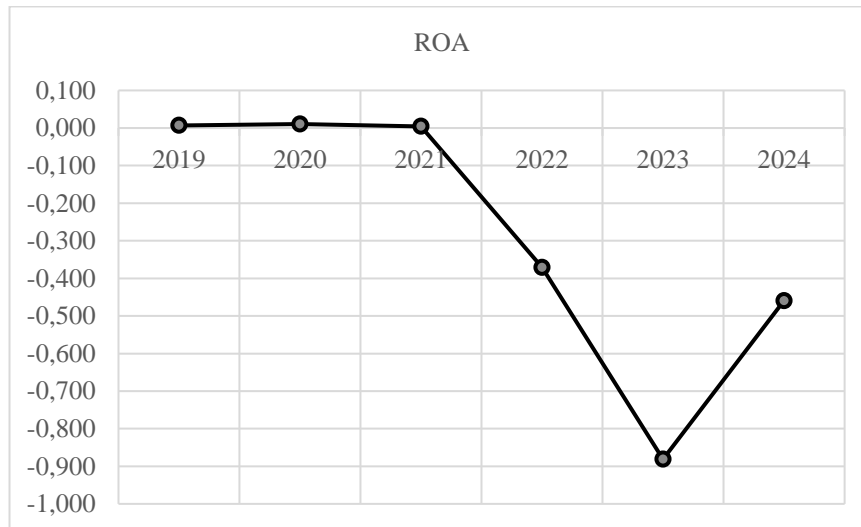


Figure 1.3 ROA
Source : processed data, 2025

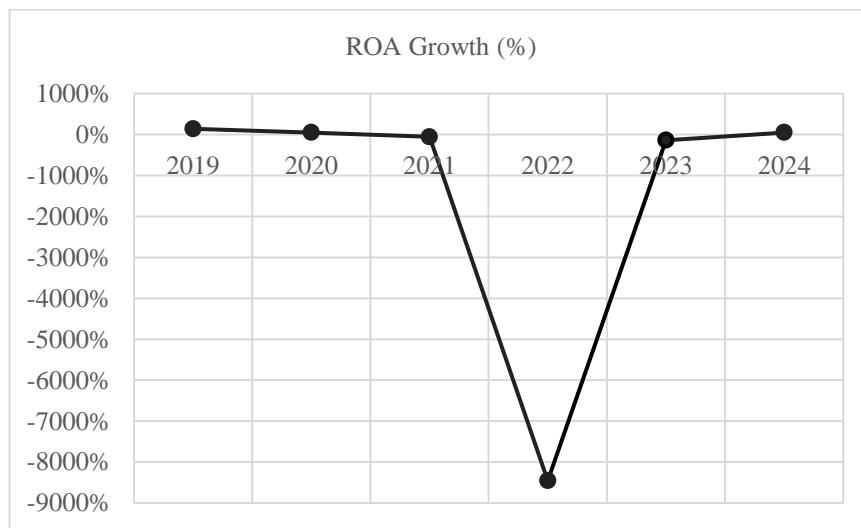


Figure 1.4 ROA Growth (%)
Source : processed data, 2025

The progress of ROA of PT Indofarma Tbk from 2019–2024 is shown in Figure 1.3 above, which faces fluctuations every year, such as in 2019 ROA was at 0.007%, and in 2020 ROA increased to 0.011%. In 2021, ROA decreased to 0.004%; in 2022, ROA decreased to -0.371%; in 2023, ROA decreased to -0.881%; and in 2024, ROA of PT Indofarma increased again to -0.459%. A high ROA value indicates that the invested funds can generate a large net profit. Conversely, a low ROA value indicates that the invested funds generate low net profit (Hery, 2016). Shortage of cash is a stage of cash shortage, where cash owned by a company is not enough to meet the company's current obligations, even though it has a fairly strong level of profitability (Ubbe, 2020).

LITERATURE REVIEW

Financial statements

A financial statement is a report regarding the financial condition of an institution in a certain period. This report describes the company's financial condition and the company's performance (IAI, 2015). This report consists of :

- Statement of financial position.

This report shows the financial position of an entity over a period of time and consists of assets, liabilities, and owner's equity.

- Statement of profit or loss.

This report is used to determine whether the company's activities generate profit or loss. The components of this report are the company's revenues, expenses, and profit or loss over a period of time.

- Statement of changes in equity.

- Statement of cash flows.

This report shows how cash and cash equivalents come in and come out of an entity over a period of time. This report provides an overview of the institution's activities in generating and managing cash.

Financial Ratio

Ratio in accounting is a comparison of values between two or more items in a financial statement, which is used to analyze a company's financial performance.

Bankruptcy

Altman (2006) uses the Z-score to analyze the bankruptcy of a company. Z-score for manufacturing companies can be calculated using the following formula:

$$Z = 1.2 X1 + 1.4 X2 + 3.3 X3 + 0.6 X4 + 1.0 X5$$

Notes :

Where Z is the index of bankruptcy, X1 is working capital divided by total assets, X2 is retained earnings divided by total assets, X3 is earnings before interest and tax divided by total assets, X4 is the market value of common stock and preferred stock divided by the book value of total debt, and X5 is sales divided by total assets.

The Z value can be used to analyze whether an entity is healthy or bankrupt. If the Z value is more than 2.6, it means the company is in a safe zone; if the Z value is between 1.1 and 2.6 it means the company has a risk for financial distress; and if the Z value is below 1.1, it means the company is in a distress zone.

RESEARCH METHOD

The researcher used financial ratios and the Altman Z-score to analyze the financial health of PT Indofarma, Tbk. The data used in this study were taken from the audited financial statements of PT Indofarma Tbk that have been announced and can be accessed by the public. The available financial statement of PT Indofarma are from 2011 to 2024. In this study, the author uses data from the last six years, from 2019 to 2024.

RESULT AND DISCUSSION

The evaluation of PT Indofarma Tbk's financial health during the six-year period 2019–2024 was carried out using the Altman Z-score method. The Altman Z-score value was obtained from the ratio calculation based on the values listed in the annual financial report of PT Indofarma Tbk for 2019–2024.

a. Working Capital/Total Assets (X1)

The Working Capital/Total Assets formula is known as the WCTA ratio. This shows the entity's ability to pay its short-term liabilities compared to total assets owned, as shown in Table 4.1.

X1= Working Capital/Total Assets

Table 4.1 Working Capital/Total Assets Ratio

Year	Total Assets	Working Capital			Working Capital/ Total Assets (X1)	Working Capital/ Total Assets (X1) Growth (%)
		Current Asset	Current Liabilities	Working capital (Current Asset - Current Liability)		
2019	1,383,935,194,386	829,103,602,342	440,827,007,421	388,276,594,921	0.281	905%
2020	1,713,334,658,849	1,134,732,820,080	836,751,938,323	297,980,881,757	0.174	-38%
2021	1,976,879,396,142	1,376,390,099,989	1,073,700,277,723	302,689,822,266	0.153	-12%
2022	1,481,412,095,840	810,988,701,644	1,025,331,067,523	(214,342,365,879)	-0.145	-194%
2023	759,828,977,658	198,991,900,314	1,231,087,955,072	(1,032,096,054,758)	-1.358	-839%
2024	618,159,340,037	134,191,242,468	1,507,257,320,998	(1,373,066,078,530)	-2.221	-64%

Source : processed data, 2025

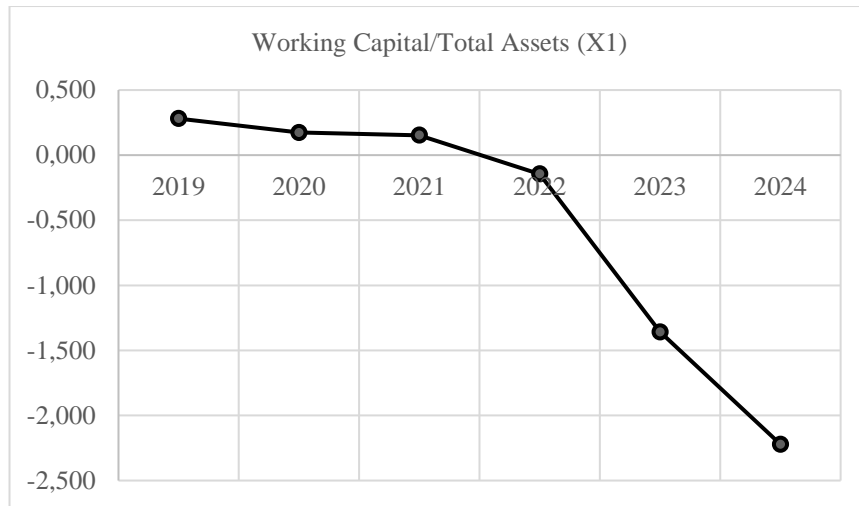


Figure 4.1 Working Capital/Total Assets Ratio
Source : processed data, 2025

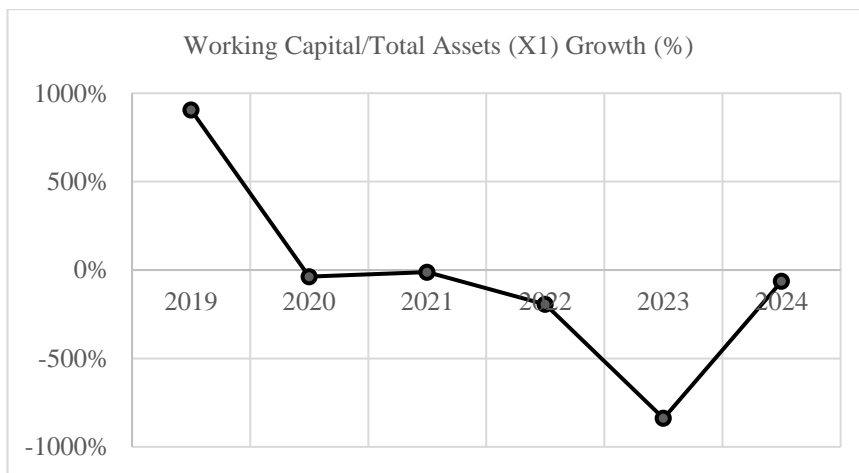


Figure 4.2 Working Capital/Total Assets Ratio (X1) Growth (%)
Source : processed data, 2025

Based on Table 4.1, the current liability from 2019 to 2024 continues to increase, while the ratio of working capital/total assets (WCTA) from 2019 to 2024 continues to decrease. Even in 2022, the WCTA had a negative value, meaning that in that year, the company began to be unable to pay its short-term liabilities using its current assets that it owned. However, based on Figure 4.2, in 2023 there was a turning point where the growth of the working capital/total assets ratio moved to a better condition.

b. Retained Earnings/Total Assets (X2)

The Retained Earnings/Total Assets formula is known as the RE/TA ratio. This ratio shows the entity's ability to manage assets and earn profits cumulatively.

$$X2 = \text{Retained Earnings/Total Assets}$$

Table 4.2 Retain Earnings/Total Assets Ratio

Year	Total Assets	Retained Earnings	Retained Earnings/Total Assets (X2)	Retained Earnings/Total Assets (X2) Growth (%)
2019	1,383,935,194,386	(79,300,152,644)	-0.057	5%
2020	1,713,334,658,849	(150,252,017,344)	-0.088	-53%
2021	1,976,879,396,142	(187,832,656,959)	-0.095	-8%
2022	1,481,412,095,840	(708,968,161,623)	-0.479	-404%
2023	759,828,977,658	(1,411,547,456,558)	-1.858	-288%
2024	618,159,340,037	(1,746,036,031,393)	-2.825	-52%

Source : processed data, 2025

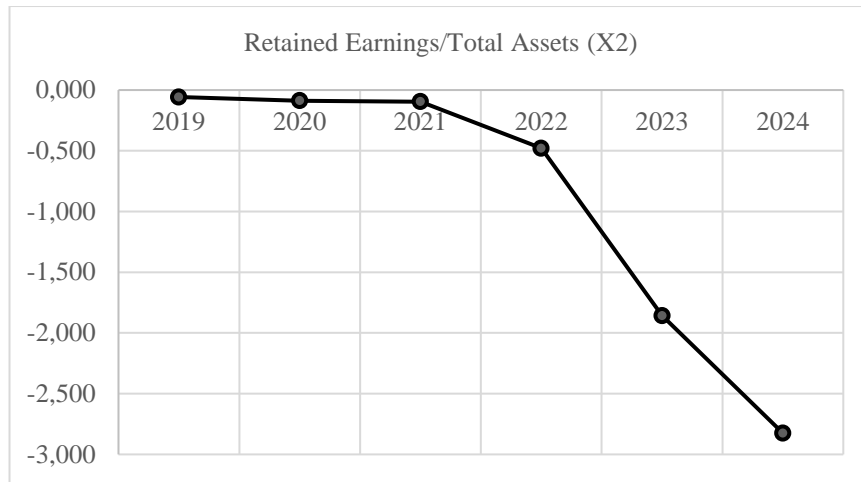


Figure 4.3 Retained Earnings/Total Assets (X2)

Source : processed data, 2025

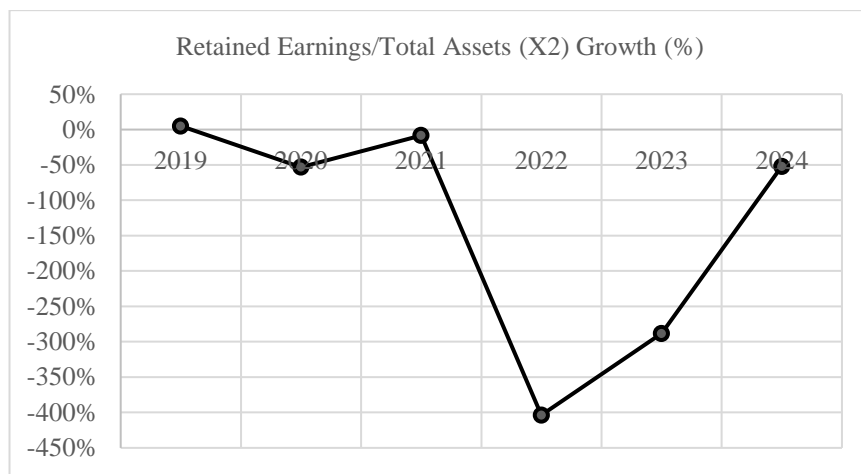


Figure 4.4 Retained Earnings/Total Assets (X2) Growth (%)

Source : processed data, 2025

Based on table 4.2, the ratio of retained earnings/total assets from 2019 to 2024 continues to decline. Since 2019, this ratio value has been negative due to the negative retained earnings value. A negative retained earnings value indicates that the company has experienced a net loss that exceeds the previous total retained earnings. This means that the entity has a deficit and not a profit that can be reinvested or distributed as dividends. However, based on figure 4.4, in 2022 there was a turning point where the growth of the retained earnings/total assets ratio moved to a better condition.

c. Earnings before Interest and Taxes/Total Assets (X3)

The formula Earnings Before Interest and Tax (EBIT) divided by Total Assets is a ratio that shows an entity's ability to generate profits from its total assets before deducting interest and taxes. This ratio shows the profitability of the company.

$$X3 = \text{Earnings before Interest and Taxes/Total Assets}$$

Table 4.3 Earnings before Interest and Taxes/Total Assets Ratio

Year	Total Assets	EBIT	EBIT/Total Assets (X3)	EBIT/Total Assets (X3) Growth (%)
2019	1,383,935,194,386	9,745,969,307	0.007	140%
2020	1,713,334,658,849	18,081,602,176	0.011	50%
2021	1,976,879,396,142	8,773,199,052	0.004	-58%
2022	1,481,412,095,840	(549,336,370,240)	-0.371	-8456%
2023	759,828,977,658	(669,509,217,512)	-0.881	-138%
2024	618,159,340,037	(283,757,708,547)	-0.459	48%

Source : processed data, 2025

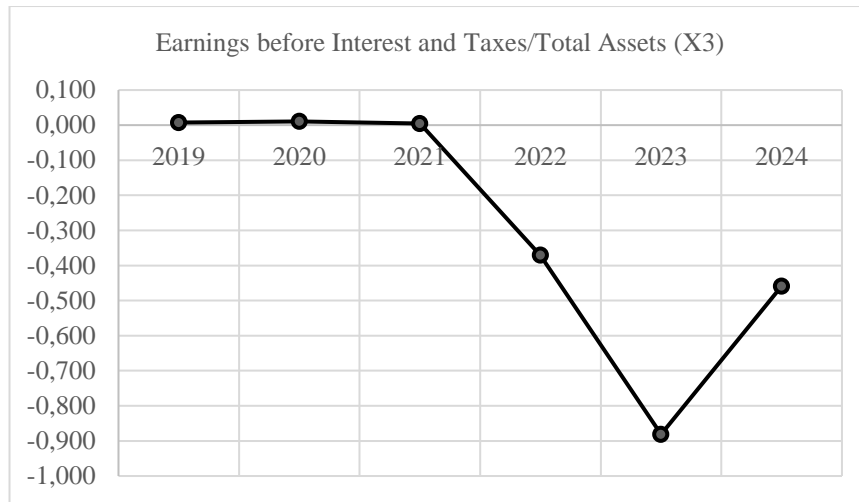


Figure 4.5 Earnings before Interest and Taxes/Total Assets (X3)

Source : processed data, 2025

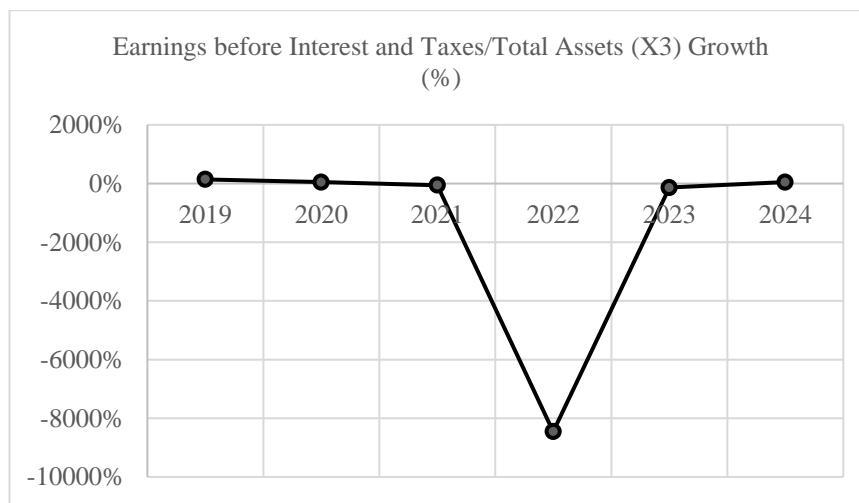


Figure 4.6 Earnings before Interest and Taxes/Total Assets (X3) Growth (%)

Source : processed data, 2025

Based on table 4.3, the EBIT/Total Assets ratio from 2019 to 2023 continues to decline. Even in 2022, the EBIT value was negative, meaning that in that year the company experienced a loss. However, based on figure 4.6, in 2022 there was a turning point where the growth of the EBIT/Total Assets ratio moved to a better condition.

d. Market Value of Equity/Total Liabilities (X4)

The formula "Market Value of Equity/Total Liabilities" is known as the MVE/TL ratio. MVE/TL shows the company's ability to pay liabilities based on the market value of its own capital (equity).

$$X4 = \text{Market Value of Equity} / \text{Book Value of Total Liabilities}$$

Table 4.4 Market Value of Equity/Book Value of Total Liabilities Ratio

Year	Market Value of Equity	Book Value of Total Liabilities	Market Value of Equity/Total Liabilities (X4)	Market Value of Equity/Total Liabilities (X4) Growth (%)
2019	504,935,327,036	878,999,867,350	0.574	9%
2020	430,326,476,519	1,283,008,182,330	0.335	-42%
2021	444,798,070,138	1,532,081,326,004	0.290	-13%
2022	(6,324,965,445)	1,487,737,061,285	-0.004	-101%
2023	(804,152,258,266)	1,563,981,235,924	-0.514	-11994%
2024	(1,144,041,808,773)	1,762,201,148,810	-0.649	-26%

Source : processed data, 2025

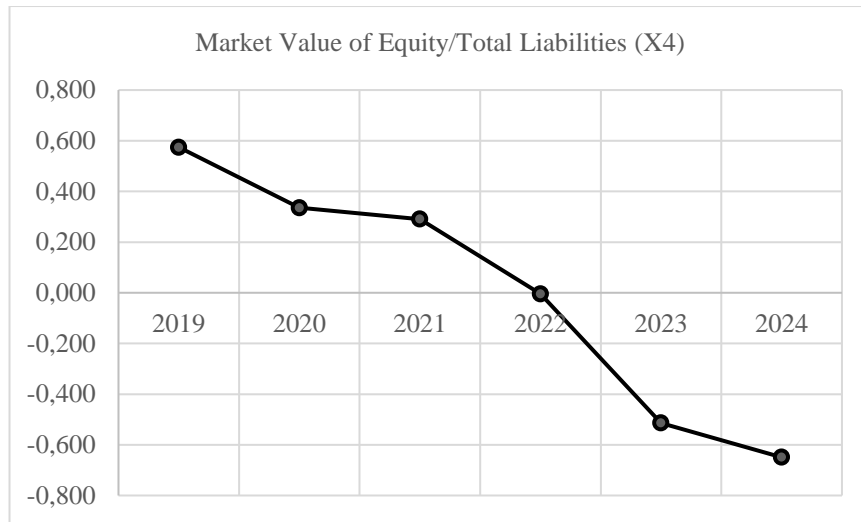


Figure 4.7 Market Value of Equity/Total Liabilities (X4)
Source : processed data, 2025

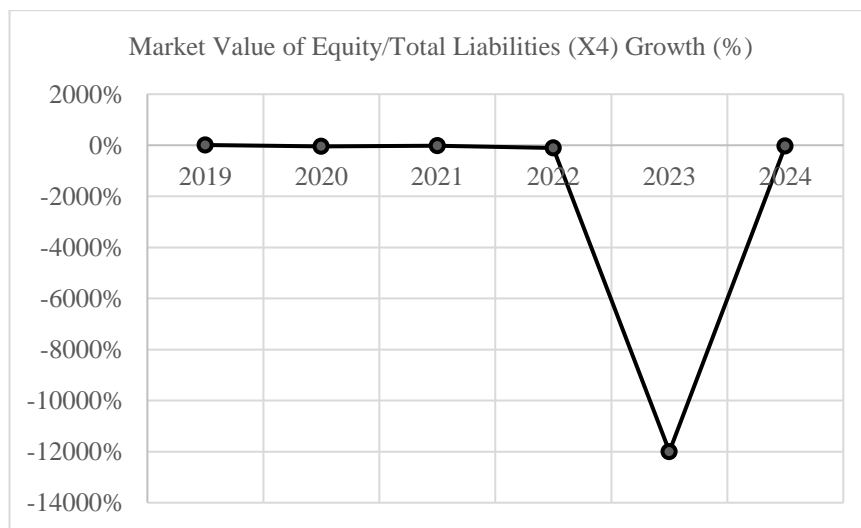


Figure 4.8 Market Value of Equity/Total Liabilities (X4) Growth (%)
Source : processed data, 2025

Based on table 4.4, the MEV/TL ratio from 2019 to 2024 continues to decline. Even in 2022, the MVE/TL was negative, meaning that the company's equity is negative. However, based on figure 4.8, in 2023 there is a turning point where the growth of the MEV/TL ratio moves to a better condition.

e. Sales to Total Assets (X5)

The Sales/Total Assets formula is a formula for calculating the Asset Turnover Ratio. This ratio indicates the company's efficiency in using its assets to generate sales.

$$X5 = \text{Sales/Total Assets}$$

Table 4.5 Sales/Total Assets Ratio

Year	Total Assets	Sales	Sales/Total Assets (X5)	Sales/Total Assets (X5) Growth (%)
2019	1,383,935,194,386	1,359,175,249,655	0.982	-11%
2020	1,713,334,658,849	1,715,587,654,399	1.001	2%
2021	1,976,879,396,142	2,901,986,532,879	1.468	47%
2022	1,481,412,095,840	980,370,552,490	0.662	-55%
2023	759,828,977,658	523,599,087,434	0.689	4%
2024	618,159,340,037	210,379,673,780	0.340	-51%

Source : processed data, 2025

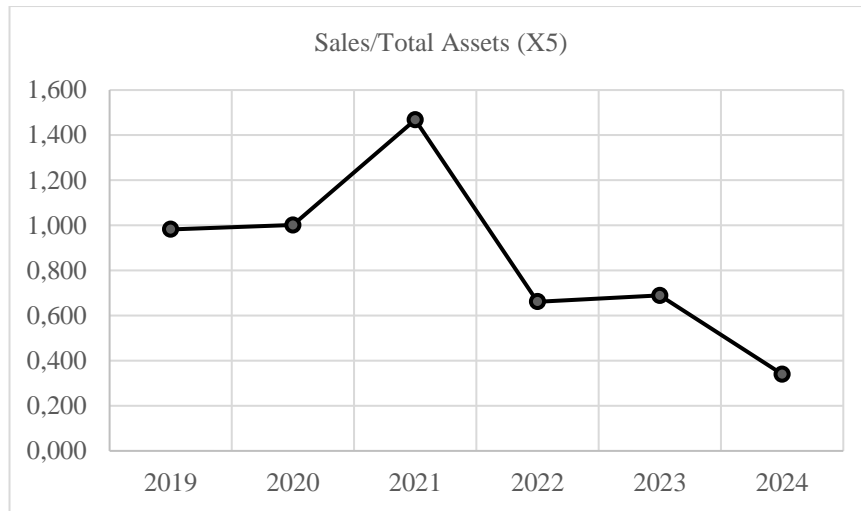


Figure 4.9 Sales/Total Assets (X5)

Source : processed data, 2025

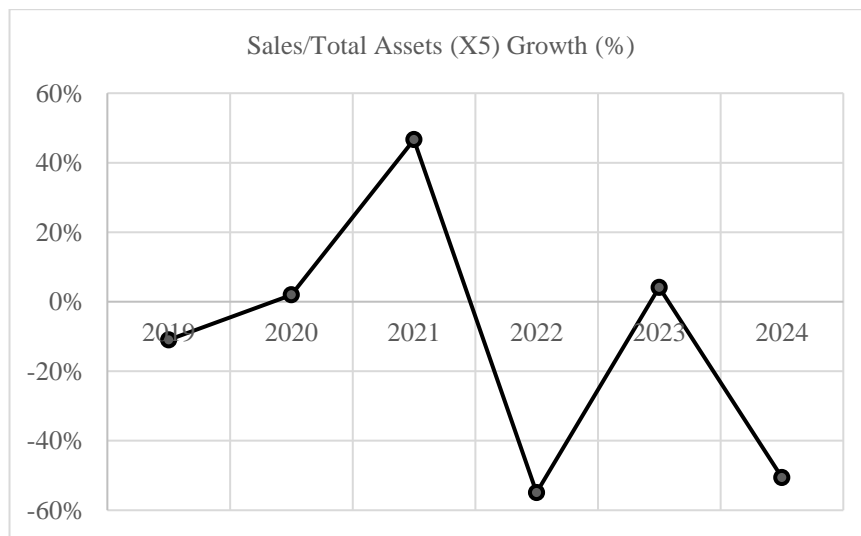


Figure 4.10 Sales/Total Assets (X5) Growth (%)

Source : processed data, 2025

Based on Table 4.5, Sales to Total Assets from 2019 to 2024 experienced fluctuations.

f. Altman Z-score (Z)

The Altman Z-Score is a model used to predict the possibility of bankruptcy of a company. This model was developed by Edward Altman, a finance professor at New York University (NYU), and uses several financial ratios to calculate the Z-score. A low Z-score indicates a higher risk of bankruptcy, while a high Z-score indicates a lower risk of bankruptcy.

$$Z = 1.2 X1 + 1.4 X2 + 3.3 X3 + 0.6 X4 + 1.0 X5$$

Table 4.6 Altman Z-score (Z)

Year	X1	X2	X3	X4	X5	Z	Z Growth (%)
2019	0.281	-0.057	0.007	0.574	0.982	1.606	23%
2020	0.174	-0.088	0.011	0.335	1.001	1.323	-18%
2021	0.153	-0.095	0.004	0.290	1.468	1.708	29%
2022	-0.145	-0.479	-0.371	-0.004	0.662	-1.408	-182%
2023	-1.358	-1.858	-0.881	-0.514	0.689	-6.758	-380%
2024	-2.221	-2.825	-0.459	-0.649	0.340	-8.184	-21%

Source : processed data, 2025

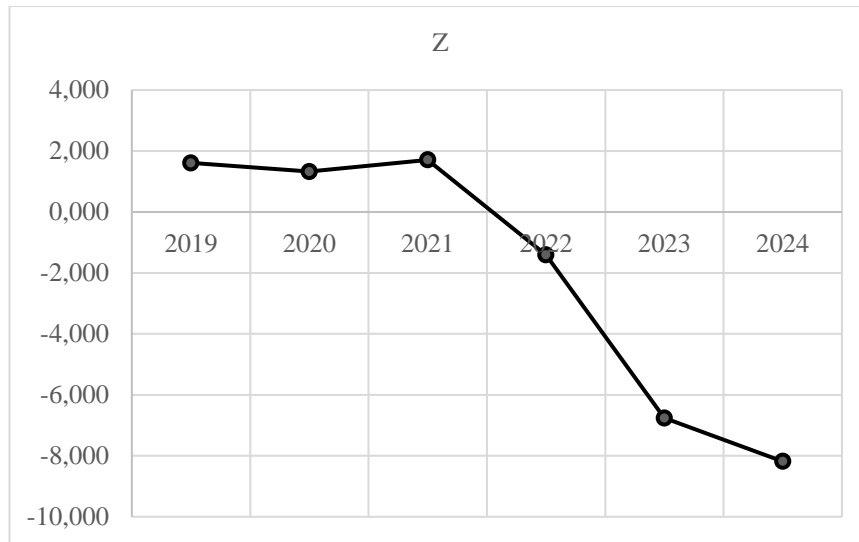


Figure 4.11 Altman Z-score (Z)
Source : processed data, 2025

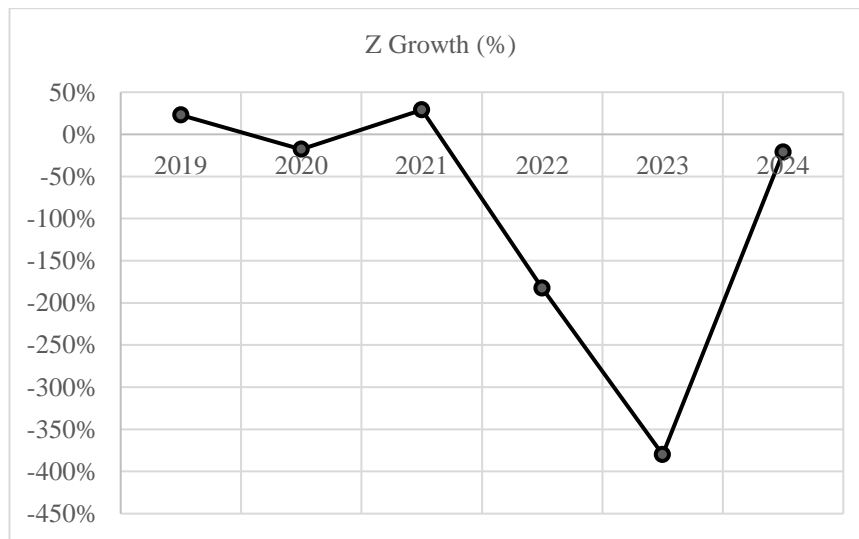


Figure 4.12 Altman Z-score (Z) Growth (%)
Source : processed data, 2025

Based on Table 4.6, the Z-score value from 2019 to 2021 is in the range of $1.1 < Z < 2.6$, meaning that the entity is in a state between healthy and bankrupt. In 2022–2024, the Z-score value becomes negative because in those years the values of X1, X2, X3, and X4 are negative, meaning that the entity is in the distress zone. However, based on figure 4.12, in 2023 there was a turning point where the growth of the Z-score value moved to a better condition.

CONCLUSION AND RECOMMENDATIONS

The results of this study concluded that the financial condition of PT Indofarma Tbk in 2019–2021 was in a risk for financial distress, as indicated by a Z score of 1.606 in 2019; 1.323 in 2020; and 1.708 in 2021. And in 2022–2024, PT Indofarma Tbk was in the distress zone, with a Z-Score of -1.408 in 2022; -6.758 in 2023; and -8.184 in 2024. Most of the financial ratios from 2019 to 2024 experienced a decrease in value, indicating that the company was not in good financial condition. However, most of the ratios in 2023 had experienced a turning point where the ratio moved to a better condition. The findings of this study can be used as input and consideration for the company to maintain the ratio value continue to increase, and immediately implement the right and fast strategy to further increase the ratio value, increase the Z-score value, and save the company from bankruptcy. The strategies that can be implemented are increasing current assets, reducing liabilities, increasing sales, and reducing expenses. For academics, by involving more samples from previous studies, more representative results will be obtained to describe the performance conditions of PT Indofarma. The result of the study will be different if applied to industries outside the pharmaceutical industry.

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CHAPTER 3

Profitability and Financial Health of PT Pembangunan Perumahan (PP) (Persero) Tbk using Du Pont Analysis and State Owned Enterprise (SOE) Performance Evaluation (2020–2024)

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ABSTRACT

Profitability is a key indicator of a company's financial health, particularly in capital-intensive industries such as construction. Amid economic uncertainties and sector-specific challenges, profitability analysis provides valuable insights into a company's capacity to generate returns from its revenues, assets, and equity. For state-owned enterprises (SOEs), such assessments are critical in evaluating the effectiveness of public investments and ensuring long-term sustainability. This study analyzes the profitability performance of PT PP (Persero) Tbk, a major Indonesian state-owned construction firm, using audited financial data from 2020 to 2024. A quantitative descriptive method is employed, with data sourced from the company's financial reports. The Du Pont System is applied to decompose Return on Equity (ROE) into three key components: Net Profit Margin, Total Asset Turnover, and Equity Multiplier. This framework enables a detailed examination of the internal factors influencing profitability across the five-year period. In addition, the study assesses PT PP's financial health using ROI and ROE indicators based on the evaluation framework set by the Indonesian Ministry of State-Owned Enterprises Regulation No. PER-2/MBU/03/2023. The combined use of ratio analysis and regulatory benchmarks offers a comprehensive view of the company's performance trajectory. The findings place PT PP in a moderate profitability category, highlighting the need for improved asset utilization, sustainable margin growth, and stronger alignment with regulatory benchmarks. This research offers valuable insights for stakeholders in assessing financial resilience and guiding strategic decisions within the SOE construction sector.

Keywords: Profitability Analysis, Financial Performance, Construction Industry, Du Pont System

1. INTRODUCTION

PT PP (Persero) Tbk, a leading Indonesian state-owned construction firm, has experienced fluctuating financial performance over the past few years. In Q1 2024, the company recorded a 5.68% year-on-year revenue increase, totaling IDR 4.61 trillion, with the construction segment contributing IDR 3.81 trillion. Net profit surged significantly by 176.43% to IDR 96.60 billion compared to the same period in 2023 (PwC Indonesia, 2024). However, despite this positive growth, PT PP faced notable setbacks in 2023. In Q3, revenue declined by 9.18% and net profit dropped 14.5% year-on-year, driven largely by underperformance in subsidiaries such as PT PP Properti Tbk (PPRO) and PT PP Energi, which struggled with market recovery and high-interest costs (IDN Financials, 2023).

In terms of operational progress, PT PP managed to secure IDR 24.4 trillion in new contracts by November 2024, achieving 76.31% of its annual target. These contracts originated from a mix of government projects (41.24%), SOEs (30.76%), and private sector clients (28%) (Indonesia Business Post, 2024). The company's project portfolio included infrastructure, building, and mining initiatives, as well as participation in strategic national projects such as the development of Indonesia's new capital city, Nusantara (Tempo, 2023).

In recent years, PT PP (Persero) Tbk has faced a mix of recovery and financial pressure, reflecting broader industry trends in the state-owned construction sector. While the company demonstrated resilience through rising revenues and profitability post-pandemic—recording a net profit peak of Rp481.38 billion in 2023—it also experienced a decline in profitability in 2024 due to increasing interest expenses and underperformance from subsidiaries. These challenges have raised concerns about operational efficiency, capital structure, and long-term sustainability.

Given PT PP's role as a major state-owned enterprise (SOE) involved in strategic national projects, including the development of Indonesia's new capital city, its financial performance directly impacts public trust and the government's infrastructure agenda. Therefore, a thorough analysis of the company's profitability and financial health is critical. Such evaluation not only helps identify the underlying drivers of performance but also informs whether the company is maximizing returns on public investment.

Given the importance of profitability analysis, especially for state-owned enterprises operating in complex economic environments, it becomes essential to adopt a structured and multidimensional evaluation approach. One widely used method is the Du Pont System, which breaks down Return on Equity (ROE) into three critical components: Net Profit Margin, Total Asset Turnover, and Equity Multiplier. This decomposition enables a more granular understanding of how operational efficiency, asset utilization, and financial leverage collectively influence a firm's profitability (Wild, Subramanyam, & Halsey, 2014; Brigham & Houston, 2022).

According to Gibson (2013), such ratio-based frameworks are valuable for identifying the internal drivers of performance and for benchmarking across time periods and industry peers. In the context of Indonesian SOEs, integrating Du Pont analysis with government-mandated performance indicators such as ROI and ROE provides a more comprehensive and policy-aligned perspective (Kementerian BUMN, 2023). As emphasized by the World Bank (2021), robust performance evaluation in SOEs is crucial to ensure transparency, accountability, and the efficient use of public resources. Accordingly, this study applies both the Du Pont framework and the evaluative criteria outlined in PER-2/MBU/03/2023 to assess the profitability and financial health of PT PP (Persero) Tbk over the 2020–2024 period.

The main objective of this study is to evaluate the profitability and financial health of PT PP (Persero) Tbk, over the period 2020 to 2024. Specifically, this study aims to:

1. Analyze the profitability performance of PT PP (Persero) Tbk using the Du Pont Analysis framework by breaking down Return on Equity (ROE) into Net Profit Margin, Total Asset Turnover, and Equity Multiplier.
2. Assess the company's financial health based on key financial indicators, Return on Investment (ROI) and Return on Equity (ROE) as stipulated in the Indonesian Ministry of State-Owned Enterprises Regulation No. PER-2/MBU/03/2023.

The primary objective of this study is to evaluate the financial performance of PT PP (Persero) Tbk over the period 2020 to 2024, with a specific focus on profitability and financial health. To achieve this, the study first applies the Du Pont Analysis framework to measure profitability by breaking down the Return on Equity (ROE) into its three main components: Net Profit Margin, Total Asset Turnover, and Equity Multiplier. This approach allows for a deeper understanding of the internal financial dynamics that influence the company's ability to generate returns for its shareholders. Furthermore, the study also assesses the company's financial health through the analysis of key performance indicators, namely Return on Investment (ROI) and ROE, based on the evaluation standards set by the Indonesian Ministry of State-Owned Enterprises in Regulation No. PER-2/MBU/03/2023. By integrating these two analytical perspectives, the study aims to provide a comprehensive view of PT PP's financial resilience, operational effectiveness, and its alignment with government performance expectations for state-owned enterprises.

2. LITERATURE REVIEW

2.1 Profitability in Corporate Finance

Profitability is a core measure of a company's financial performance and reflects its ability to generate earnings relative to its expenses and other costs incurred during a specific period. According to Brigham and Houston (2022), profitability ratios such as Net Profit Margin, Return on Assets (ROA), and Return on Equity (ROE) are essential tools for assessing financial performance and comparing firms across industries. In capital-intensive sectors like construction, profitability is often challenged by long project cycles, high fixed costs, and external economic shocks. Empirical studies have shown that state-owned enterprises (SOEs) often struggle with profitability due to inefficiencies and political mandates (Megginson & Netter, 2001).

2.2 Du Pont Analysis Framework

The Du Pont system, originally developed by the Du Pont Corporation in the 1920s, is a popular tool for analyzing ROE by breaking it down into three components: Net Profit Margin, Total Asset Turnover, and Equity Multiplier (Stickney et al., 2010). This decomposition helps identify whether profitability is driven by efficiency, profitability, or leverage. Several studies, such as those by Gitman and Zutter (2015), have shown the effectiveness of the Du Pont model in diagnosing financial strengths and weaknesses across industries, including construction and infrastructure sectors.

2.3 Financial Health and Performance Evaluation

Financial health refers to a company's ability to meet its financial obligations, maintain operational sustainability, and generate satisfactory returns. Indicators such as ROI and ROE are widely used to assess this health (Ross, Westerfield, & Jordan, 2018). For SOEs, financial health is not only a reflection of internal performance but also public accountability. Studies on SOEs in emerging markets indicate that stronger governance and transparent performance evaluation frameworks are critical for sustaining financial viability (OECD, 2015).

2.4 The Regulation of Ministry of State Owned Enterprises

The Ministry of State-Owned Enterprises in Indonesia introduced Regulation No. PER-2/MBU/03/2023 to standardize the performance evaluation of SOEs. This regulation outlines a balanced scorecard approach, with financial indicators such as ROI and ROE playing a significant role in the scoring system. The framework is designed to ensure SOEs not only achieve profitability but also align with national strategic goals (Kementerian BUMN, 2023). Prior analyses of similar regulatory reforms have shown improved corporate governance and financial disclosure among SOEs (Prabowo & Simpson, 2011).

The Regulation of the Minister of State-Owned Enterprises (SOEs) No. PER-2/MBU/03/2023 provides comprehensive guidelines for the corporate governance and performance evaluation of Indonesian SOEs. It aims to ensure that SOEs operate efficiently, transparently, and sustainably, while also adapting to dynamic global economic conditions and national development priorities. A key component of this regulation is the evaluation of financial health for SOEs. The financial performance indicators used include:

1. Return on Equity (ROE): Measures the company's ability to generate profit from shareholders' equity.
2. Return on Investment (ROI): Assesses how effectively the company generates profit from the total capital invested.

These indicators are used to categorize the health status of an SOE (e.g., Healthy, Less Healthy, Unhealthy) and reflect the company's financial efficiency, operational effectiveness, and ability to deliver value to stakeholders.

2.5 Previous Research

Profitability and financial health are essential metrics in evaluating a company's performance. The Du Pont analysis is a powerful tool that dissects Return on Equity (ROE) into three components: net profit margin, asset turnover, and financial leverage (Solihin, 2017). This model allows a comprehensive understanding of operational efficiency, asset use efficiency, and capital structure.

Gitman and Zutter (2015) emphasized the effectiveness of the Du Pont analysis in identifying financial strengths and weaknesses across industries, including construction. Their research illustrated that the Du Pont model helps managers and analysts trace declining or improving ROE to its root components—thus guiding strategic decisions. This insight is particularly valuable for state-owned enterprises like PT PP, where performance must align with both financial targets and government mandates.

Previous studies on PT PP (Persero) Tbk have provided insights into its financial structure and performance in different periods. For example, Adnyani & Dewi (2020) found that PT PP's net profit margin fluctuated due to rising construction costs and delays in project completions, particularly in infrastructure development, which impacted overall profitability. These fluctuations highlighted the company's vulnerability to macroeconomic factors and project execution risk.

In terms of SOEs performance evaluation, Permatasari & Fitriani (2021) emphasized that PT PP had met most of the Ministry of SOE's KPIs but pointed out that liquidity ratios and collection periods needed improvement. Their research also recommended PT PP diversify its financing sources to improve financial resilience.

Moreover, Puspitasari & Wijayanti (2021) analyzed the financial statements of PT PP and found that while the company showed moderate profitability, its return on equity was significantly influenced by its debt levels, especially in the construction sector, which typically has high leverage.

Building on this, Nurhayati & Ramadhan (2022) applied the Du Pont framework to SOE construction firms and revealed that PT PP (Persero) Tbk's Total Asset Turnover was consistently the weakest component, suggesting inefficient asset utilization. This weakness, compounded by fluctuating net profit margins, contributed to low overall ROE.

Additionally, Dheska Kunwardani and Daryanto (2023) conducted an in-depth evaluation of PT PP's financial performance between 2018 and 2022 using the Ministry of SOEs Decree No. KEP-100/MBU/2002. Their findings showed a decline in ROE and ROI, alongside worsening liquidity and asset turnover ratios, resulting in the company's health classification deteriorating from "Healthy" in 2018 to "Less Healthy" and "Unhealthy" from 2020 onward.

Research by Sitorus et al. (2023) focusing on the 2020–2022 financial period, found that although PT PP was able to recover post-pandemic, its ROE remained under pressure due to increasing interest expenses from short-term borrowings. This aligns with trends identified in this study's analysis from 2020 to 2024.

Thus, the combination of Du Pont analysis and BUMN evaluation provides a structured framework for evaluating PT PP's financial condition. This research builds upon these earlier findings by extending the analysis to the 2020–2024 period and cross-validating it with the Ministry of SOE's performance metrics.

3. RESEARCH METHOD

3.1 Du Pont Analysis

As part of the analytical framework in this research, the Du Pont Analysis is employed to provide an in-depth evaluation of PT Pembangunan Perumahan (PP) (Persero) Tbk's profitability and financial performance over the period 2020–2024. The Du Pont Analysis breaks down Return on Equity (ROE) into three interrelated components: Net Profit Margin, Total Asset Turnover, and Equity Multiplier. This decomposition allows the researcher to trace the root causes of changes in ROE by examining operational efficiency (profit margin), asset utilization (asset turnover), and financial leverage (equity multiplier).

3.1.1 Net Profit Margin

Net Profit Margin measures how efficiently the company converts its revenue into net income, calculated by dividing net income by total revenue. This ratio provides insight into the company's ability to manage its operational costs, pricing strategy, and overall profitability. A higher net profit margin shows better financial performance and operational efficiency, while a declining margin may signal rising costs or reduced pricing power.

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Total Revenue}} \times 100\%$$

Source : Brigham, E. F., & Houston, J. F. (2022)

3.1.2 Total Asset Turnover

Total Asset Turnover is calculated by dividing total revenue by total assets, providing insight into how effectively the company is using its available resources to support its operations. A higher turnover ratio shows better utilization of assets, while a lower ratio may suggest underutilization or inefficiencies in asset management.

$$\text{Total Asset Turnover} = \frac{\text{Total Revenue}}{\text{Total Assets}}$$

Source : Brigham, E. F., & Houston, J. F. (2022)

3.1.3 Equity Multiplier

The Equity Multiplier is calculated by dividing Total Assets by Total Equity. This ratio serves as a measure of financial leverage, showing the extent to which a company finances its assets through equity versus debt. A higher equity multiplier reflects a greater

reliance on debt financing, which may increase financial risk, while a lower multiplier suggests a more conservative capital structure.

$$\text{Equity Multiplier} = \frac{\text{Total Assets}}{\text{Total Equity}}$$

Source : Brigham, E. F., & Houston, J. F. (2022)

3.2 Return On Equity (ROE)

Return on Equity (ROE) is a key indicator of a company's profitability relative to shareholders' equity. The Du Pont Analysis provides a deeper insight into the components driving ROE by breaking it down into three fundamental factors: net profit margin, asset turnover, and equity multiplier. This decomposition allows analysts to understand not just how much return is generated on equity, but why that return is achieved.

$$ROE = \text{Net Profit Margin} \times \text{Asset Turnover} \times \text{Equity Multiplier}$$

Source : Brigham, E. F., & Houston, J. F. (2022)

3.3 Return On Investment (ROI)

The Return on Investment (ROI) formula used in this study is defined as:

$$ROI = \frac{\text{Net Profit After Tax}}{\text{Total Assets}} \times 100\%$$

Source : Brigham, E. F., & Houston, J. F. (2022)

This formula aligns with the concept of Return on Assets (ROA), a common financial ratio used to assess a firm's ability to generate profit from its total assets (Brigham & Houston, 2022). In the case of PT PP (Persero) Tbk, a state-owned construction company operating in a capital-intensive sector with a highly structured asset base, this method offers a more accurate representation of operational efficiency. As Brigham and Houston (2022) suggest, ROA is particularly useful in evaluating companies where large investments in fixed assets play a central role in generating income. By using net income relative to total assets, this ROI approach effectively captures how efficiently PT PP utilizes its asset base to produce returns.

3.4 Minister of SOEs Regulation No. PER-2/MBU/03/2023

The indicators Return on Investment (ROI) and Return on Equity (ROE) are part of the assessment of SOE financial performance, specifically under the profitability indicator group, which carries specific weights and scoring criteria.

Table-1. ROE and ROI Scoring Table

ROE (%)	ROE Score	ROI (%)	ROI Score
≥ 15	5	≥ 10	5
$10 \leq ROE < 15$	4	$6 \leq ROI < 10$	4
$5 \leq ROE < 10$	3	$3 \leq ROI < 6$	3
$1 \leq ROE < 5$	2	$1 \leq ROI < 3$	2
< 1 or negative	1	< 1 or negative	1

Source : Minister of SOEs Regulation No. PER-2/MBU/03/2023

The Ministry of SOEs uses a scoring system to evaluate ROE and ROI, which are key indicators of a company's profitability, by assigning scores from 1 to 5. A score of 5 is given when ROE is equal to or greater than 15% and ROI is equal to or greater than 10%, indicating strong financial performance. Mid-range values receive scores from 2 to 4, reflecting average to modest performance levels. Conversely, ROE and ROI below 1% or in the negative range are assigned the lowest score of 1, signifying weak profitability and poor financial health.

4. RESULT AND DISCUSSION

Tabel-2. Result of Du Pont Analysis PT PP (Persero) Tbk

Year	Net Profit Margin	Aset Turnover	Equity Multiplier	ROE
2020	1,04	0,30	4,74	1,46
2021	1,59	0,30	3,88	1,86
2022	1,44	0,33	3,89	1,83
2023	2,61	0,33	3,73	3,18
2024	2,10	0,35	3,71	2,72

Source : Authors (2025)

The Net Profit Margin shows an overall upward trend from 1.04% in 2020 to a peak of 2.61% in 2023, before slightly declining to 2.10% in 2024, indicating improved profitability over time, especially between 2022 and 2023. Asset Turnover remained relatively stable but showed a modest improvement from 0.30 to 0.35 over the five-year period, suggesting only slight gains in how efficiently the company utilizes its assets to generate revenue. The Equity Multiplier declined from 4.74 in 2020 to 3.71 in 2024, reflecting a decrease in financial leverage, which typically lowers financial risk but can also limit ROE growth unless offset by stronger profitability. Overall, ROE increased from 1.46% in 2020 to a peak of 3.18% in 2023 before decreasing to 2.72% in 2024, with the improvement largely driven by rising profit margins rather than enhancements in asset efficiency or leverage.

Tabel-3. Score ROE and ROI PT PP (Persero) Tbk

Yaer	ROE	Score ROE	ROI	Score ROI
2020	1,46	2	0,58	1
2021	1,86	2	0,65	1
2022	1,83	2	0,63	1
2023	3,18	2	0,22	1
2024	2,72	2	0,23	1

Source : Authors (2025)

Over the period 2020–2024, PT PP (Persero) Tbk consistently received a score of 2 for ROE. Based on the Minister of SOEs Regulation No. PER-2/MBU/03/2023 matrix, a score of 2 typically corresponds to a low-to-moderate ROE range. Despite the positive trend in 2023 and 2024, where ROE peaked at 3.18% before declining slightly to 2.72%, the scores remained constant, indicating that the ROE values may not have exceeded the threshold for a higher score (e.g., score 3 or 4). This suggests that although profitability improved slightly, it remained below the optimal level expected of high-performing SOEs entities.

PT PP's ROI across the same period remained relatively low and stable, resulting in a score of 1 each year. This consistent low ROI performance indicates poor capital efficiency, suggesting that PT PP has struggled to generate returns on its investments. The drastic drop in 2023 and 2024 (to around 0.22%–0.23%) may reflect challenges such as underutilization of assets, low project margins, or high operational costs. The score of 1, the lowest possible in the evaluation framework, places PT PP in a critical zone that may warrant strategic intervention from the Ministry or internal restructuring.

5. CONCLUSION AND RECOMMENDATIONS

The financial performance of PT PP (Persero) Tbk, as evaluated through Du Pont Analysis and supported by ROE and ROI scoring in accordance with Ministry of State-Owned Enterprises Regulation No. PER-1/MBU/03/2023, reveals a mixed outcome over the 2020–2024 period. The Return on Equity (ROE) showed improvement, peaking at 3.18% in 2023 before slightly declining to 2.72% in 2024. This growth was mainly driven by an upward trend in Net Profit Margin, which increased from 1.04% in 2020 to 2.61% in 2023, indicating improved operational profitability. Asset Turnover saw only a modest increase from 0.30 to 0.35, suggesting limited gains in efficiency. Meanwhile, the Equity Multiplier decreased from 4.74 to 3.71, reflecting a reduction in financial leverage and potentially lower financial risk.

Despite the improvement in ROE, the company consistently received a Score of 2 for ROE over the five-year period, implying that its profitability remained moderate relative to the Ministry's benchmarks. More concerning, Return on Investment (ROI) remained very low throughout, with values ranging from 0.22% to 0.65%, and was consistently rated at the lowest Score of 1. This indicates persistent inefficiency in utilizing capital for generating returns, placing PT PP in a vulnerable position in terms of

investment performance. To enhance both profitability and investment efficiency, and to meet or exceed the performance standards set by the Ministry of State-Owned Enterprises, PT PP (Persero) Tbk should consider the following strategic actions:

1. Optimize Asset Utilization : The company should focus on increasing asset turnover by enhancing project execution speed, reducing idle asset time, and prioritizing high-yield, strategic infrastructure developments.
2. Enhance Profit Margin Sustainability : While profitability improved, it must be sustained through better cost control, value-added services, and more competitive project bidding, especially in public-private partnerships.
3. Strengthen ROI through Smarter Capital Allocation : PT PP should reevaluate its investment portfolio and allocate capital to projects with higher expected returns. Divesting or restructuring underperforming assets may also help improve ROI.
4. Maintain Balanced Leverage : The declining equity multiplier suggests reduced reliance on debt, which lowers risk but may also limit growth. A balanced financial structure should be maintained to support expansion without compromising financial stability.
5. Align with SOE Performance Metrics : All strategic planning and execution should be tightly aligned with the Ministry of SOEs' financial performance indicators, ensuring measurable improvements in both ROE and ROI scores in future evaluations.

By implementing these recommendations, PT PP (Persero) Tbk can significantly enhance its financial health and overall performance assessment standing within the SOEs ecosystem.

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CHAPTER 4

Financial Performance Analysis of Indonesian Food and Beverage Enterprise PT. Garudafood Putra Putri Tbk During and After the Covid-19 Pandemic

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ABSTRACT

The Fast-Moving Consumer Goods (FMCG) industry is a very important sector to Indonesia's economy through its domestic consumption products, supporting millions of jobs, and attracting investment given by Indonesia's large and growing population, increasing urbanization, and rising middle class. However, the Covid-19 pandemic has caused financial strain for many FMCG companies in Indonesia due to shifts in consumer behavior and economy instability. This study analyses the financial performance of PT. Garudafood Putra Putri Tbk, one of the largest snack food industries in Indonesia, during the 2020 to 2024 period, encompassing the pandemic and the subsequent recovery phase. The data is sourced from the company's financial reports, annual reports, and relevant articles, as the collective data is analyzed using the Financial Ratio Analysis (FRA). Additionally, the DuPont System analysis is utilized to assess the evaluation of the company's return on equity (ROE) which is decomposed into three key components: net profit margin, asset turnover, and equity multiplier. This framework provides insights into the profitability, efficiency, and leverage strategies employed by the company over the five-year period. The findings suggest that strategic management of operational efficiency and capital structure has been pivotal to PT. Garudafood's financial resilience and growth trajectory amidst global disruptions for sustainable profitability growth. Therefore, this study analysis underscores the importance of integrated financial metrics in evaluating corporate performance and guiding future strategic decisions within the competitive FMCG industry.

Keywords: Garudafood, Financial Performance, Financial Ratios, Efficiency, Profitability Analysis.

1. INTRODUCTION

Indonesia's food retail industry has shown consistent growth over recent years, reflecting the country's expanding consumer base and rising middle-class demand. From 2017 to 2021, the revenue of Indonesia's food market increased steadily—from **USD 200 million in 2017** to **USD 258 million in 2021** (kadinbsd, 2022) as shown in **Figure-1**—demonstrating a resilient upward trend even amid global disruptions such as the COVID-19 pandemic. This sustained growth is largely driven by the **Fast-Moving Consumer Goods (FMCG)** sector, which plays a vital role in producing and distributing essential daily products such as packaged foods, beverages, and household necessities.



Figure 1. Revenue of the food market in Indonesia over the years (In Million U.S. Dollars).

Source: Statista

However, the Covid-19 breakout early 2020 triggered a global economic downturn in several ways, including Indonesia, as it disrupted economic growth, slowed down investment due to uncertainty and restrictions, caused increased unemployment and income insecurity.

Table 1. Gross Domestic Product Growth of Indonesia per Quarter (Annual % Change)

Quarter	2018	2019	2020	2021	2022	2023	2024
Q1	5.06	5.06	2.97	-0.69	5.02	5.04	5.11
Q2	5.27	5.05	-5.32	7.08	5.46	5.17	5.05
Q3	5.17	5.01	-3.49	3.53	5.73	4.94	
Q4	5.18	4.96	-2.17	5.03	5.01	5.04	
Full-Year	5.17	5.02	-2.07	3.70	5.30	5.05	

Source: Pusat Badan Statistik (BPS, 2024)

According to Table 1, the national economy contracted by -2.07% in 2020—marking the first recession in over two decades. Reduced consumer spending, mobility restrictions, and disrupted supply chains severely impacted business operations across sectors, including FMCG, as these companies faced reduced revenue streams and altered cost structures, with varied implications for financial performance. Nevertheless, as the government rolled out fiscal stimulus packages and accelerated vaccination campaigns, the economy began to recover. In 2021, Indonesia's GDP rebounded to a growth rate of 3.7%, followed by stronger recovery in 2022 with a growth rate of 5.3% (Badan Pusat Statistik, 2024). This economic rebound provided an opportunity for FMCG companies to regain momentum and restructure their financial strategies. By understanding how these companies responded to such an unprecedented event is essential for assessing their resilience and adaptability in times of crisis.

One of the examples of Indonesia's leading FMCG companies is PT. Garudafood Putra Putri Tbk (hereafter referred to as **Garudafood**), specializing in the production and distribution of branded snacks, beverages, and confectionery products. Established in 1990, the company has grown into a household name, with flagship brands such as *Garuda* (peanuts and snacks), *Gery* (biscuits and confectionery), *Leo* (potato-based snacks), and *Kacang Atom* gaining widespread market penetration both domestically and regionally. Headquartered in Jakarta, Garudafood operates multiple manufacturing facilities and an expansive distribution network across Indonesia and Southeast Asia. The company's core focus lies in delivering high-quality, affordable consumer products aligned with evolving consumer preferences, particularly in the youth and mass-market segments (Garudafood,

2022).

Despite its prominent market position, Garudafood was not immune to the economic disturbances caused by the pandemic (Garudafood, 2020). The shifts in consumer purchasing behavior and operational constraints presented challenges to the company's financial stability. As with other FMCG companies, during the early months of the pandemic, due to shifts in demand, essential goods saw increased consumption, non-essential and luxury items experienced declines. As the world is experiencing rapid digital transformation and ongoing technological advancements, E-commerce in the form of online shopping experienced a surge as customers focused more on products that met new health and safety standards (Nielsen, 2020). Thus, it becomes critical to examine how Garudafood managed its financial resources and strategic operations to navigate through the pandemic and recover in the post-pandemic period.

Hence, this study examines Garudafood's financial performance from 2020 to 2024, covering the pandemic and the recovery period. It focuses on analyzing the company's profitability, efficiency, and debt levels, exploring how COVID-19 affected its financial health, and evaluating how financial strategies helped the company recover and grow.

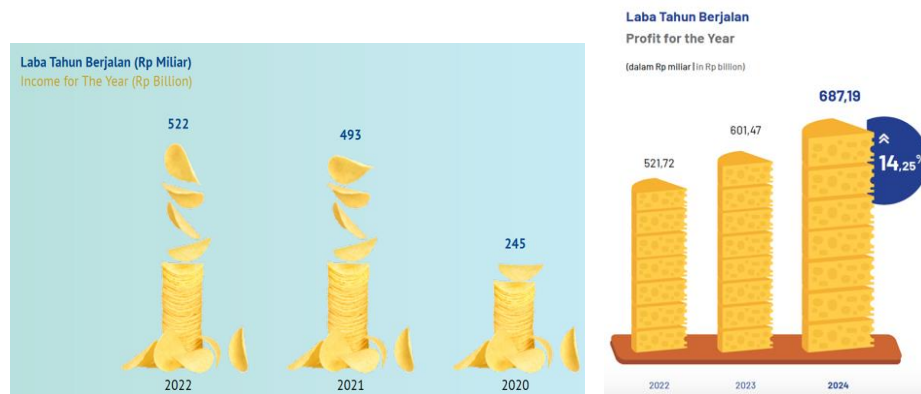


Figure 2. Profit for the Year Growth of PT Garudafood Putra Putri Tbk from Year 2020 – 2024 (In Rp Billion).

Source: Annual Reports of PT Garudafood Putra Putri Tbk Year 2022 and 2024

According to preliminary findings based on Garudafood's annual reports, while Garudafood experienced temporary financial setbacks during the peak of the pandemic, it demonstrated robust recovery capabilities (Garudafood, 2021; McKinsey & Company, 2021). By optimizing operational efficiency and managing its capital structure strategically, the company achieved gradual improvements in financial performance from 2021 onwards based on the figure above. This performance reflects the broader resilience of Indonesia's FMCG sector and adapted to new consumer habits, strengthening competitiveness of existing products and developing new ones, keep promoting innovation by enhancing business procedures, applying best practice standards, creating new product categories and making existing products more competitive, which played instrumental roles in sustaining domestic consumption and supporting the country's GDP recovery (Garudafood, 2024). Therefore, these findings reinforce the importance of integrated financial analysis tools in navigating business cycles and informing strategic decisions, especially in volatile macroeconomic contexts (Brigham & Houston, 2019).

2. LITERATURE REVIEW

Fast-Moving Consumer Goods (FMCG) Industry

The Fast-Moving Consumer Goods (FMCG) industry encompasses products that are sold quickly and at relatively low cost, including food and beverages, personal care items, household products, and over-the-counter medications. Due to their non-durable nature and regular consumption, FMCG products form an integral part of everyday life and are critical drivers of national economies (Kotler & Keller, 2016).

The characteristics of this industry are:

- **High volume, low margin:** Companies rely on the scale of distribution and sales to achieve profitability.
- **Rapid inventory turnover:** Goods are restocked and sold quickly due to their daily or weekly usage cycles.
- **Wide distribution networks:** FMCG companies require efficient logistics and broad access to retail and online channels to remain competitive.
- **Brand loyalty and consumer preference:** Strong branding and marketing are critical in differentiating products in a

highly competitive landscape.

Financial Statements

The Institute of Indonesia Chartered Accountants (2015) defines financial statements as a structured display of an entity's financial condition and financial performance in accordance with Financial Accounting Standards. Financial statements typically include a cash flow statement, income statement, and balance sheet. The report of this study is according to the consolidated financial statements contained in the annual report of Garudafood from 2020 to 2024.

According to the **International Financial Reporting Standards (IFRS)** and the **Financial Accounting Standards Board (FASB)**, the primary objectives of financial statements are to present fairly the financial position, performance, and cash flows of an entity, while complying with accounting principles and regulatory requirements (IFRS, 2018; FASB, 2021).

There are four main types of financial statements:

- **Income Statement (Profit and Loss Statement)**
Reports the company's revenues, expenses, and profits over a specific period. It shows whether the company made a profit or incurred a loss and provides a basis for evaluating operating performance.
- **Balance Sheet (Statement of Financial Position)**
Presents the company's assets, liabilities, and shareholders' equity at a specific point in time. It reflects the company's capital structure and financial health.
- **Cash Flow Statement**
Summarizes the inflows and outflows of cash during a period, classified into operating, investing, and financing activities. It provides insights into the company's liquidity and cash management.
- **Statement of Shareholder's Equity**
Shows the movement in owners' equity over the reporting period, including retained earnings, dividends, and issuance or repurchase of shares.

Each of these statements is interrelated and forms part of the complete financial reporting framework used in performance evaluation and strategic planning.

Financial Performance

Financial performance refers to the degree to which an organization can use its resources to generate revenue, achieve profitability, manage liabilities, and deliver value to shareholders over a specific period. It is a multidimensional construct that encompasses a company's ability to efficiently utilize assets, sustain operations, and deliver economic returns to its stakeholders (Brigham & Houston, 2019).

Financial performance is typically evaluated using quantitative indicators drawn from financial statements, such as revenue growth, profit margins, return on assets (ROA), return on equity (ROE) and Earnings per Share (EPS). These metrics offer insights into the company's operational effectiveness, strategic decision-making, and financial health (Fraser & Ormiston, 2016).

3. RESEARCH METHOD

This study investigates to seek the answer to the question of how did Garudafood's financial performance evolve during and after the Covid-19 pandemic and the key financial strategies contributed to its resilience and growth. Theoretically, it contributes to the understanding of financial resilience and strategic adaptation in the FMCG industry during crisis periods. Practically, it provides insights into how companies in emerging economies can navigate shocks and sustain performance, which is of interest to corporate managers, investors, and policymakers.

Research Design and Framework

This study employs a quantitative approach. Using this technique, the research method is conducted by examining on secondary data sourced from publicly available documents including Garudafood's audited financial statements, annual reports and relevant articles. After that, utilizing the Financial Ratio Analysis (FRA), the financial ratios are calculated based on the data of the company's consolidated statements of cash flows, financial position, and profit or loss to assess its financial performance, focusing on key metrics such as liquidity, profitability, and solvency ratios (Fraser & Ormiston, 2016).

The following financial ratio formulas are used:

- **Profitability Ratios:** These ratios evaluate a company's ability to generate earnings relative to its revenue, assets, or equity.
 - Net Profit Margin** = Net Profit / Sales Revenue
This ratio measures how much of each rupiah of sales is converted into net profit. A higher margin indicates better profitability, cost control and the efficiency of the company's operations, pricing strategy, and expense management.
 - Return on Assets (ROA)** = Net Income / Total Assets
ROA shows how effectively a company uses its assets to generate profit. A higher ROA means that the company is efficiently converting its investment in assets into net earnings.
 - Earnings per Share (EPS)** = Net Profit / Number of Shares Outstanding
EPS shows how much net income is allocated to each individual share. A higher EPS indicates greater profitability and is generally viewed positively by investors.
- **Liquidity Ratios:** Liquidity ratios assess a company's ability to meet its short-term obligations using its current assets.
 - Current Ratio** = Current Assets / Current Liabilities
This ratio indicates whether the company has enough short-term assets to pay off its short-term liabilities. A ratio above 1.0 is generally considered healthy, though too high a value may imply underutilized assets.
 - Quick Ratio** = (Current Assets – Inventories) / Current Liabilities
This ratio shows the company's ability to pay current liabilities with its most liquid assets. A higher ratio suggests stronger short-term financial health.
- **Efficiency Ratios:** Efficiency ratios measure how well a company uses its assets and resources to generate sales and manage inventory.
 - Total Asset Turnover** = Net Sales / Total Assets
This ratio shows how effectively the company is using its assets to produce sales. A higher ratio indicates better efficiency and asset utilization.
 - Inventory Turnover** = Cost of Goods Sold / Average Inventory
This ratio measures how quickly a company sells and replaces its inventory during a period. A higher turnover means efficient inventory management, but too high could suggest stock shortages or lost sales.
- **Solvency Ratios:** Solvency ratios assess a company's long-term financial stability and its reliance on debt financing.
 - Debt-to-Equity Ratio** = Total Liabilities / Total Equity

This ratio compares the company's total debt to shareholders' equity. It indicates how much debt is used to finance the company's assets. A lower ratio suggests lower financial risk, while a higher ratio implies greater leverage and potential risk during downturns.

The second method used is the DuPont analysis, utilized to calculate Garudafood's Return on Equity (ROE) ratio and deconstruct it into three key parts: net profit margin, asset turnover, and equity multiplier. By doing so analysts can determine the factors that contribute the most to the company's profitability during and after the Covid-19 pandemic.

Therefore, the DuPont analysis is applied for the formula breakdown to examine the ROE as follows:

$$\text{ROE} = \text{Net Profit Margin} \times \text{Total Asset Turnover} \times \text{Equity Multiplier}$$

- **Net Profit Margin** = Net Income / Sales Revenue
- **Asset Turnover** = Revenue / Total Assets
- **Equity Multiplier** = Total Assets / Equity

For Garudafood, applying the DuPont system over a five-year period offers insight into how the company adjusted its strategy to maintain or improve shareholder value in a disrupted business environment.

4. RESULT AND DISCUSSION

a. Financial Ratio Analysis

Table 2. Financial Ratio Analysis Calculation

No	RATIO	YEAR	YEAR	YEAR	YEAR	YEAR
		2020	2021	2022	2023	2024
Profitability Ratio						
	Net Profit After Interest and Tax	245,103,761,907	492,637,672,186	521,714,035,585	601,467,293,291	687,194,544,484
	Sales Revenue	7,719,379,796,413	8,799,579,901,024	10,510,942,813,705	10,543,572,559,649	12,235,369,422,252
1	Net Profit Margin (%)	3.18	5.60	4.96	5.70	5.62
	Net Profit After Interest and Tax	245,103,761,907	492,637,672,186	521,714,035,585	601,467,293,291	687,194,544,484
	Total Asset	6,670,943,518,686	6,766,602,280,143	7,327,371,934,290	7,427,707,902,688	8,431,726,766,692
2	Return on Asset (ROA) (%)	3.67	7.28	7.12	8.10	8.15
	Earning After Interest and Tax	245,103,761,907	492,637,672,186	521,714,035,585	601,467,293,291	687,194,544,484
	No of shares outstanding	737,958,029,100	737,958,029,100	737,958,029,100	737,958,029,100	737,958,029,100
3	Earning per Share (EPS) (Rp)	0.33	0.67	0.71	0.82	0.93
Liquidity Ratio						
	Current Asset	2,321,804,168,143	2,613,436,417,820	3,194,327,374,948	3,325,304,800,609	3,629,900,334,132
	Current Liabilities	1,314,344,090,213	1,771,339,531,925	1,835,096,804,319	1,872,541,607,518	2,652,170,175,224
4	Current Ratio (%)	1.77	1.48	1.74	1.78	1.37
	Inventory	861,818,731,958	1,005,419,097,716	1,273,691,356,964	1,267,810,064,381	1,416,740,515,081
	Monetary Current Assets (Current asset - Inventories)	1,459,985,436,185	1,608,017,320,104	1,920,636,017,984	2,057,494,736,228	2,213,159,819,051
	Current Liabilities	1,314,344,090,213	1,771,339,531,925	1,835,096,804,319	1,872,541,607,518	2,652,170,175,224
5	Quick Ratio (%)	1.11	0.91	1.05	1.10	0.83
Efficiency Ratio						
	Sales Revenue	7,719,379,796,413	8,799,579,901,024	10,510,942,813,705	10,543,572,559,649	12,235,369,422,252
	Total Asset	6,670,943,518,686	6,766,602,280,143	7,327,371,934,290	7,427,707,902,688	8,431,726,766,692
6	Asset Turnover (times)	1.2	1.3	1.4	1.4	1.5
	Cost of Goods Sold	5,603,881,057,085	6,379,825,025,746	7,853,878,614,261	7,670,055,478,763	8,742,100,051,238
	Inventory	861,818,731,958	1,005,419,097,716	1,273,691,356,964	1,267,810,064,381	1,416,740,515,081
7	Inventory Turnover (times)	6.5	6.3	6.2	6.0	6.2
Solvency Ratio						
	Total Debt (Total Liabilities)	3,713,983,005,151	3,735,944,249,731	3,975,927,432,106	3,518,496,516,469	4,425,889,971,924
	Total Equity	2,956,960,513,535	3,030,658,030,412	3,351,444,502,184	3,909,211,386,219	4,005,836,794,768
	(Total Debt/Total Equity) x 100%	126	123	119	90	110
8	Debt to Equity Ratio (times)	1.3	1.2	1.2	0.9	1.1

Source: Processed by Authors, 2025

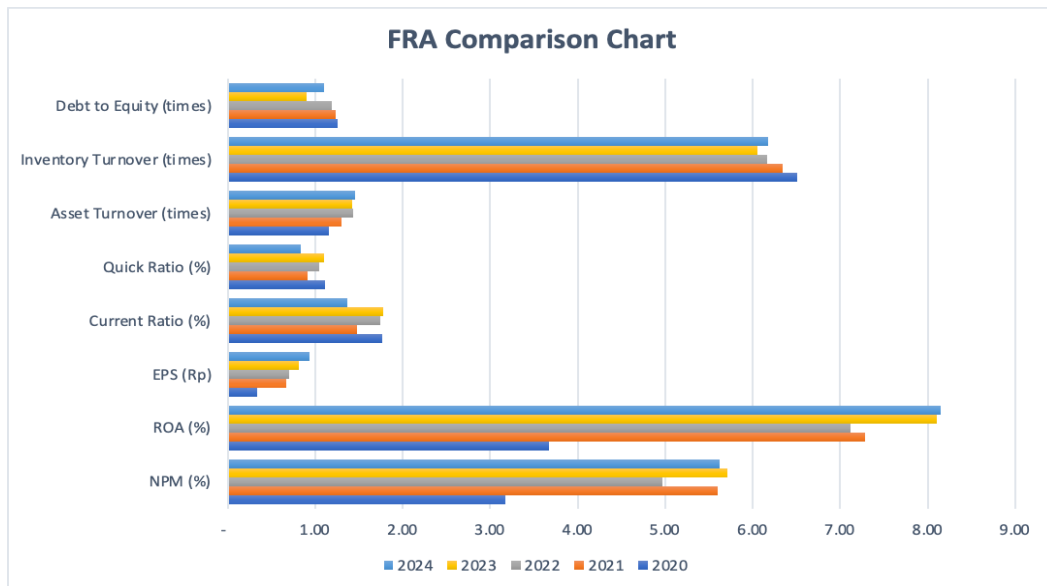


Figure 3. Financial Ratio Analysis Comparison Chart

Source: Processed by Authors, 2025

Based on the table and figure above, Garudafood showed strong financial improvement. Profitability increased as net profit margin, return on assets, and earnings per share all grew steadily. The company maintained good liquidity, although the quick ratio slightly declined in 2024, suggesting a need to watch short-term cash availability. Efficiency also improved, with better use of assets and stable inventory management. Garudafood kept its debt levels under control, showing good solvency. Overall, the company's financial performance strengthened, though close attention to liquidity and leverage remains important.

These findings align with earlier research by White et al. (2003), which emphasizes that strong ROA and efficient asset utilization are key drivers of firm value, particularly in consumer goods sectors. Compared to industry peers such as Unilever Indonesia and Indofood CBP, Garudafood demonstrates competitive efficiency growth, though it still trails in profit margin levels. The steady ROE and rising EPS indicate sound financial management and increased investor appeal. However, the declining quick ratio suggests a need for caution in liquidity planning. Similar studies by Penman (2013) note that companies with consistent earnings and low volatility in efficiency ratios are better positioned for long-term capital market performance. Garudafood's performance from 2020–2024 supports this theoretical framework.

b. DuPont Analysis

Table 3. Financial Performance Interpretation with DuPont Analysis Breakdown Calculation

Garudafood (GOOD)	Year 2020	Year 2021	Year 2022	Year 2023	Year 2024	Average
Net Profit Margin	3.18%	5.6%	4.96%	5.7%	5.62%	5%
Asset Turnover	1.2x	1.3x	1.4x	1.4x	1.5x	1.4x
Equity Multiplier	2.26x	2.23x	2.19x	1.9x	2.1x	2.14x
Return on Equity (ROE)	8.29%	16.26%	15.57%	15.39%	17.15%	15%

Source: Processed by Authors, 2025

According to Table 3, the DuPont analysis of Garudafood from 2020 to 2024 reveals a steadily improving financial performance driven primarily by increases in profitability and operational efficiency. The Net Profit Margin rose significantly after the pandemic, indicating stronger cost control and revenue growth, while Total Asset Turnover also improved, reflecting more efficient use of assets to generate sales. At the same time, the Equity Multiplier gradually declined, suggesting a shift toward lower financial leverage and a more conservative capital structure. Collectively, these changes resulted in a stable and healthy Return on Equity (ROE) at peak 17.15% in 2024, indicating that Garudafood's post-pandemic growth has been supported by internal operational improvements rather than reliance on debt, thereby enhancing the company's long-term financial sustainability.

According to White, Sondhi, & Fried (2003) and Brigham & Houston (2019), a strong ROE is generally desirable as it signals value creation for shareholders. The DuPont analysis allows us to identify the source of this value—be it operational, asset use, or capital structure. During the pandemic year in 2020, Garudafood relied more on financial leverage to maintain ROE despite lower Net Profit Margin. Post-pandemic (2021–2024), the company shifted toward organic performance improvements via better margins and asset turnover, reducing reliance on debt. This shift aligns with studies by Penman (2013), who emphasized that sustainable ROE growth is best driven by core operations, not leverage alone. Overall, Garudafood demonstrates a **strategically managed recovery trajectory**, well aligned with best practices in corporate finance.

5. CONCLUSION AND RECOMMENDATIONS

This research has analyzed the financial performance of PT Garudafood Putra Putri Tbk during and after the Covid-19 pandemic (2020–2024) using Financial Ratio Analysis and the DuPont System. The findings reveal that Garudafood successfully improved its profitability, operational efficiency, and return on equity through strategic cost control and efficient asset utilization. These generalizations suggest that the company demonstrated financial resilience by shifting from debt-driven returns toward internal performance improvements, which is reflected in rising net profit margin, return on assets, and earnings per share, as well as a strong ROE peaking at 17.15% in 2024.

However, this research is limited by its exclusive reliance on secondary data and the absence of qualitative factors such as consumer trends or managerial decisions that may have influenced performance outcomes. It also lacks extensive benchmarking with industry peers due to data availability constraints, which could provide a deeper comparative perspective.

Theoretically, these findings reinforce the view that sustainable financial growth in the FMCG sector is best achieved through operational efficiency and strong internal controls, rather than heavy reliance on leverage. Practically, this study offers a replicable financial analysis framework for companies operating in volatile economic environments, especially in emerging markets.

In conclusion, Garudafood's case illustrates how strategic financial management can enhance resilience and long-term viability. The synergy of business strategies, technology, procedures, and human resources all of which are essential for expansion and gaining a competitive edge in the food retail market of Indonesia. Hence, for recommendation the company needs to incorporate cross-company comparisons and scenario-based analysis to prepare for future economic volatility, adjust to market circumstances, bolster business resilience, and guarantee sustainable development if they want to keep providing value for stakeholders to achieve optimal results in the future.

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CHAPTER 5

Financial Efficiency of PT. Sariguna Primatirta through Du-Pont Analysis During and Post-Pandemic Recovery Period of 2019-2024

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ABSTRACT

The COVID-19 pandemic posed unprecedented challenges to global economic systems, affecting corporate performance and financial stability across multiple sectors. In Indonesia, businesses faced severe operational disruptions, shifting consumer behaviors, and macroeconomic volatility. This study investigates the financial efficiency of PT Primatirta Sariguna, a leading bottled water company in Indonesia, during the period spanning from 2019 to 2023, capturing both the onset of the pandemic and the subsequent post-pandemic recovery phase. The research employs DuPont Analysis to evaluate the company's financial performance by breaking down Return on Equity (ROE) into three critical components: Net Profit Margin (profitability), Total Asset Turnover (operational efficiency), and Equity Multiplier (financial leverage). The analysis is based on the company's annual financial statements. The findings reveal a dynamic performance over the observed period. In 2019, the company recorded an ROE of 17.06%, supported by a Net Profit Margin of 12.05%, Asset Turnover of 0.87, and Equity Multiplier of 1.62. Despite the pandemic, in 2020 ROE slightly declined to 14.83%, due to a drop in asset turnover (0.74) and leverage (1.47), although profitability improved to 13.65%. The company rebounded in 2021 with an ROE of 17.62%, driven by improved profit margins (16.38%). Although ROE slightly decreased to 16.18% in 2022, it surged to 22.07% in 2023, with asset turnover recovering to 0.91 and net profit margin at 15.51%. These results confirm that PT Primatirta Sariguna was able to maintain and enhance its financial performance through strategic cost management, efficient asset utilization, and stable financial leverage. The study answers the research question by highlighting clear year-to-year improvements in DuPont indicators, affirming the company's financial resilience. Moreover, it demonstrates the effectiveness of DuPont Analysis in assessing financial health and strategic adaptation in Indonesia's FMCG sector during economic disruptions.

Keywords: Return on Equity (ROE), Financial Efficiency, Covid-19 impact, Post Pandemic Recovery, Du-Point Analysis.

1. INTRODUCTION

PT Primatirta Sariguna Tbk is one of Indonesia's leading companies in the bottled drinking water industry, best known through its prominent brand, "Cleo." As a subsidiary of the Tanobel Group, the company has established a strong national presence with extensive distribution networks and a focus on product quality and operational efficiency. The bottled water industry is a critical segment within the Fast-Moving Consumer Goods (FMCG) sector, playing a vital role in meeting the basic health and hydration needs of the Indonesian population (Primatirta Sariguna Annual Report, 2023).

However, like many other businesses, PT Primatirta Sariguna faced significant challenges due to the COVID-19 pandemic. Beginning in early 2020, the pandemic brought widespread disruptions to economic activities across Indonesia. Government-imposed large-scale social restrictions (PSBB), supply chain breakdowns, weakened consumer purchasing power, and general macroeconomic uncertainty placed substantial pressure on the FMCG sector, including the bottled water industry (World Bank, 2021; McKinsey & Company, 2020). In 2020, many companies reported declines in sales, asset utilization, and increased operational costs, and PT Primatirta Sariguna was not exempt from these financial strains.

As the economic landscape gradually improved post-pandemic, businesses began implementing recovery strategies that focused on cost efficiency, asset optimization, and capital restructuring. The years following 2021 showed clear signs of recovery, supported by the resurgence in domestic consumption, improvement in logistics and distribution, and relatively stable macroeconomic conditions (BPS, 2023; Bank Indonesia, 2023). Within this context, it becomes essential to analyse how PT Primatirta Sariguna adapted financially during and after the crisis and whether its financial management strategies enabled a resilient recovery.

This study aims to evaluate the financial efficiency of PT Primatirta Sariguna from 2019 to 2023, covering the pre-pandemic, pandemic, and post-pandemic recovery periods. The analysis adopts the DuPont framework, which dissects Return on Equity (ROE) into three fundamental components: Net Profit Margin (profitability), Total Asset Turnover (operational efficiency), and Equity Multiplier (financial leverage). This decomposition allows for a comprehensive assessment of the company's financial performance in light of both internal dynamics and external macroeconomic conditions. Additionally, macroeconomic variables such as GDP growth, inflation, and interest rates are incorporated into the analysis to understand broader environmental impacts on corporate financial strategies (OECD, 2022; IMF, 2023).

To achieve this objective, the study will address the following research questions:

1. How did the financial efficiency of PT Primatirta Sariguna change during the COVID-19 pandemic and the subsequent recovery period from 2019 to 2023, based on the DuPont Analysis framework?
2. What were the key financial components-profitability, operational efficiency, and financial leverage-that influenced the company's Return on Equity during these years?

This research has two objectives. Firstly, it aims to conduct a comprehensive financial performance analysis of PT Primatirta Sariguna for the period 2019-2023 using DuPont Analysis. This analysis will assess the company's profitability, asset efficiency, and financial leverage in response to macroeconomic fluctuations. Secondly, this study seeks to contribute to the academic understanding of financial adaptability and strategic management in the Indonesian FMCG sector during and after economic crises such as the COVID-19 pandemic.

2. LITERATURE REVIEW

a. PT. Primatirta Sariguna Profile

PT Primatirta Sariguna, widely recognized through its flagship brand Cleo, is one of Indonesia's leading bottled drinking water (AMDK) producers and a subsidiary of PT Sariguna Primatirta Tbk, which is part of the Tanobel Food group. The company has gained significant market traction by offering healthy and hygienic bottled water products with advanced filtration and packaging technology. Since its inception, the company has emphasized sustainable operations, rapid distribution networks, and strong branding to differentiate itself in the competitive FMCG sector.

Primatirta's operations span multiple production facilities across Indonesia, allowing it to meet regional demand efficiently and minimize logistical costs. According to its 2022 Annual Report, the company continues to invest in infrastructure development, automation, and marketing innovation to maintain market leadership and adapt to evolving consumer preferences (Primatirta Annual Report, 2022). Furthermore, the company adheres to Good Manufacturing Practices (GMP) and environmental sustainability standards, which contribute to its credibility and consumer trust.

b. Financial Performance

The COVID-19 pandemic brought about significant economic uncertainty, altering financial dynamics across nearly every industry. According to Pratama & Dewi (2022), the FMCG sector in Indonesia was not immune to this disruption, facing major shifts in consumer behavior, supply chain bottlenecks, and restricted operational capacities. These challenges demanded corporate adaptability, especially in managing cash flow, optimizing assets, and reassessing capital structures to survive the downturn.

Financial performance, as highlighted by Sukawati & Wahidahwati (2020), is crucial in evaluating a company's success, particularly during economic turbulence. Return on Equity (ROE), a core indicator of shareholder value, offers comprehensive insight into profitability, efficiency, and leverage. The DuPont Analysis, by breaking down ROE into Net Profit Margin, Asset Turnover, and Equity Multiplier, provides a multidimensional view of financial efficiency (Daryanto et al., 2021).

In the post-pandemic period, companies like PT Primatirta Sariguna had to implement strategic adjustments to recover. This included cost control measures, realignment of investment priorities, and enhancements in operational efficiency. Financial statements from 2021 to 2023 suggest that several firms in the FMCG sector, including those in the bottled water segment, recorded gradual improvement in asset turnover and net margins as consumer demand normalized and distribution chains stabilized (Syuhada & Muda, 2020). These recovery patterns reflect the importance of robust financial strategies in navigating crises and achieving resilience.

c. Du-pont Analysis Framework

DuPont Analysis is a valuable financial tool developed by the DuPont Corporation that breaks down the Return on Equity (ROE) into three core components: Net Profit Margin, Total Asset Turnover, and the Equity Multiplier. This decomposition enables deeper insights into what specifically drives changes in ROE and reveals areas where financial performance can be improved (Brigham & Houston, 2021).

Net Profit Margin reflects the company's ability to convert revenue into profit, measuring profitability. Total Asset Turnover evaluates how efficiently a company utilizes its assets to generate revenue. Lastly, the Equity Multiplier assesses the degree of financial leverage by examining how much assets are financed by shareholder equity (Daryanto et al., 2021).

Applying this framework to PT Primatirta Sariguna between 2019 until 2023 provides a clear view of how the company navigated the volatility introduced by the COVID-19 crisis. During the downturn in 2020, the company's profitability dropped, impacting the Net Profit Margin and Total Asset Turnover. However, in the recovery years, an increase in operational efficiency and improved cost control resulted in a steady rebound in ROE components. This suggests that DuPont Analysis is effective not only for identifying financial strengths and weaknesses but also for assessing recovery strategies during periods of economic turbulence.

3. RESEARCH METHOD

This study seeks to address the research question: How did PT Primatirta Sariguna manage its financial performance and efficiency during the COVID-19 pandemic and the post-pandemic recovery period (2019–2023). To answer this, the research adopts a quantitative method using the DuPont Analysis framework, a well-established model in financial analysis that decomposes Return on Equity (ROE) into three interrelated components: Net Profit Margin, Total Asset Turnover, and Equity Multiplier (Brigham & Houston, 2021).

The analysis relies on secondary data, specifically annual financial statements of PT Primatirta Sariguna from 2019 to 2023. These include income statements, balance sheets, and statements of changes in equity. Supplementary macroeconomic indicators—such as GDP growth, inflation, and interest rates—were obtained from Bank Indonesia and the Central Bureau of Statistics (BPS) to provide contextual relevance.

3.1 DuPont Analysis

The DuPont analysis formula decomposes ROE into three components: net profit margin, asset turnover, and equity multiplier (Gitman & Zutter, 2015). The formula is expressed as:

$$ROE = \text{Net Profit Margin} \times \text{Total Asset Turnover} \times \text{Equity Multiplier}$$

Each component of the equation serves a distinct analytical function:

3.1.1 Net Profit Margin (Profitability)

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Revenue}} \times 100 \%$$

Gitman & Zutter (2015)

This measures the company's ability to generate profit from its revenues. It reflects how efficiently management converts sales into net income, indicating cost control and pricing strategies. A higher margin implies better profitability.

3.1.2 Total Asset Turnover

$$\text{Total Asset Turnover} = \frac{\text{Total Revenue}}{\text{Total Assets}}$$

Brigham & Houston (2019)

This ratio assesses how efficiently the company uses its assets to produce revenue. It indicates how well management is utilizing the firm's resources to drive sales. A higher value signifies greater operational efficiency.

3.1.3 Equity Multiplier

$$\text{Equity Multiplier} = \frac{\text{Total Assets}}{\text{Equity}}$$

Ross, Westerfield, & Jordan (2018)

This metric reflects the company's capital structure. It shows the degree of financial leverage being used, how much of the assets are financed by shareholders versus debt. A higher multiplier implies more reliance on debt, which can increase returns but also risk.

By analyzing these three dimensions together, the DuPont framework not only identifies how well a company is performing but also uncovers the underlying drivers behind its ROE performance whether due to profitability, asset utilization, or capital structure.

4. RESULT AND DISCUSSION

Table 1. Result of Du Pont Analysis PT Primatirta Sariguna

Year	Net Profit Margin	Asset Turnover	Equity Multiplier	ROE
2019	12,05	0,87	1,62	17,06
2020	13,65	0,74	1,47	14,83
2021	16,38	0,77	1,39	17,62
2022	14,40	0,76	1,48	16,18
2023	15,51	0,91	1,56	22,07

Table-1 shows the results of the DuPont Analysis conducted for PT Primatirta Sariguna over the period 2019 to 2023 provide a comprehensive overview of the company's financial dynamics. The analysis, which breaks Return on Equity (ROE) into three core components Net Profit Margin, Asset Turnover, and Equity Multiplier highlights notable developments in each area.

Net Profit Margin (NPM) experienced a generally upward trend, increasing from 12.05% in 2019 to 15.51% in 2023. This indicates that the company improved its ability to generate net income from its sales, reflecting better cost control and operational efficiency. The highest NPM was recorded in 2021 at 16.38%, reinforcing the company's strong profitability, which is particularly significant for a business in the competitive FMCG sector.

Asset Turnover (AT), which measures how effectively the company uses its assets to generate revenue, remained relatively stable throughout the period. Although the ratio ranged from 0.74 to 0.91, the gradual increase seen in 2023 suggests improvements in operational asset utilization. However, the figure still falls slightly below the typical FMCG industry benchmark of 1.0, indicating that there is still room to enhance asset efficiency.

The Equity Multiplier (EM), which represents the degree of financial leverage, declined from 1.62 in 2019 to a low of 1.39 in 2021, before increasing again to 1.56 in 2023. This trend suggests that the company initially reduced its reliance on debt financing, favoring equity as a funding source, before strategically reintroducing moderate leverage in later years, possibly to support growth or investment. The relatively moderate EM levels indicate a balanced capital structure, minimizing risk while maintaining financial flexibility.

ROE fluctuated over the years but demonstrated an overall rising trend from 17.06% in 2019 to 22.07% in 2023. The highest ROE recorded in 2023 shows the combined positive effects of higher profitability, modest improvement in asset efficiency, and careful financial leverage management. This strong ROE performance signals that the company has been effective in generating value for shareholders.

In summary, the DuPont Analysis shows that PT Primatirta Sariguna's financial performance has strengthened over the five-year period. The improvements in profitability and strategic capital management have positively impacted ROE, highlighting the company's ability to enhance shareholder returns while maintaining operational stability and financial health.

5. CONCLUSION AND RECOMMENDATIONS

5.1. CONCLUSION

Based on the results of the DuPont Analysis of PT Sariguna Primatirta for the period 2019 to 2023, it can be concluded that the company has demonstrated a consistent improvement in financial performance, particularly in terms of Return on Equity (ROE), which increased from 17.06% in 2019 to 22.07% in 2023. This growth indicates that the company has been increasingly effective in generating returns for shareholders.

The primary driver of this improvement was the rising Net Profit Margin (NPM), reflecting better cost efficiency and operational profitability. Although Asset Turnover (AT) remained moderate, it showed a positive trend in 2023, indicating an opportunity for greater efficiency in asset utilization. Meanwhile, the Equity Multiplier (EM) declined in the early years, signaling a lower reliance on debt, but rose moderately in the final year, suggesting a strategic use of leverage to support growth.

Importantly, this positive financial trajectory also reflects the company's resilience during and after the COVID-19 pandemic. Despite the economic challenges and operational disruptions that affected many firms in the FMCG sector, PT Sariguna Primatirta successfully navigated the transition by maintaining profitability, improving efficiency, and managing risk prudently. This ability to survive and grow during such a volatile period highlights the company's adaptability and strong financial governance.

5.2. RECOMMENDATION

In line with these findings, several recommendations are proposed to support continued financial improvement:

1. The company should enhance asset utilization by optimizing operational efficiency and aiming to increase Asset Turnover to meet or exceed industry standards, especially in the FMCG sector.
2. It is recommended to sustain profitability strategies, such as cost control, efficient production, and market-focused approaches, to maintain and potentially improve the Net Profit Margin.
3. PT Sariguna Primatirta should manage financial leverage prudently, ensuring that the use of debt remains balanced and does not expose the company to unnecessary financial risk.
4. The company is encouraged to benchmark against industry peers to identify competitive gaps and best practices that can be adopted for further improvement.
5. Finally, the continued use of financial performance tools like DuPont Analysis is recommended as part of strategic planning to assess financial health and guide decision-making processes.

Through the implementation of these strategies, PT Sariguna Primatirta is well-positioned to strengthen its financial stability, enhance shareholder value, and maintain competitiveness in the dynamic FMCG market.

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CHAPTER 6

Financial Performance Analysis of PT Acset Indonusa, Tbk. Post-Acquisition by Astra and Post-COVID-19 Pandemic Using the DuPont Analysis

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ABSTRACT

This study analyzes the financial performance of PT Acset Indonusa, Tbk, a privately owned main contractor in Indonesia, with a specialized subsidiary in foundation and piling works. The analysis spans two key periods: post-acquisition by PT Astra International Tbk in 2015 (the pre-COVID-19 pandemic period), and the post-pandemic recovery phase in 2020. The research uses a combination of DuPont Analysis and key financial ratios to evaluate profitability, operational efficiency, and financial stability. The data was collected from Financial Reports for the period of 2015 to 2024. PT Acset operates within a challenging construction industry landscape in Indonesia, where regulatory standards for contractors are inconsistently enforced. This environment allows lower-grade contractors to compete directly with more established firms, often resulting in an industry-wide "race to the bottom." Project owners typically prioritize lowest-cost bids over essential factors such as quality, safety, and timely delivery, undermining long-term project sustainability and professional accountability. The onset of the COVID-19 pandemic in 2020 significantly exacerbated these issues, placing further strain on financial performance and disrupting ongoing construction activities across the nation. This paper aims to offer insight into how PT Acset navigated these structural and economic disruptions and to assess whether Astra's acquisition strategy has strengthened the company's resilience and competitive position in the market.

Keywords: DuPont analysis, COVID-19 impact, Construction industry, Post-acquisition analysis.

INTRODUCTION

The Covid-19 pandemic triggered a global economic contraction, with Indonesia being no exception. The resulting economic slowdown significantly impacted national economic activities, leading to increased poverty, rising unemployment rates, and a decline in public purchasing power. The construction sector, which is fundamentally dependent on on-site physical activities, experienced considerable disruption due to mobility restrictions and social distancing measures implemented to curb the spread of the virus.

Although the Indonesian government responded by accelerating several national strategic infrastructure projects such as toll roads and the massive development of the new capital city (IKN) as a form of fiscal stimulus to support the construction industry, these measures have not fully offset the broader economic downturn. In the post-pandemic period, the private construction market, particularly in sectors such as shopping malls, apartments, and office buildings, has shown a decline in demand. This trend is largely attributed to a structural shift toward remote working (Work from Home) and weakened consumer purchasing power.

Despite these challenges, the construction industry continues to play a vital role in supporting Indonesia's economic recovery. It serves as a key sector in job creation and contributes significantly to the country's Gross Domestic Product (GDP). Given this strategic importance, it is essential to assess the financial health of construction firms objectively to understand their resilience and capacity to recover from economic shocks.

This study aims to analyze the financial health of a publicly listed private construction company in Indonesia, utilizing comprehensive financial data to capture conditions both before and during the Covid-19 pandemic. The company under review presents a unique case, as it had undergone a major structural transformation through an acquisition by the Astra Group in 2015. This context adds further relevance and interest to the analysis, as it allows an exploration of how such an acquisition may have influenced the firm's financial stability during a period of unprecedented economic uncertainty.

LITERATURE REVIEW

The financial performance of construction firms is a longstanding and critical area of inquiry within the domains of civil engineering and business management. It functions not only as a measure of a firm's profitability and efficiency but also as an indicator of operational resilience and long-term sustainability. Given the capital-intensive nature of construction and its pronounced exposure to macroeconomic cycles, financial performance analysis becomes particularly vital in ensuring firm competitiveness and project viability (Ofori, 1990; Hillebrandt, 2000).

One of the most widely recognized frameworks for evaluating corporate financial health is the DuPont Analysis. By deconstructing Return on Equity (ROE) into its core components net profit margin, asset turnover, and financial leverage this analytical tool enables a comprehensive understanding of the factors driving financial performance (Soliman, 2008). Within the construction sector, the application of financial ratio analysis, including assessments of liquidity, solvency, and profitability, has proven essential for benchmarking performance, evaluating capital structures, and identifying project-level risks (Akintoye & Fitzgerald, 2000).

In the Indonesian context, the construction industry faces a distinct set of structural and regulatory challenges. The sector often operates under an inconsistent policy environment with weak enforcement of qualification standards for contractors. Therefore, price-based competition has intensified, prompting many firms to adopt aggressive cost-cutting strategies to secure contracts. This phenomenon commonly referred to as a "race to the bottom" has been shown to compromise construction quality, safety standards, and overall project sustainability (Wells, 2001).

In summary, the literature underscores the importance of robust financial performance analysis as a strategic tool for managing risks and enhancing firm competitiveness in the construction sector. As the industry continues to navigate complex regulatory and economic landscapes, particularly in emerging markets like Indonesia, there is a growing need for empirical research that integrates financial diagnostics with sector-specific operational realities.

CONCEPTUAL FRAMEWORK

The conceptual framework for this study is developed to investigate how different financial indicators influence the overall financial performance of construction firms. The model integrates DuPont Analysis components and key financial ratios across three primary dimensions: Profitability, Operational Efficiency, and Financial Stability. These dimensions are hypothesized to collectively impact the firm's Return on Equity (ROE) as the central indicator of financial performance.

1. CORE CONSTRUCTS AND VARIABLES:

1.1. Financial Performance as the Dependent Variable (DV):

Return on Equity (The DuPont Model) serves as the proxy for overall financial performance. It encapsulates profitability, efficiency, and leverage.

$$ROE = \frac{Net\ Income}{Revenue} \times \frac{Revenue}{Total\ Assets} / 1 - \frac{Total\ Liabilities}{Total\ Assets}$$

Objective: To assess the firm's ability to generate profits relative to revenue, assets, and equity before and after key structural events (e.g., acquisition and pandemic).

1.2. Profitability Indicators as the Independent Variables (IV's):

$$1.2.1. \text{ Net Profit Margin (NPM)} = \frac{Net\ Income}{Revenue}$$

$$1.2.2. \text{ Operating Profit Margin (OPM)} = \frac{Operating\ Income}{Revenue}$$

$$1.2.3. \text{ Return on Assets (ROA)} = \frac{Net\ Income}{Total\ Asset}$$

Objective: To function as a comparative benchmark and verification tool for Return on Equity (ROE) outcomes, ensuring the reliability and validity of financial performance assessments.

1.3. Operational Efficiency Indicators:

$$1.3.1. \text{ Asset Turnover} = \frac{Revenue\ (or\ Net\ Sales)}{Total\ Asset}$$

$$1.3.2. \text{ Receivables Turnover} = \frac{Revenue}{Account\ Receivable}$$

$$1.3.3. \text{ Fixed Asset Turnover} = \frac{Revenue}{Net\ Fixed\ Asset}$$

Objective: To evaluate how effectively the firm utilizes its assets to generate revenue, particularly during periods of reduced market activity and logistical disruption.

1.4. Financial Stability Indicators:

$$1.4.1. \text{ Current Ratio} = \frac{Current\ Assets}{Current\ Liabilities}$$

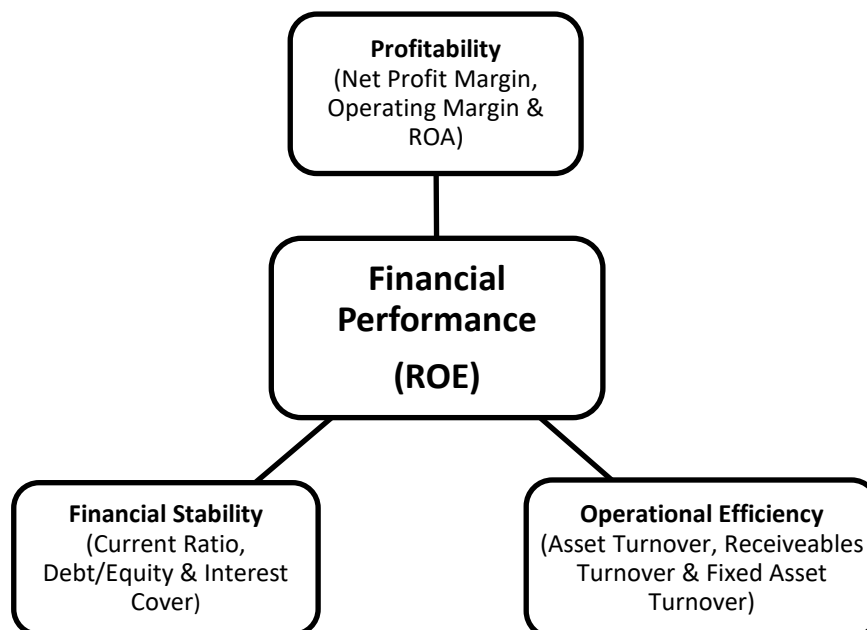
$$1.4.2. \text{ Debt to Equity Ratio} = \frac{Total\ Liabilities}{Equity}$$

$$1.4.3. \text{ Interest Coverage Ratio} = \frac{Earning\ Before\ Interest\ and\ Taxes}{Interest\ Expense}$$

Objective: To determine the company's short-term liquidity, long-term solvency, and capacity to manage financial obligations amid external shocks.

These variables are integrated as drivers or explanatory factors for variations in ROE within construction firms.

Chart-1: Conceptual Framework



The construction industry is capital-intensive, asset-heavy, and exposed to payment delays and project uncertainties. Therefore, isolating the components of ROE using DuPont Analysis allows for deeper insights into whether performance is driven by margin control, asset utilization, or financial structure. The inclusion of additional ratios enhances the model's diagnostic capability particularly in differentiating short-term liquidity issues from long-term solvency risks.

This framework is designed to be tested using regression-based quantitative methods, supported by ratio analysis from audited financial statements of construction firms.

Framework guide:

- Data Collection: Through secondary data (financial statements).
- Variable Operationalization: Defined financial ratios as measurable variables.
- Data Analysis Technique: Multiple linear regression to test the relationships between IVs and ROE

2. ANALYTICAL FLOW

To assess PT Acset's financial development comprehensively, the analysis is divided into two distinct phases based on key external and internal milestones. This chronological segmentation enables a clearer understanding of how the company's strategic responses have evolved over time:

1. Post-Acquisition Phase (2015–2019)
Performance during integration under Astra Group, reflecting strategic restructuring.
2. Post-Pandemic Recovery Phase (2020–2024)
Financial resilience during market contraction and operational disruption.

This conceptual framework allows for a longitudinal evaluation of PT Acset's financial condition, offering insights into how internal corporate strategies and external market forces interact to shape financial outcomes. It also highlights how civil engineering firms can better navigate uncertain economic conditions by leveraging structural reforms, strategic investments, and operational discipline.

RESULTS AND DISCUSSION

This section presents the financial performance analysis of PT Acset Indonusa Tbk during the post-acquisition period (2015–2024), segmented into pre-pandemic years (2015–2019) and the post-pandemic recovery phase (2020–2024). The evaluation applies DuPont Analysis and relevant financial ratios to examine the company's profitability, operational efficiency, and financial stability.

1. PROFITABILITY ANALYSIS

Return on Equity (ROE) demonstrated volatile behaviour during the study period. While PT Acset recorded a peak ROE of 10.70% in 2017, the indicator experienced a steep decline to 1.50% in 2018 and subsequently turned negative in 2019 (-395.09%) and during the pandemic years, reaching a low of -413.56% in 2020. This trend suggests a significant deterioration in shareholder returns during the crisis. Notably, ROE rebounded dramatically in 2024, reaching 384.46%, suggesting a potential post-pandemic recovery or extraordinary financial restructuring.

The underlying Net Profit Margin (NPM) and Operating Profit Margin (OPM) further explain these fluctuations. NPM dropped from 5.08% in 2017 to -28.67% in 2019 and remained negative throughout the pandemic, reaching -111.26% in 2020. Similarly, OPM declined from a high of 9.55% in 2018 to -93.21% in 2020, reflecting operational distress and revenue pressures during the pandemic. In 2024, margins improved but remained negative, with NPM at -17.09% and OPM at -14.39%, signalling ongoing recovery but incomplete return to profitability.

Return on Assets (ROA) followed a similar trajectory. After a high of 2.90% in 2017, ROA turned negative post-2018, hitting -43.86% in 2020 and gradually recovering to -19.27% in 2024. These trends highlight declining efficiency in asset utilization amid worsening net income.

2. OPERATIONAL EFFICIENCY

Asset Turnover Ratio steadily declined from 0.70 in 2015 to a low of 0.38 in 2019. However, signs of recovery were observed post-COVID-19, with the ratio increasing to 1.13 by 2024. This improvement indicates better asset utilization in revenue generation, possibly due to optimized project execution or restructuring of underperforming assets.

Receivable Turnover peaked at 8.75 in 2018 but declined sharply during the pandemic, bottoming at 1.58 in 2020. The ratio improved significantly in the subsequent years, reaching 7.08 in 2024, suggesting enhanced collection efficiency and cash flow management.

Fixed Asset Turnover showed a promising upward trend in the later years, from 1.83 in 2020 to 12.03 in 2024, further affirming that asset deployment has become more effective, potentially reflecting downsizing or better capital allocation.

3. FINANCIAL STABILITY

PT Acset's Current Ratio weakened from 1.33 in 2015 to 0.84 in 2020, indicating liquidity stress. It rebounded to 1.40 in 2021 and remained around 1.0 in subsequent years. A slight decline to 0.86 in 2024 suggests that while liquidity management has improved post-COVID, short-term financial obligations still present a challenge.

The Debt-to-Equity Ratio sharply increased from 1.90 in 2015 to a peak of 35.47 in 2019, pointing to aggressive leveraging. Interestingly, the ratio declined to 2.15 in 2022, before increasing again to 20.54 in 2024, reflecting continued financial restructuring efforts or reliance on external funding for recovery projects.

Interest Coverage Ratio, which had been negative prior to 2020, improved significantly to 3.70 in 2020 and peaked at 11.81 in 2022. Despite a decline to 6.66 in 2024, the trend reflects a strengthened ability to meet interest obligations post-crisis, possibly due to cost optimization or debt refinancing.

4. SUMMARY OF FINDINGS

This study aimed to assess the financial performance and resilience of PT Acset Indonusa Tbk following its acquisition by PT Astra International Tbk in 2015. The analysis covered two critical periods: (1) the post-acquisition, pre-pandemic phase (2015–2019), and (2) the post-COVID-19 recovery phase (2020–2024). These timeframes were analysed against the backdrop of Indonesia's evolving economic conditions, including the sharp contraction during the COVID-19 pandemic and subsequent attempts at fiscal and infrastructure-driven recovery.

4.1. Post-Acquisition, Pre-Pandemic Period (2015–2019)

During the initial years following the acquisition, PT Acset displayed early signs of stabilization and growth. Return on Equity (ROE) improved from 5.19% in 2016 to a peak of 10.70% in 2017, accompanied by gains in net profit margin (5.08%) and asset turnover. These trends suggest that the acquisition by Astra initially enhanced the company's financial structure, governance, and operational effectiveness.

However, the performance began to decline in 2018 and worsened significantly by 2019, with ROE plunging to -395.09%, and profitability indicators turning negative. The surge in the debt-to-equity ratio, reaching 35.47 in 2019, reflects aggressive leveraging and a possible overextension of operations or investment missteps. These warning signs indicated underlying structural vulnerabilities, which were later exposed more acutely by the pandemic.

4.2. Post-COVID-19 Recovery Phase (2020–2024)

The COVID-19 pandemic acted as a severe external shock that further strained PT Acset's financial condition. From 2020 to 2022, profitability deteriorated significantly, with net profit margins falling as low as -111.26% and ROA declining to -43.86%. This period coincided with national economic contraction, construction project delays, weakened consumer demand, and restricted mobility factors that directly impaired construction sector performance across Indonesia.

Despite these challenges, PT Acset began to show signs of operational and financial recovery by 2023–2024. Key indicators such as ROE rebounded sharply to 384.46% in 2024, and asset turnover and fixed asset turnover ratios improved markedly. These positive developments suggest that the company undertook successful restructuring efforts, improved asset utilization, and may have realigned its project portfolio toward more sustainable ventures. However, continued negative profit margins and a fluctuating debt structure indicate that recovery is still ongoing, and financial stability has not been fully restored.

4.3. Contextual Economic Considerations

Indonesia's broader economic landscape during the analysis period shaped the environment in which PT Acset operated. From 2015 to 2019, infrastructure development was a central pillar of national economic policy, supporting growth in the construction sector. However, the onset of COVID-19 in 2020 led to economic contraction, rising unemployment, and stalled private sector investments, particularly in commercial and residential real estate. The government's response through fiscal stimulus and national strategic projects provided some relief, but did not fully revive demand in the private construction market. These macroeconomic pressures played a crucial role in influencing the company's financial volatility.

In summary, the financial behavior of PT Acset post-acquisition revealed an initial period of improvement, followed by a sharp downturn just prior to and during the COVID-19 crisis. The company's response in the post-pandemic period marked by improved efficiency and debt servicing capacity demonstrates resilience, although sustained negative profitability suggests that the transformation process remains incomplete. The findings highlight the complex interplay between corporate strategy, sector-specific challenges, and macroeconomic forces in shaping construction firm performance in emerging markets like Indonesia.

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Table-1: Summary of key indicator analysis (Expressed in millions of Rupiah)

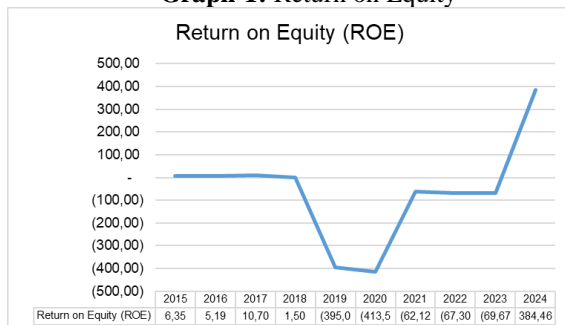
No.	Description	Year									
		Post Acquisition (before Covid-19)					Post Covid-19				
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1	Revenue	1.356.868	1.794.002	3.026.989	3.725.296	3.947.173	1.204.429	1.494.671	1.036.870	2.349.638	3.172.312
2	Net Income / Loss	42.222	67.555	153.791	21.419	(1.131.849)	(1.340.079)	(693.366)	(451.613)	(276.638)	(542.065)
3	Total Assets	1.929.498	2.503.171	5.306.479	8.936.391	10.446.519	3.055.106	2.478.713	2.111.024	2.608.782	2.812.734
4	Shareholder's Equity	50.000	70.000	70.000	70.000	70.000	642.516	1.267.516	1.267.516	1.267.516	1.267.516
5	Total Equity	664.859	1.301.225	1.437.127	1.426.793	286.476	324.041	1.115.731	670.997	396.057	(140.993)
6	Operating Profit	89.435	124.967	218.598	355.935	(550.696)	(1.122.637)	(660.414)	(498.001)	(256.188)	(456.632)
	Gross Profit	224.374	279.639	465.900	699.287	(99.808)	(295.841)	(147.687)	(311.947)	(40.041)	(199.414)
	Operating Expenses	(134.939)	(154.672)	(247.302)	(343.352)	(450.888)	(826.796)	(512.727)	(186.054)	(216.147)	(257.218)
7	Account Receivable	331.851	339.828	513.958	425.741	785.706	761.580	612.078	632.675	621.243	448.156
	Trade receivables	186.582	164.669	309.618	265.956	547.925	515.923	467.708	342.807	415.257	306.801
	Non-trade receivables	90.346	127.987	61.394	52.245	146.538	109.741	58.747	129.540	87.957	29.299
	Retention receivables	54.923	47.172	142.946	107.540	91.243	135.916	85.623	160.328	118.029	112.056
8	Fixed Assets	310.061	370.306	486.798	755.129	745.130	657.998	543.775	429.592	336.870	263.754
9	Current Assets	1.590.910	2.092.380	4.717.565	8.120.252	9.456.832	2.210.364	1.808.369	1.606.973	2.166.914	2.491.320
10	Current Liabilities	1.199.387	1.165.334	3.706.890	7.403.052	9.994.920	2.620.265	1.288.259	1.397.747	2.169.056	2.911.454
11	Total Liabilities	1.264.639	1.201.946	3.869.352	7.509.598	10.160.043	2.731.074	1.362.530	1.440.027	2.211.725	2.953.727
12	Equity	664.859	1.301.225	1.437.127	1.426.793	286.476	324.041	1.115.731	670.997	396.057	(140.993)
13	Earning before interest & taxes	94.863	136.424	239.168	386.439	(507.895)	(1.056.574)	(619.645)	(420.426)	(252.501)	(460.791)
14	Interest expenses	(52.331)	(68.283)	(82.393)	(362.213)	(619.635)	(285.705)	(79.306)	(35.587)	(24.961)	(69.180)

Source: <https://www.acset.co.id/>

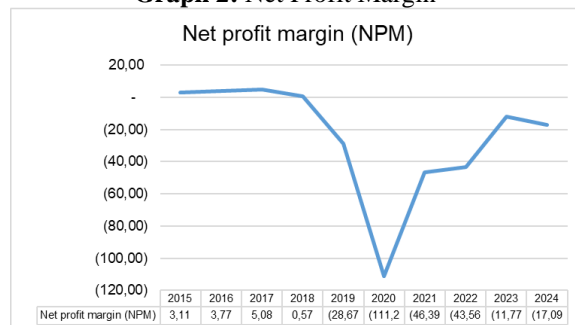
Table-2: Summary of the analysis

No.	Ratio	UOM	Year									
			Post Acquisition (before Covid-19)					Post Covid-19				
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
A	DuPont Analysis											
	Dependent Variable (DV)											
1	Return on Equity (ROE)	%	6,35	5,19	10,70	1,50	(395,09)	(413,56)	(62,12)	(67,30)	(69,67)	384,46
B	Independent Variables (IVs)											
1	Net profit margin (NPM)	%	3,11	3,77	5,08	0,57	(28,67)	(111,26)	(46,39)	(43,56)	(11,77)	(17,09)
2	Operating profit margin (OPM)	%	6,59	6,97	7,22	9,55	(13,95)	(93,21)	(44,18)	(48,03)	(10,90)	(14,39)
3	Return on Assets (ROA)	%	2,19	2,70	2,90	0,24	(10,83)	(43,86)	(27,97)	(21,39)	(10,60)	(19,27)
C	Operational Efficiency Indicators											
1	Assets Turnover	Times	0,70	0,72	0,57	0,42	0,38	0,39	0,60	0,49	0,90	1,13
2	Receivable Turnover	Times	4,09	5,28	5,89	8,75	5,02	1,58	2,44	1,64	3,78	7,08
3	Fixed Assets Turnover	Times	4,38	4,84	6,22	4,93	5,30	1,83	2,75	2,41	6,97	12,03
D	Financial Stability Indicators											
1	Current Ratio	Times	1,33	1,80	1,27	1,10	0,95	0,84	1,40	1,15	1,00	0,86
2	Debt to Equity Ratio	Times	1,90	0,92	2,69	5,26	35,47	8,43	1,22	2,15	5,58	(20,95)
3	Interest Coverage ratio	Times	(1,81)	(2,00)	(2,90)	(1,07)	0,82	3,70	7,81	11,81	10,12	6,66

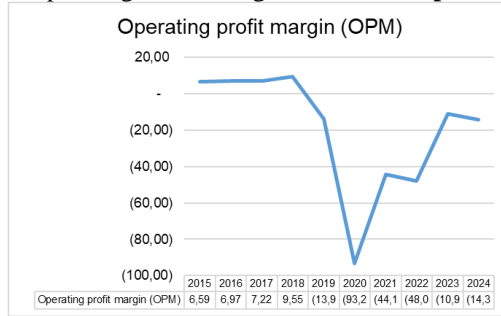
Graph-1: Return on Equity



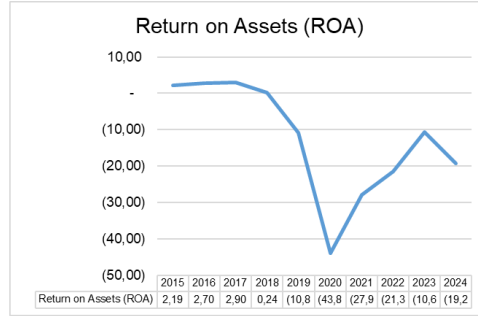
Graph 2: Net Profit Margin



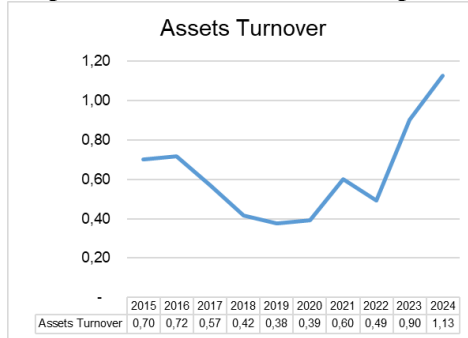
Graph-3: Operating Profit Margin



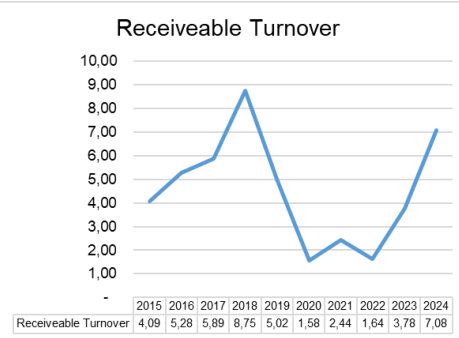
Graph-4: Return on Assets



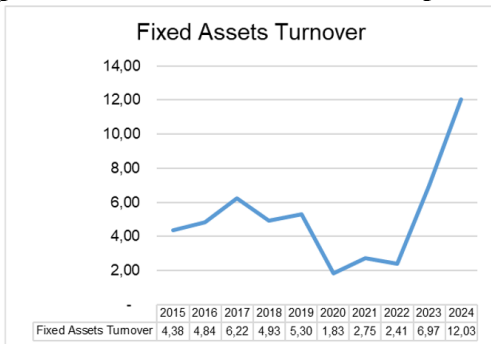
Graph-5: Assets Turnover



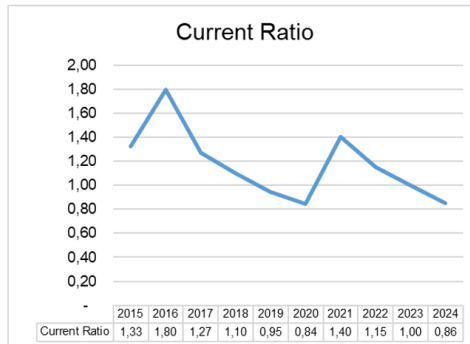
Graph-6: Receivable Turnover



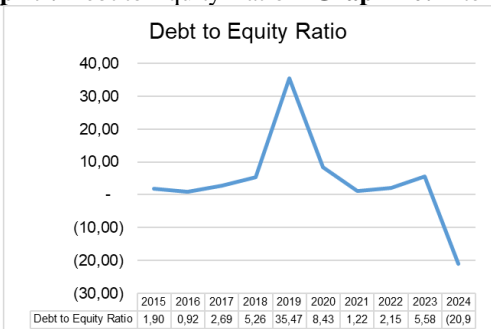
Graph-7: Fixed Assets Turnover



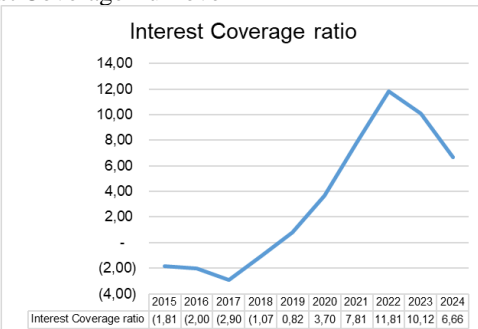
Graph-8: Current Ratio



Graph 9: Debt to Equity Ratio



Graph-10: Interest Coverage Turnover



CHAPTER 7

The Impact of Electric Vehicle Adoption on Financial Ratios: Evidence of PT Astra International Tbk for 2020-2024

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ABSTRACT

The accelerating adoption of electric vehicles (EVs) in Indonesia has significantly altered the landscape of the domestic automotive industry. This study investigates how PT Astra International Tbk, one of Indonesia's leading automotive conglomerates, has financially responded to this technological and regulatory transformation between 2020 and 2024. Utilizing a quantitative descriptive approach, this research employs secondary data sourced from Astra's audited annual financial reports over five consecutive years. Key financial ratios—namely return on assets (ROA), return on equity (ROE), net profit margin (NPM), current ratio, and debt-to-equity ratio (DER)—are analyzed and compared to assess performance trends before and after the emergence of the EV market, with 2022 marked as the inflection point of industry electrification. The study applies time-series financial ratio analysis and comparative year-on-year evaluation to determine the company's ability to maintain profitability, liquidity, and solvency amid external shifts. Results reveal a consistent increase in profitability (notably ROE and NPM), stable liquidity levels, and controlled leverage during the transition, indicating Astra's strategic resilience and adaptive financial management in the face of industrial disruption. The findings suggest that firms capable of anticipating technological change and adjusting financial strategies accordingly can sustain performance despite market volatility. This research contributes to the academic discussion on financial adaptability in the automotive sector during innovation-driven transformations and provides practical insights for stakeholders navigating the global shift toward sustainable mobility.

Keywords: Electric Vehicle (EV), Financial Performance, Financial Ratios, Profitability, Automotive Industry.

1. INTRODUCTION

The global automotive industry is undergoing a fundamental transformation with the rise of electric vehicles (EVs), driven by growing environmental concerns, government incentives, and rapid technological innovation. Indonesia, as one of Southeast Asia’s largest automotive markets, is actively embracing this transition. In line with its commitment to reduce carbon emissions and energy dependence, the Indonesian government introduced Presidential Regulation No. 55 of 2019 to accelerate the development of battery electric vehicles (BEVs). Since then, a combination of fiscal incentives, regulatory support, and infrastructure development has supported the gradual rise of EV adoption across the country.

Based on Figure 1, over the past five years, Indonesia’s EV market has demonstrated exponential growth. According to data from the Indonesian Automotive Industry Association (GAIKINDO, 2024) and the Minister of Industry Regulation No. 27 of 2020: Outlines the roadmap for domestic EV industry development, BEV sales increased from a mere 125 units in 2020 to 43,188 units in 2024. A significant surge occurred in post-2022, largely attributable to policy instruments such as value-added tax (VAT) reductions and local content requirements that stimulated both production and consumer adoption. Consequently, key industry stakeholders have begun realigning their strategic priorities and operational models to integrate electric mobility into their long-term business agendas.

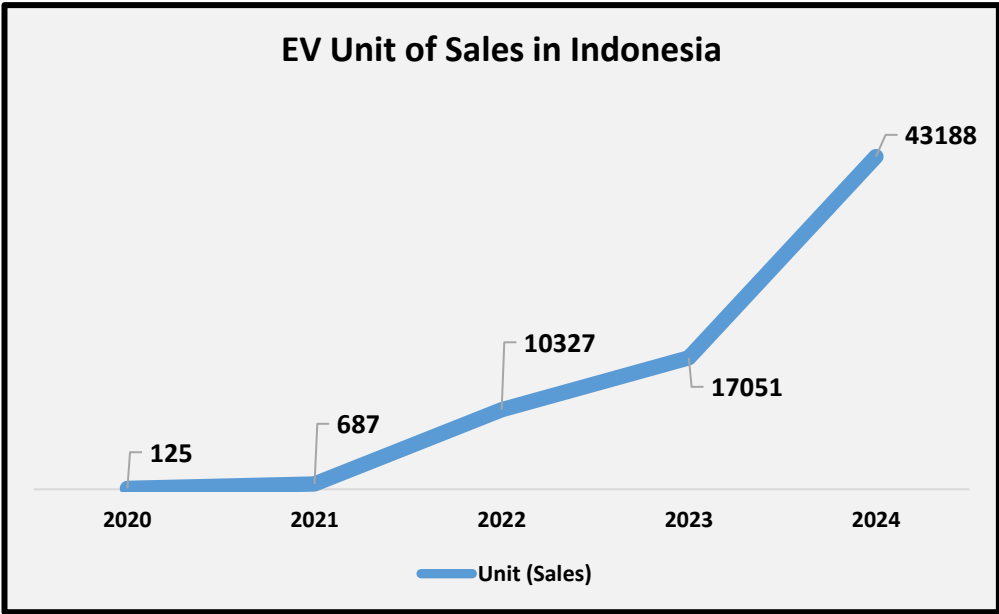


Figure 1. EV Unit of Sales in Indonesia
Source: GAIKINDO Indonesian Automobile Industry Data (2024)

PT Astra International Tbk, as a leading diversified conglomerate in Indonesia, plays a pivotal role in the automotive sector through its subsidiaries, including Toyota Astra Motor and Astra Daihatsu Motor. The rapid evolution of EV-related technologies and regulations has placed increased pressure on Astra to innovate while preserving financial sustainability. The shift toward electrification necessitates substantial capital investments, supply chain reconfiguration, and product development—factors that may significantly influence a firm’s financial position. Given Astra’s market dominance, its strategic and financial response to the EV transition serves as a vital case study for understanding how traditional automotive firms in emerging economies navigate industrial disruption.

Despite the growing momentum surrounding EV adoption, there remains a dearth of empirical research examining its impact on the financial performance of incumbent automotive players in Indonesia. This study seeks to address this gap by analyzing the financial performance of PT Astra International Tbk over the period 2020 to 2024, capturing both the pre-adoption phase and the subsequent period of accelerated EV integration. The analysis focuses on a set of core financial ratios namely, Return On Assets (ROA), Return On Equity (ROE), Net Profit Margin (NPM), Current Ratio, and Debt to Equity Ratio (DER) as indicators of profitability, liquidity, and solvency.

By conducting a year-on-year comparative analysis of these financial ratios, the study aims to evaluate the extent to which EV adoption has influenced Astra’s financial outcomes. The year 2022 is identified as a pivotal point, marking the firm’s strategic entry into hybrid and fully electric vehicle offerings in response to evolving market demands and national policy frameworks. Accordingly, the research is guided by two principal questions:

- 1) To what extent has the adoption of electric vehicles affected Astra's profitability, liquidity, and solvency?
- 2) What measurable changes can be observed in Astra's financial ratios between the pre-EV period (2020–2021) and the post-EV growth period (2022–2024)?

The findings are expected to provide empirical evidence on the financial adaptability of legacy automotive firms amid technological transition. Furthermore, this study offers practical insights for industry practitioners, investors, and policymakers navigating the broader transformation toward a sustainable and electrified automotive ecosystem.

2. LITERATURE REVIEW

2.1 Financial Ratio

Financial ratios are essential tools used to assess a company's financial health and operational efficiency. They serve as indicators of how effectively a business utilizes its assets, manages liabilities, and generates returns for its shareholders. Ratio analysis transforms raw financial data into meaningful insights by comparing various components of the financial statements. As stated by White, Sondhi, and Fried (2003), financial ratios enable analysts to evaluate profitability, liquidity, leverage, and operational performance across periods or against industry benchmarks. Moreover, financial ratios offer a standardized method for interpreting a firm's financial standing, helping stakeholders identify trends, assess risks, and make informed decisions. According to Brigham and Houston (2019), these ratios can be expressed in forms such as percentages, multiples, or proportions, and they provide valuable perspectives that might not be apparent from the raw financial data alone. In the context of this study, ratios such as return on assets (ROA), return on equity (ROE), net profit margin (NPM), current ratio, and debt-to-equity ratio (DER) are employed to examine the financial performance of PT Astra International Tbk before and after the emergence of electric vehicle adoption in Indonesia.

2.2 PT. Astra International Tbk Profile

PT Astra International Tbk, established in 1957, is one of Indonesia's largest and most diversified conglomerates. Headquarters in Jakarta, the company operates in seven core business segments: automotive, financial services, heavy equipment and mining, agribusiness, infrastructure and logistics, information technology, and property. Astra is publicly listed on the Indonesia Stock Exchange and is recognized for its strong nationwide distribution network and strategic partnerships with global brands. In the automotive sector—its historical and flagship business—Astra holds a dominant market position through major subsidiaries such as PT Toyota Astra Motor, PT Astra Daihatsu Motor, PT Isuzu Astra Motor Indonesia, and PT Honda Prospect Motor. Collectively, these companies contribute significantly to national vehicle production and sales. In response to the global transition toward sustainable transportation, Astra has gradually expanded into the electric vehicle (EV) segment. The company, through its affiliates, has begun introducing hybrid and battery electric models and investing in supporting infrastructure and innovation. Astra's strategic involvement in EV development, combined with its market leadership, makes it a relevant and timely case for analyzing financial performance during a period of technological disruption in Indonesia's automotive industry.

2.3 Government Regulations on Electric Vehicles in Indonesia

The Indonesian government has taken significant steps to support the transition toward electric mobility as part of its broader sustainable development and energy security goals. To create a supportive environment for the electric vehicle (EV) industry, several regulations have been passed to stimulate both supply and demand:

- Presidential Regulation No. 55 of 2019: Governs the acceleration of battery electric vehicle (BEV) development for road transportation.
- Minister of Industry Regulation No. 27 of 2020: Outlines the roadmap for domestic EV industry development.
- Minister of Finance Regulation No. 13/PMK.010/2022: Provides fiscal incentives including VAT reductions for EVs with minimum local content.

Together, these policies have created the foundation for a growing EV ecosystem in Indonesia. The year 2022 is widely regarded as a turning point, as the combination of regulatory support and rising environmental awareness led to a surge in EV sales and the active entry of automotive companies into the electric vehicle segment.

2.4 Prior Research on Financial Ratio Analysis

Financial ratio analysis (FRA) serves as a fundamental tool in evaluating corporate financial performance, particularly during periods of industrial or technological transition. It enables a structured assessment of profitability, liquidity, solvency, and operational efficiency by translating raw financial data into comparative indicators. As noted by Brigham and Houston (2019), FRA is essential for monitoring changes in a company's financial condition over time and identifying areas requiring strategic adjustment.

Daryanto, Wijaya, and Renatauli (2020) analyzed the financial performance of PT Ace Hardware Indonesia Tbk before and after launching its e-commerce platform, Ruparupa.com. Their study found that while most financial ratios such as ROA, ROE, current ratio, and DER remained relatively unchanged, the earnings per share (EPS) increased significantly, indicating a positive market perception despite limited short-term financial impact.

Daryanto, Dewanti, and Farras (2020) analyzed PT Unilever Indonesia Tbk's financial performance from 2015 to 2019 using liquidity, solvency, profitability, and activity ratios. The study found that while Unilever maintained strong profitability and efficiency shown by consistently high ROA, ROE, and gross margins its liquidity ratios (current and quick) remained below ideal thresholds, suggesting potential short-term financial pressure. Despite fluctuating leverage, Unilever demonstrated strong investor appeal and effective capital management, making it a financially resilient company throughout the review period.

These studies collectively emphasize the significance of financial ratio analysis (FRA) in evaluating corporate performance during periods of strategic and technological change. Within the automotive industry, particularly amid the growing adoption of electric vehicles (EVs), FRA serves as a reliable tool for assessing financial stability, operational efficiency, and strategic preparedness. By analyzing key indicators such as return on assets (ROA), return on equity (ROE), net profit margin (NPM), and debt-to-equity ratio (DER), firms can gain valuable insights into how well they are adapting to disruptive innovations while maintaining financial resilience.

3. METHODOLOGY

3.1 Profitability Ratios

- 3.1.1 Return on Assets (ROA) is crucial for assessing how efficiently a company utilizes its total assets to generate profit. It is particularly useful during industry transitions—such as the shift to electric vehicles—where capital assets may be redirected toward innovation, production transformation, or infrastructure development.

$$\text{Return on Assets (ROA):} \quad \frac{\text{NET INCOME}}{\text{TOTAL ASSET}}$$

(Brigham & Houston, 2019)

- 3.1.2 ROE (Return on Equity) measures the return earned on the shareholders' investment. It reflects the company's ability to deliver value to its owners and is often seen as a key indicator of financial attractiveness from an investor's perspective.

$$\text{ROE (Return on Equity):} \quad \frac{\text{NET INCOME}}{\text{SHAREHOLDERS' EQUITY}}$$

(White, Sondhi, & Fried, 2003)

- 3.1.3 NPM (Net Profit Margin) shows how much of the company's revenue is retained as net income after all expenses. It reveals operational efficiency and cost management, which is essential when firms face rising production or R&D costs due to technological changes like EV implementation.

$$\text{NPM (Net Profit Margin):} \quad \frac{\text{NET INCOME}}{\text{NET SALES}}$$

(Van Horne & Wachowicz, 2009)

3.2 Solvency Ratio

- 3.2.1 DER (Debt-to-Equity Ratio) indicates the company's capital structure and long-term financial risk. A balanced DER suggests that the company is not overly reliant on debt to fund its operations or innovation efforts, which is crucial in managing financial sustainability during uncertain periods.

$$\text{DER (Debt-to-Equity Ratio):} \quad \frac{\text{TOTAL LIABILITIES}}{\text{SHAREHOLDERS' EQUITY}}$$

(Wild, Subramanyam, & Halsey, 2007)

3.3 Research Approach

This study adopts a quantitative descriptive approach, focusing on the numerical evaluation of financial performance indicators over time. The aim is to identify patterns and shifts in financial condition before and after the emergence of EV adoption in Indonesia.

3.4 Type and Source of Data

The study utilizes secondary data obtained from publicly available audited financial statements of PT Astra International Tbk from the period 2020 to 2024. All data were sourced from the company's annual reports published on its official website and the Indonesia Stock Exchange (IDX).

4. Results and Discussion

In this part presents and interprets the financial performance of PT Astra International Tbk from 2020 to 2024, focusing on key profitability and solvency ratios. The analysis aims to evaluate how the company has responded financially to industry shifts, particularly the emergence of electric vehicle (EV) adoption in Indonesia.

4.1 Profitability Performance

This part will present and analyze the profitability performance of PT Astra International Tbk from 2020 to 2024, focusing on key indicators such as ROA, ROE, and Net Profit Margin to evaluate the company's financial response to EV adoption.

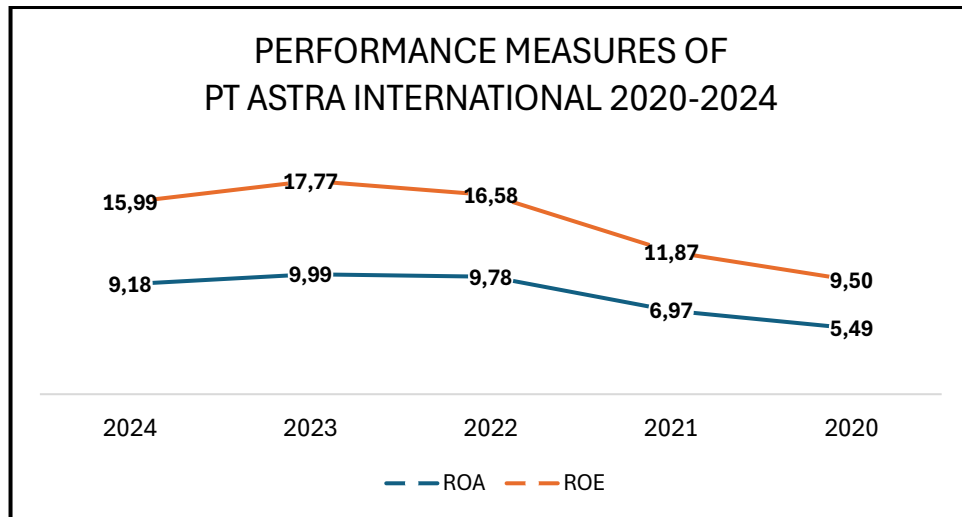


Figure 2. Performance Measures of ROA & ROE
PT Astra International 2020-2024

Figure 2 shows the profitability performance of PT Astra International Tbk showed a positive and consistent trajectory from 2020 to 2023, marked by steady improvements in both Return on Assets (ROA) and Return on Equity (ROE). This upward trend reflects the company's effective operational recovery following the COVID-19 pandemic, supported by strengthened asset utilization and shareholder value creation. The peak performance recorded in 2023 with ROA reaching 9.99% and ROE at 17.77% highlights Astra's financial efficiency and ability to maximize returns during a period of renewed market growth. Although there was a slight decline in 2024, with ROA at 9.18% and ROE at 15.99%, the figures remain strong by industry standards. The moderate decrease may be attributed to the company's increased investment in capital assets, particularly related to its strategic expansion into the electric vehicle (EV) sector. This suggests a deliberate shift from short-term profit maximization to long-term sustainability and innovation. Overall, Astra's profitability profile over the five-year period reflects both financial resilience and strategic adaptability in the face of evolving industry demands.

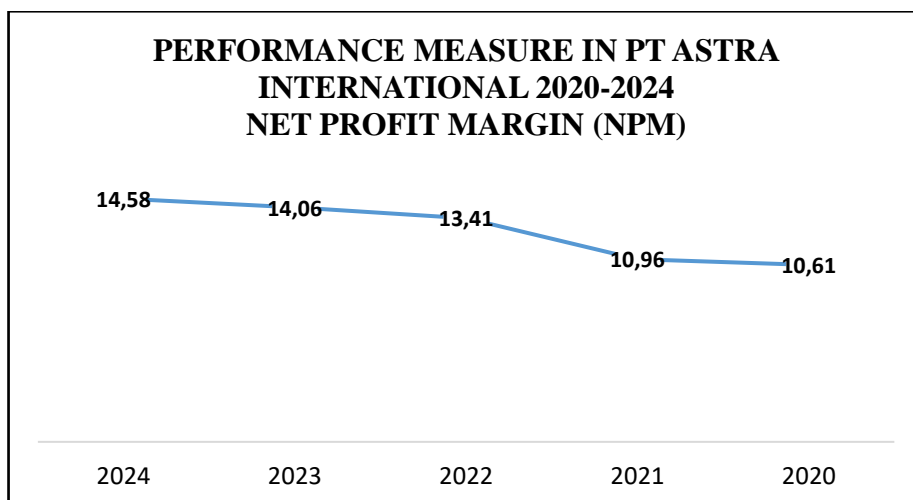


Figure 3. Performance Measures of Net Profit Margin
PT Astra International 2020-2024

Figure 3 shows between 2020 and 2024, PT Astra International Tbk experienced a consistent improvement in its net profit margin (NPM), rising from 10.61% in 2020 to 14.58% in 2024. This upward trend reflects the company's increasing efficiency in managing costs and generating profit from its revenues. The modest increase to 10.96% in 2021 suggests a steady post-pandemic recovery, while the significant jump to 13.41% in 2022 indicates stronger operational performance and possibly more favorable product mix or cost structure improvements. Continued growth in 2023 (14.06%) and 2024 (14.58%) suggest sustained profitability, even as Astra began investing in long-term initiatives such as electric vehicle (EV) development. Despite these capital-intensive transitions, the company maintained and enhanced its margins, demonstrating both financial discipline and strategic adaptability in navigating industry transformation.

4.2 Solvency Performance

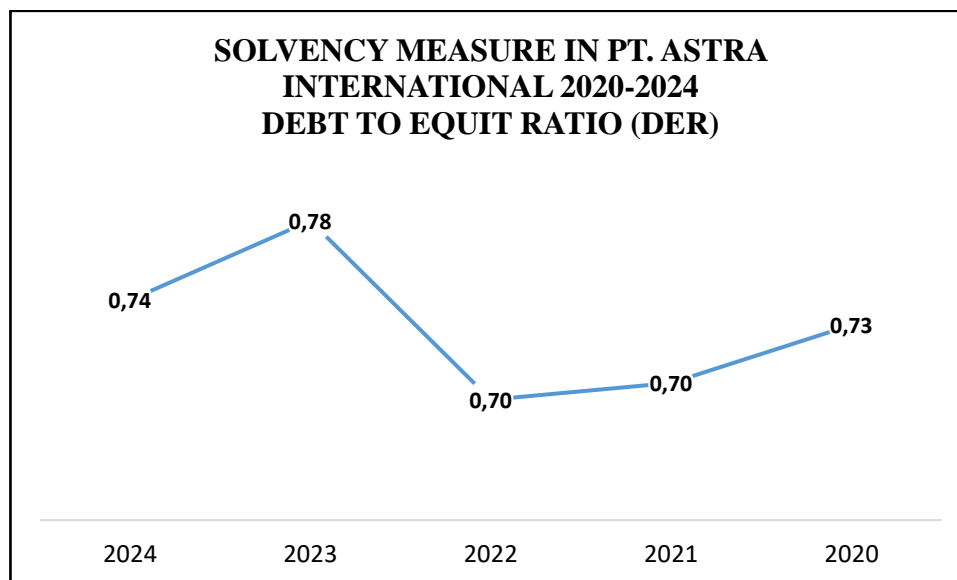


Figure 4. Solvency Measures of PT Astra International 2020-2024

Figure 4 shows the Debt-to-Equity Ratio (DER) of PT Astra International Tbk between 2020 and 2024 reflects a relatively stable yet strategically responsive capital structure during the period of electric vehicle (EV) transition. In 2023, the DER peaked at 0.78, marking the highest leverage ratio within the five-year span, likely reflecting increased funding needs for EV-related investments such as R&D, infrastructure, or supply chain adjustments. Interestingly, 2022 served as a pivotal year with the lowest DER at 0.70, possibly indicating a conservative financial stance or internal capital optimization as the company prepared for a strategic pivot toward electrification. The modest increase to 0.74 in 2024 suggests a measured use of debt, maintaining financial flexibility while supporting innovative initiatives. Overall, Astra's solvency profile remains prudent, with all DER values well within industry-acceptable thresholds, indicating sound risk management and a balanced approach to financing growth amidst technological disruption.

5. CONCLUSSION AND RECOMMENDATION

This study sets out to explore how the adoption of electric vehicles (EVs) has influenced the financial performance of PT Astra International Tbk, particularly focusing on three core dimensions: profitability, liquidity, and solvency. Using a quantitative descriptive approach, the research analyzed financial ratios over a five-year period from 2020 to 2024, with 2022 identified as a strategic inflection point in Astra's transition toward electric mobility. By examining Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), and Debt-to-Equity Ratio (DER), the study offers measurable insights into how the company's financial profile evolved in response to technological and regulatory shifts in the Indonesian automotive sector.

The results indicate that Astra's profitability improved significantly during the post-EV growth period. Both ROA and ROE demonstrated a steady upward trend from 2020 to a peak in 2023, indicating that the company successfully leveraged its assets and equity to generate increasing returns—even as it began investing heavily in EV development. The Net Profit Margin also showed consistent growth, reflecting enhanced operational efficiency and effective cost management amid market transformation. While there was a slight dip in profitability in 2024, the figures remained strong by industry standards, suggesting that Astra's strategic investments were financially sustainable in the long run. In terms of Solvency, as measured

by the Debt-to-Equity Ratio, remained within a prudent range (0.70–0.78), demonstrating Astra’s ability to balance growth financing without overleveraging. The peak in DER in 2023 aligns with intensified investment in EV infrastructure, while the slight decline in 2024 suggests a return to more conservative debt usage—a sign of deliberate financial control.

When comparing the pre-EV period (2020–2021) to the post-EV growth period (2022–2024), the changes are both measurable and meaningful. Profitability ratios showed substantial improvement, particularly after Astra’s official entry into the EV market. The post-2022 period reflects not only financial adaptation but also strategic foresight in navigating industrial disruption. Rather than experiencing a decline due to innovation costs, Astra exhibited financial resilience, signaling that companies can remain profitable and solvent even while undergoing significant transformation—provided there is effective planning and execution.

In conclusion, this research demonstrates that PT Astra International Tbk’s financial performance remained robust amid Indonesia’s accelerating shift to electric vehicles. The findings suggest that technological disruption does not inherently compromise financial health, and that legacy firms, when strategically proactive, can turn innovation into opportunity. This paper contributes to the broader discussion on how established companies in emerging markets can successfully align financial management with sustainability and innovation goals. For stakeholders, including investors, policymakers, and industry leaders, Astra’s case serves as a valuable model of adaptive financial leadership in the face of change.

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CHAPTER 8

The Influence of Brand Country of Origin on Indonesian Gen Z's Perceived Quality and Purchase Intention toward Thai Fast Fashion Brands

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ABSTRACT

This study explores the critical roles of perceived product quality and brand country of origin (COO) in shaping Indonesian Gen Z consumers' attitudes toward Thai fast fashion brands. Analysis reveals that the strongest driver within perceived quality is consumer belief in product performance, particularly for items originating from renowned markets such as Chatuchak and Pratunam. This underscores the importance for brands to consistently communicate messages of quality, reliability, and product excellence to build and sustain consumer trust. Furthermore, the significant impact of geographical branding highlights how association with culturally vibrant and iconic shopping destinations enhances brand awareness and perceived authenticity. These insights offer practical implications for Indonesian small and medium-sized enterprises (SMEs), suggesting they can adopt similar strategies by promoting local production hubs like Bali, Ponorogo, and Bandung, known for their cultural richness and craftsmanship. Emphasizing product features such as comfort, durability, and trend alignment alongside origin-based branding can elevate brand credibility and appeal both regionally and globally. In sum, the study affirms the intertwined influence of product performance messaging and country-of-origin associations, encouraging SMEs to build clear, culturally grounded branding narratives that capitalize on local strengths for sustainable growth in the competitive fast fashion market.

Keywords: Perceived Quality, Brand Country of Origin, Fast Fashion, Indonesian Gen Z, Product Performance.

INTRODUCTION

1. CHAPTER

Introduction

The popularity of fast fashion is growing rapidly in Southeast Asia, particularly in Thailand, where fashion brands are becoming increasingly influential among regional consumers (Phongpanichanan, 2022; McKinsey, 2023). Bangkok, often seen as the heart of Thai fashion, has gained attention for its unique design aesthetics and the growing visibility of Thai brands in international markets. This rise is driven by a combination of strong cultural identity, affordability, and strategic brand positioning that appeals to younger demographics, including Indonesian Gen Z. Fast fashion brands from Thailand are becoming more prominent in Indonesian digital and retail spaces, offering alternatives to Western or Korean fashion. These Thai brands leverage their country of origin as a form of cultural capital, influencing how consumers perceive product quality and brand authenticity. As consumer behavior among Indonesian Gen Z becomes increasingly globalized, their purchasing decisions are shaped by perceptions tied to the country where a brand originates, known as the Brand Country of Origin (Brand COO) effect.

The country of origin of a brand can shape consumer perceptions, particularly concerning quality and trust. In fast fashion, where product cycles are short and trends move quickly, perceived quality and purchase intention are key factors that determine a brand's success. This study seeks to understand how the Brand COO of Thai fashion brands affects Indonesian Gen Z's perceived quality and purchase intention, helping to identify whether Thai fast fashion is perceived as credible, desirable, and worth purchasing by this influential consumer segment. Theoretical frameworks such as the Country of Origin Effect Theory (Schooler, 1965) and Signaling Theory (Spence, 1973) support this investigation. The Country of Origin Effect suggests that consumers often use the origin of a brand as a cue to evaluate product quality. Meanwhile, Signaling Theory emphasizes how brand cues, such as origin, price, and reputation, send signals that influence consumer trust and decision-making. These frameworks offer a foundation for analyzing how Thai fast fashion brands influence Indonesian Gen Z's consumer perceptions and behaviors.

1.2 Research Gap and Problem Statement

Most research on fashion consumption in Indonesia has focused on Western, Korean, or local fashion trends (Utami, 2020; Anggraeni, 2021). Although Thai fashion brands are visibly gaining popularity among Indonesian Gen Z, especially in urban and online spaces, there is limited academic exploration into how the Brand COO of Thai fashion brands impacts consumer behavior.

There is a knowledge gap in understanding the mechanisms through which perceptions of country of origin affect consumer perceived quality and purchase intention in the fast fashion industry. As Indonesian Gen Z emerges as a dominant consumer group, failure to explore this shift could leave fashion marketers unprepared to adapt their strategies.

This study addresses this research gap by examining how Brand COO influences perceived quality and purchase intention among Indonesian Gen Z consumers in the context of Thai fast fashion brands.

1.3 Research Questions

1. How does the brand country of origin of Thai fast fashion brands affect perceived product quality among Indonesian Generation Z consumers?
2. How does the brand country of origin of Thai fast fashion brands affect purchase intention among Indonesian Generation Z consumers?
3. How does perceived product quality influence purchase intention toward Thai fast fashion brands among Indonesian Generation Z consumers?

1.4 Research Objectives

1. To analyze the effect of the brand country of origin of Thai fast fashion brands on perceived product quality among Indonesian Generation Z consumers.
2. To analyze the effect of the brand country of origin of Thai fast fashion brands on purchase intention among Indonesian Generation Z consumers.
3. To analyze the influence of perceived product quality on purchase intention toward Thai fast fashion brands among Indonesian Generation Z consumers.

1.5 Significance of the Research (Research Benefits)

This study holds substantial academic significance as it contributes to the growing body of literature on brand perception, country of origin effects, and Generation Z consumer behavior in Southeast Asia. By focusing specifically on the context of Thai fast fashion brands among Indonesian Gen Z consumers, the research expands the understanding of how regional brand cues influence cross-border consumer evaluations. It also adds depth to existing theories by integrating updated perspectives like Country Image Congruence Theory and Contemporary Signaling Theory, both of which are particularly relevant in dynamic, trend-driven sectors

like fashion. Moreover, the study bridges a research gap by shifting academic attention from dominant Western and Korean fashion narratives to the underexplored influence of Southeast Asian brands in neighboring markets.

From a practical and managerial standpoint, the findings provide actionable insights for brand managers, marketers, and strategists operating in the fashion industry. Understanding the role of country of origin in shaping consumer attitudes enables Thai and Indonesian fashion brands to better position themselves in regional markets. These insights can guide communication strategies, product positioning, and brand storytelling efforts, particularly when entering or expanding within digitally driven consumer segments like Gen Z.

Socially, the study reveals how cultural proximity, regional pride, and shared aesthetic values shape consumption patterns among younger Southeast Asian audiences. The increasing sensitivity of Gen Z to identity-aligned branding suggests that origin-based cues are not just commercial assets but also cultural connectors. By capturing how regional identity influences consumer perceptions, this research highlights the evolving dynamics of fashion as a form of self-expression tied to both style and cultural belonging.

Strategically, the findings can assist Thai fashion exporters and Indonesian retailers in crafting localized messaging and marketing campaigns that emphasize trusted brand origins. Leveraging associations with popular shopping districts like Chatuchak and Pratunam, brands can enhance credibility and build emotional resonance with Indonesian consumers. As regional competition intensifies, such positioning strategies will be crucial for cultivating brand loyalty and increasing purchase intention in cross-border fast fashion markets.

2. CHAPTER – LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Variable Definition

This study is grounded in the examination of three core variables that play a critical role in shaping consumer behavior in the fast fashion industry: Brand Country of Origin, Perceived Product Quality, and Purchase Intention. Each variable is supported by recent literature and theoretical frameworks that highlight their significance in the context of cross-border fashion consumption among Generation Z consumers.

2.1.1 Brand Country of Origin

The Brand Country of Origin refers to the nation or location that consumers associate with the identity of a brand, regardless of where the product is actually manufactured. In the context of this study, it Denotes Indonesian consumers' perception that certain fast fashion products originate from Thailand, particularly from popular shopping hubs like Chatuchak and Pratunam. This mental association plays a symbolic role in influencing consumer evaluations of the brand's image, reliability, and authenticity.

Kim et al. (2022) and Hien et al. (2021) emphasize that the country of origin can act as a powerful extrinsic cue, influencing perceived brand credibility and consumer trust. Liu et al. (2021), in their study on Taiwanese consumers, found that sensory cues and personality traits interact with brand country of origin perceptions, particularly in fast fashion. Their findings reveal that COO signals become especially important when consumers rely on brand symbolism rather than tactile experience. These insights directly align with the behavior of Indonesian Gen Z consumers, who often shop based on visual appeal, digital exposure, and trend association.

In theoretical terms, this variable is supported by the Country Image Congruence Theory, which posits that when a brand's image aligns well with the consumer's perception of its country of origin, it enhances the brand's overall attractiveness. The theory suggests that the origin acts as a cognitive shortcut, helping consumers assess quality, trend alignment, and brand legitimacy, particularly in competitive fashion markets.

2.1.2 Perceived Product Quality

perceived Product Quality refers to a consumer's subjective evaluation of a product's excellence, which includes tangible attributes like material and durability, as well as intangible ones such as brand style and symbolic value. In fast fashion, where consumers often cannot assess quality before purchase, perception plays a pivotal role in decision-making.

According to Nguyen et al. (2023) and Farooq et al. (2022), perceived quality directly influences consumer satisfaction and purchase intention. Setyawan and Oktaviani (2023) also highlight that quality perception in fast fashion is not limited to physical durability but includes emotional and symbolic appeal, which is particularly relevant for Gen Z consumers.

In this study, items used to measure perceived quality include statements such as *"I believe Thai Market Wear from Chatuchak and Pratunam cares about product performance."* This reflects the consumer's internalized trust that a fashion item will meet expectations in terms of both appearance and function, even if it was not physically experienced beforehand.

2.1.3 Purchase Intention

Purchase Intention represents the consumer's likelihood of engaging in a future buying action. It reflects a cognitive and emotional readiness to make a purchase, often influenced by prior evaluations of brand attributes and perceived product value.

Studies by Setyawan and Oktaviani (2023) and Narteh et al. (2022) confirm that perceived product quality is one of the most influential predictors of purchase intention, especially in dynamic industries such as fast fashion. When consumers perceive a product to be reliable, fashionable, and aligned with their identity, the probability of purchase increases significantly.

In this study, purchase intention is measured through items such as *“I am likely to buy Thai Market Wear products from Chatuchak or Pratunam in the future.”* This reflects both a positive brand perception and a psychological commitment to act on that perception.

Together, these three variables form the foundation of the research model, which seeks to analyze the direct and mediated relationships between country of origin perceptions, quality evaluations, and behavioral intention among Gen Z consumers in Indonesia.

The study is built upon three core constructs, each supported by contemporary literature and adapted for the Southeast Asian fast fashion context.

Brand Country of Origin (X1):

This variable refers to the country that consumers mentally associate with a brand's origin, regardless of its actual production location. COO serves as a symbolic cue that shapes consumer perceptions about the brand's trustworthiness, design identity, and value (Kim et al., 2022; Hien et al., 2021).

Perceived Quality (Y1):

Perceived quality is the consumer's evaluation of a product's overall excellence. In the context of fast fashion, it includes both functional elements (e.g., material, construction) and experiential ones (e.g., fit, style, brand feel) (Nguyen et al., 2023; Farooq et al., 2022).

Purchase Intention (Y2):

This refers to the likelihood that a consumer will buy a brand's product soon. It reflects a psychological commitment and can be influenced by trust, satisfaction, and perceived alignment with personal values (Setyawan & Oktaviani, 2023; Narteh et al., 2022).

2.2 Hypothesis Development

This section outlines the proposed relationships between the key variables based on recent literature. The study focuses on three primary constructs: Brand Country of Origin, Perceived Quality, and Purchase Intention, and their causal linkages. Each hypothesis is grounded in empirical findings from relevant, up-to-date sources.

2.2.1 The Effect of Brand Country of Origin on Perceived Quality >

Brand Country of Origin (X1) has a positive and significant effect on Perceived Quality (Y1). This Hypothesis reflects prior findings that brand country of origin acts as an extrinsic cue that enhances perceived brand credibility and quality. Studies by Kim et al. (2022) and Hien et al. (2021) affirm that when consumers associate a brand with a culturally trusted or trendsetting country, their perception of product quality improves, even in the absence of direct product experience. In the fast fashion industry, where rapid evaluations are common, brand origin can serve as a powerful shortcut in assessing product reliability and style relevance. H1

2.2.2 The Effect of Brand Country of Origin on Purchase Intention

Brand Country of Origin (X1) has a positive and significant effect on Purchase Intention (Y2).

This hypothesis proposes that favorable perceptions of a brand's national identity not only influence how a product is judged but also increase the consumer's likelihood to purchase it. Research by Hien et al. (2021) and Kartikasari & Putri (2023) shows that strong associations with respected countries, particularly in culturally relevant industries like fashion, can elevate brand desirability and directly shape purchase decisions, especially among younger consumer segments such as Generation Z. H2

2.2.3 The Effect of Perceived Quality on Purchase Intention

Perceived Quality (Y1) has a positive and significant effect on Purchase Intention (Y2).

This hypothesis is supported by Nguyen et al. (2023) and Setyawan & Oktaviani (2023), both of whom demonstrate that perceived product excellence is a direct and reliable driver of consumer purchasing behavior. In the context of fast fashion, where products are often trend-based and seasonal, the perceived value of quality plays a pivotal role in both initial intention and brand loyalty. H3

2.5 Theoretical Framework

This study is grounded in two contemporary theoretical perspectives that reflect recent developments in branding and consumer psychology: the Country Image Congruence Theory and Contemporary Signaling Theory. The Country Image Congruence Theory, as discussed by Kim et al. (2022), is an evolution of the traditional Country of Origin theory. It posits that when a brand's image aligns with consumers' perceptions of its country of origin, it enhances perceived product quality. This theory underscores the importance of emotional and symbolic compatibility between the brand's identity and the cultural associations of its country of origin—suggesting that congruence between the two strengthens the brand's credibility and appeal.

Complementing this is the Contemporary Signaling Theory, advanced by Farooq et al. (2022), which offers a modern perspective on how consumers process brand cues in saturated, fast-paced markets. In high-choice, low-information environments such as fast fashion, brands often rely on symbolic signals, like country of origin, design style, or cultural affiliation—to guide consumer perceptions. These signals help reduce uncertainty and allow consumers to make quicker judgments about a product's trend relevance, quality, and trustworthiness. Within this framework, country of origin Functions not just as a factual description but as a strategic branding signal that influences consumer decision-making.

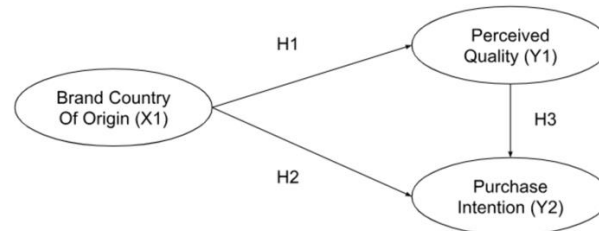


Figure 1: Research Model

This model illustrates the hypothesized relationships developed in the study between brand origin, perceived quality, and purchase intention.

3. CHAPTER – RESEARCH METHODS

3.1 Research Design

This study adopts a quantitative research design grounded in the application of Partial Least Squares Structural Equation Modeling (PLS-SEM). This robust analytical approach facilitates assessing complex relationships among latent constructs. The research is explanatory, aiming not merely to describe phenomena but to examine and validate hypothesized causal relationships between Conceptual variables, Specifically Brand Country of Origin (COO), Perceived Quality, and Purchase Intention. The rationale for utilizing PLS-SEM lies in its flexibility and suitability for predictive models, particularly within studies involving relatively small sample sizes and form or reflective measurement models. This methodological framework is especially appropriate for the present investigation, where the goal is to explore and empirically test the underlying Mechanisms through which perceptions of a brand's country of origin shape Gen Z consumers' attitudes toward fast fashion originating from Thailand.

3.2 Population and Sampling

The target population for this study encompasses Indonesian Generation Z consumers, individuals born between approximately 1997 and 2012, who are familiar with or have had exposure to Thai fast fashion brands. This cohort represents a highly relevant segment for fashion marketers, given their digital fluency, trend-conscious behavior, and increasing purchasing power within the consumer marketplace. To ensure alignment with the study's focus on a clearly defined consumer segment, a non-probability purposive sampling technique was employed. Although the research involves elements of model testing, the primary objective is to examine specific theoretical relationships within a targeted group rather than to generalize findings to the broader population. This sampling approach allowed the researchers to intentionally select respondents who met specific inclusion criteria, namely, Indonesian Gen Z individuals who demonstrate awareness of fashion trends and actively engage in digital or online apparel consumption. A total of 103 valid responses were collected. The adequacy of this sample size was evaluated based on commonly accepted guidelines for PLS-SEM, which suggest five to ten participants per measurement indicator.

3.3 Data Collection

Data collection was carried out using an online survey instrument developed through Google Forms, allowing for efficient, structured, and user-friendly distribution. To reach the intended demographic segment, the researchers leveraged popular digital communication platforms Instagram and WhatsApp, which are commonly used among Indonesian Gen Z for both personal communication and trend exploration. The survey link was disseminated through a combination of personal networks and story-based outreach on Instagram, as well as targeted message broadcasts via WhatsApp. These methods were selected not only for their convenience and speed but also for their effectiveness in reaching a demographically appropriate audience within a short timeframe. Before distribution, participants were informed of the voluntary nature of the study, and confidentiality and anonymity were assured. The instrument was carefully designed and pre-tested to ensure clarity, reliability, and alignment with the conceptual model. Respondents were asked to complete the questionnaire independently, ensuring the authenticity and integrity of the data collected.

3.4 Measurements of Variable / Instrumentation

The measurement of the study's core variables—Brand Country of Origin (X1), Perceived Product Quality (Y1), and Purchase Intention (Y2)—was conducted using a structured questionnaire format. Each construct was operationalized through multiple indicators, adapted from previously validated academic sources. Respondents rated each item using a 7-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). The questionnaire included 12 indicators in total, distributed across the three variables. In accordance with best practices in PLS-SEM research design, the adequacy of the sample size was evaluated relative to

the number of indicators, with several scholars recommending five to ten respondents per item as a general rule of thumb. With 12 indicators included in the model, the final sample of 103 responses is considered sufficient to support robust model estimation and hypothesis testing. This alignment between sample size and model complexity ensures the validity and reliability of the results obtained from the structural equation modeling.

Variable	Example Item from Questionnaire	Source
Brand Country of Origin (X1)	“I can distinguish between foreign brands like Zara/Uniqlo/H&M/Pull&Bear and market fashion like Chatuchak/Pratunam.” (X1.3)	Adapted from Kim et al. (2022); Hien et al. (2021)
Perceived Product Quality (Y1)	“I believe Thai Market Wear from Chatuchak and Pratunam cares about product performance.” (Y1.2)	Adapted from Nguyen et al. (2023); Farooq et al. (2022)
Purchase Intention (Y2)	“I am likely to buy Thai Market Wear products from Chatuchak or Pratunam in the future.” (Y2.4)	Adapted from Setyawan & Oktaviani (2023); Narteh et al. (2022)

All items were subjected to validity and reliability testing, including indicator reliability, composite reliability (CR), and Cronbach’s Alpha. Values above 0.7 were considered acceptable thresholds, ensuring that the measurement instruments accurately captured the intended constructs.

3.5 Techniques and Data Analysis

For statistical analysis and hypothesis testing, the study utilized SmartPLS version 4.0, a software specifically designed to facilitate Partial Least Squares Structural Equation Modeling (PLS-SEM). This technique was selected due to its strength in modeling latent variables, its flexibility with smaller sample sizes, and its ability to explore complex, non-linear relationships among constructs.

The data analysis was carried out in two main stages: measurement model assessment and structural model assessment. The evaluation of the measurement model involved checking the significance of indicator loadings, internal consistency reliability through Composite Reliability (CR) and Cronbach’s Alpha, and convergent validity based on the Average Variance Extracted (AVE). Discriminant validity was also assessed using the Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio.

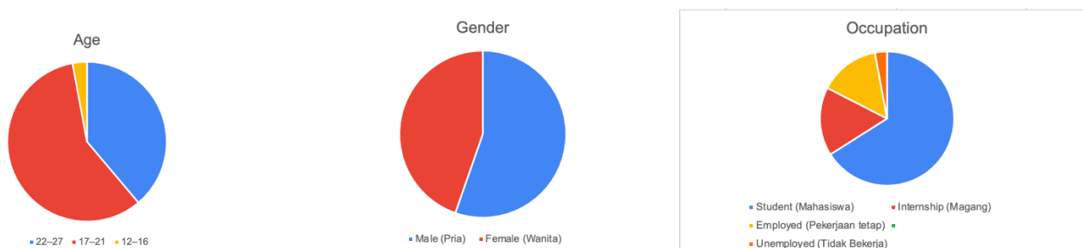
Following the validation of the measurement model, the structural model was examined. This included analyzing path coefficients to test the hypothesized relationships between Brand Country of Origin, Perceived Quality, and Purchase Intention. Additionally, the model’s explanatory power was assessed using the coefficient of determination (R^2), while effect sizes (f^2) and predictive relevance (Q^2) were calculated to understand the strength and predictive accuracy of the model. Bootstrapping procedures were employed to test the significance and confidence intervals of each path.

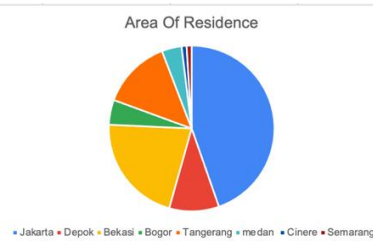
This comprehensive analytical approach enabled the researcher to explore both direct and indirect (mediated) effects within the model, offering a nuanced understanding of how Brand Country of Origin influences purchase behavior through the mediating role of Perceived Quality in the fast fashion consumption context of Indonesian Generation Z consumers.

4. CHAPTER 4 Results and Discussion

4.1 Respondent Profile (Table and explanation)

Descriptive analysis





This study involved a total of 103 respondents, all of whom belong to Generation Z and fit the target criteria for assessing perceptions of Thai fast fashion. The analysis of age distribution revealed that the majority of respondents (58.3%) were in the 17–21 age group, followed by 38.8% in the 22–27 age group, and a small minority (2.9%) aged 12–16 years. This reflects a strong representation of late adolescents and young adults, which aligns with the demographic characteristics of typical fast fashion consumers.

In terms of gender, the sample included 57 male respondents (55.3%) and 46 female respondents (44.7%), indicating a relatively balanced gender distribution. Regarding occupational background, the majority of participants identified as students (66%), followed by internship participants (16.5%), full-time employees (14.6%), and a small proportion of unemployed individuals (2.9%). The respondents also represented various areas of residence, with the highest concentration from Jakarta (44.7%), followed by Bekasi (21.4%), Tangerang (13.6%), Depok (9.7%), and smaller groups from Bogor, Medan, Cinere, and Semarang. This geographic diversity provides a broader view of Generation Z's behavior across urban areas in Indonesia.

4.2 Outer model result

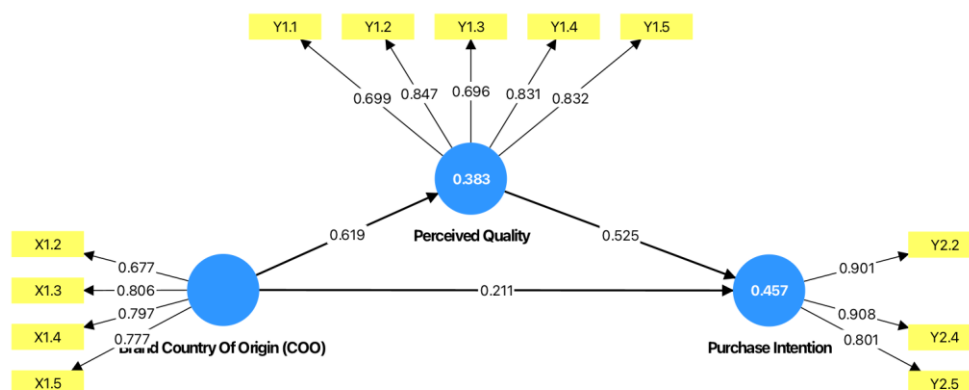


Figure 2: Graphical Output (PLS-SEM).

The external model outputs indicate that the majority of the used indicators in the study have acceptable loading values, ensuring their use in measuring the aimed constructs. For the Brand Country of Origin (COO) construct, three of the indicators X1.3 (0.806), X1.4 (0.797), and X1.5 (0.777) definitely exceed the standard threshold value of 0.70, indicating strong reflective relationships. Although X1.2 has a lower loading value of 0.677, it is still in the acceptable measure and makes a substantial contribution to the measurement of the construct.

For Perceived Quality, the indicators Y1.3 (0.847), Y1.5 (0.832), and Y1.2 (0.699) reflect good to acceptable reliability, and Y1.4 (0.696) is slightly short of the ideal threshold but still within acceptable levels. For Purchase Intention, the strongest indicator of reliability is shown, with Y2.2 (0.901), Y2.4 (0.908), and Y2.5 (0.801) all over 0.80. These results actually confirm that the measurement model is good and that all indicators are accurately measuring their respective underlying latent construct.

4.2.1 Validity and Reliability (Composite reliability, AVE, loading factor)

To evaluate the outer model, three key indicators were analyzed: outer loadings, composite reliability, and Average Variance Extracted (AVE).

Table 1: Outer Loadings.

Variables	Brand Country Of Origin (COO)	Perceived Quality	Purchase Intention	Results
X1.2	0.677			Approved
X1.3	0.806			Approved
X1.4	0.797			Approved
X1.5	0.777			Approved
Y1.1		0.699		Approved
Y1.2		0.847		Approved
Y1.3		0.696		Approved
Y1.4		0.831		Approved
Y1.5		0.832		Approved
Y2.2			0.901	Approved
Y2.4			0.908	Approved
Y2.5			0.801	Approved

In Table 1, to establish convergent validity, this study examined both outer loadings and Average Variance Extracted (AVE) (Table 1). Most indicators showed strong outer loadings, with values above the accepted threshold of 0.7. For example, X1.3 (Brand COO) had a loading of 0.806, while Y1.3 and Y1.5 (Perceived Quality) loaded with 0.847 and 0.831, respectively. Although a few items, such as Y1.2 (0.699) and Y1.4 (0.696), slightly fell below the 0.7 mark, they were still retained due to their conceptual importance and contribution to overall construct validity. Regarding AVE (Table 2), all constructs exceeded the minimum threshold of 0.5, with Brand COO at 0.587, Perceived Quality at 0.615, and Purchase Intention at 0.76. These results indicate that each latent variable explains more than 50% of the variance in its indicators, thereby supporting convergent validity.

Table 2: Reliability and Validity Overview.

	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)	Results
Brand Country Of Origin (COO)	0.775	0.85	0.587	Approved
Perceived Quality	0.843	0.888	0.615	Approved
Purchase Intention	0.841	0.904	0.76	Approved

In addition to AVE and outer loadings, the study assessed internal consistency using Cronbach's alpha and composite reliability (Table 2). All constructs demonstrated high reliability, with Cronbach's alpha values of 0.775 (Brand COO), 0.843 (Perceived Quality), and 0.841 (Purchase Intention), each exceeding the 0.7 benchmark. Similarly, composite reliability values were 0.85, 0.888, and 0.904 for each respective construct, confirming that the items used to measure each variable are consistently reliable. Altogether, these results verify that the measurement model possesses strong internal consistency and convergent validity, ensuring that the observed indicators accurately represent their underlying latent constructs.

4.2.2 Discriminant Validity (Cross-loading & Fornell-Larcker criterion)

Table 3: Cross-Loading

Variables	Brand Country Of Origin (COO)	Perceived Quality	Purchase Intention	Results
X1.2	0,677	0,317	0,119	Approved
X1.3	0,806	0,541	0,630	Approved
X1.4	0,797	0,497	0,379	Approved
X1.5	0,777	0,474	0,319	Approved
Y1.1	0,582	0,699	0,268	Approved
Y1.2	0,491	0,847	0,612	Approved
Y1.3	0,509	0,696	0,291	Approved
Y1.4	0,468	0,831	0,713	Approved
Y1.5	0,420	0,832	0,573	Approved

Y2.2	0,508	0,621	0,901	Approved
Y2.4	0,525	0,580	0,908	Approved
Y2.5	0,350	0,504	0,801	Approved

Discriminant validity - cross-loadings

X1.2 Brand COO (0,677)	Y1.3 Perceived Quality (0,696)
X1.3 Brand COO(0,806)	Y1.4 Perceived Quality (0,831)
X1.4 Brand COO(0,797)	Y1.5 Perceived Quality (0,832)
X1.5 Brand COO (0,777)	Y2.2 Purchase Intention (0,901)
Y1.1 Perceived Quality (0,699)	Y2.4 Purchase Intention (0,908)
Y1.2 Perceived Quality (0,847)	Y2.5 Purchase Intention (0,801)

Discriminant validity was assessed using the cross-loading criterion. This method evaluates whether each indicator loads more strongly on its associated construct than on any other construct in the model. The results are presented in the cross-loading table (see Appendix/Table X). X1.3, an indicator for Brand Country of Origin, demonstrated a strong loading of 0.806 on its intended construct while showing significantly lower loadings on Perceived Quality and Purchase Intention. Likewise, Y1.3 and Y1.5, which represent indicators for Perceived Quality, loaded at 0.847 and 0.831, respectively, and displayed weaker correlations with the remaining constructs. Similarly, indicators Y2.4 and Y2.5, associated with Purchase Intention, exhibited high loadings of 0.832 and 0.901 on their target construct, with minimal cross-loadings on others.

These results collectively confirm that each measurement item aligns more closely with its designated latent variable than with any unrelated constructs, thereby supporting the discriminant validity of the measurement model. Notably, no cross-loading violations were observed. For example, X1.3 did not correlate more strongly with Perceived Quality or Purchase Intention than it did with its own construct, which could have indicated a lack of conceptual distinction. Therefore, the cross-loading analysis provides evidence that Brand Country of Origin, Perceived Quality, and Purchase Intention are statistically and conceptually distinct constructs, justifying their treatment as separate latent variables within the structural model.

Table 4: Fornell-Larcker criterion.

	Brand Country Of Origin (COO)	Perceived Quality	Purchase Intention	Results
Brand Country Of Origin (COO)	0.766			Approved
Perceived Quality	0.619	0.784		Approved
Purchase Intention	0.536	0.655	0.871	Approved

Discriminant validity was also assessed using the Fornell-Larcker criterion, which compares each construct's square root of the Average Variance Extracted (AVE) with the correlations between constructs. As shown in the table, the diagonal values representing the square roots of AVE are higher than the off-diagonal correlation values in each corresponding row and column. Specifically, the square root of AVE for Brand Country of Origin is 0.766, greater than its correlations with Perceived Quality (0.619) and Purchase Intention (0.536). Likewise, Perceived Quality has a square root of AVE of 0.784, exceeding its correlations with Brand COO (0.619) and Purchase Intention (0.655). Finally, Purchase Intention demonstrates the strongest discriminant validity, with a square root of AVE of 0.871, which is higher than its correlations with both Brand COO (0.536) and Perceived Quality (0.655). These results confirm that each construct in the model is empirically distinct, and therefore, discriminant validity is satisfactorily established.

4.3 Inner Model Result

4.3.1 R-square

Table 5: R-Square model

	R-square	R-square adjusted	Results
Perceived Quality	0.383	0.377	Approved
Purchase Intention	0.457	0.446	Approved

The R-squared (R^2) value represents the proportion of variance in the dependent (endogenous) variables that can be explained by the independent (exogenous) variables in the model. In this study, R^2 values were generated only for the dependent variables Perceived Quality and Purchase Intention. The R^2 value for Perceived Quality is 0.383, meaning that 38.3% of the variance in Perceived Quality is explained by Brand Country of Origin. The R^2 value for Purchase Intention is 0.457, indicating that 45.7% of the variance in Purchase Intention is explained by Brand COO and Perceived Quality combined. This also implies that the remaining variance in Purchase Intention ($100\% - 45.7\% = 54.3\%$) is influenced by other variables not included in this model. These could include factors such as price perception, brand, image, personal values, or peer influence, all of which may contribute to purchase behavior, but fall outside the scope of this study. While the model demonstrates the moderate explanatory power, especially for Purchase Intention, it also highlights the opportunity for future research to explore additional influencing variables.

4.3.2 VIF Result

The Variance Inflation Factor (VIF) is used to detect multicollinearity, a condition where two or more predictor variables are highly correlated, potentially distorting the estimation of regression coefficients. VIF values are considered acceptable when they fall below commonly used thresholds, such as 3 or 5.

Table 6: Collinearity Statistics (VIF).

Variables	VIF	Results
X1.2	1.473	Approved
X1.3	1.374	Approved
X1.4	1.654	Approved
X1.5	1.629	Approved
Y1.1	1.908	Approved
Y1.2	2.473	Approved
Y1.3	1.932	Approved
Y1.4	2.246	Approved
Y1.5	2.198	Approved
Y2.2	2.400	Approved
Y2.4	2.547	Approved
Y2.5	1.639	Approved

As shown in Table 6, all VIF values in this study are comfortably below the threshold of 3.0. For the Brand Country of Origin (COO) indicators, VIF values range from 1.374 to 1.654, indicating low intercorrelation among indicators such as X1.2 to X1.5. Likewise, Perceived Quality indicators (Y1.1 to Y1.5) show VIF values between 1.908 and 2.473, with all values falling within a safe range. The Purchase Intention indicators (Y2.2, Y2.4, and Y2.5) also reflect acceptable levels, with VIF values ranging from 1.639 to 2.547.

These results confirm that there is no multicollinearity issue in the dataset. Each indicator contributes uniquely to its respective construct, and no redundancy or overlap is observed. The absence of high VIF values supports the structural soundness of the model and confirms that the indicators are appropriately positioned within their latent variables.

4.3.3 Hypothesis testing result (Bootstrapping)

Bootstrapping with 5,000 subsamples was conducted to test the significance of the path relationships within the model. Using a one-tailed test, a t-value greater than 1.645 indicates that a hypothesis is accepted at the 95% confidence level. The analysis

revealed that all proposed hypotheses were supported, as each corresponding t-value exceeded the acceptance threshold. Specifically, the results confirmed that Brand Country of Origin significantly influences Perceived Quality, and also has a significant impact on Purchase Intention. Additionally, Perceived Quality was found to significantly influence Purchase Intention as well.

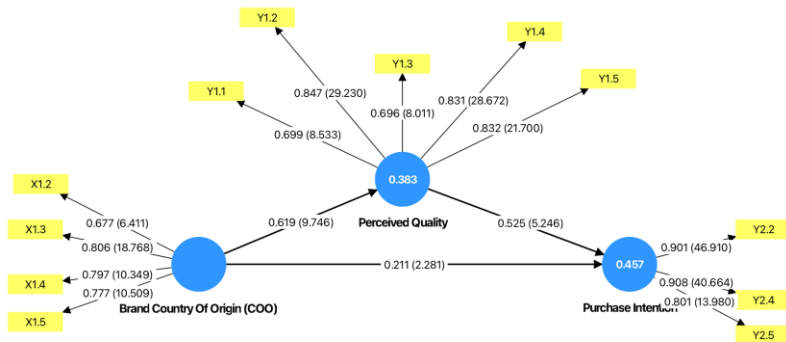


Figure 3: Graphical Output (Bootstrap).

However, when comparing the path coefficients, it becomes clear that Perceived Quality exerts a stronger influence on Purchase Intention, with a coefficient of 0.525, compared to 0.211 for Brand Country of Origin. This suggests that while both factors are statistically significant in shaping consumer behavior, Indonesian Generation Z consumers are more strongly driven by their perception of a product's quality than by its country of origin. In essence, although the origin of a brand contributes meaningfully to consumer decision-making, the perceived quality of the product plays a more dominant role in influencing purchase intentions in the fast fashion context.

Table 7: Path Coefficients.

	Original Sample (O)	Sample Mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	p Value	Results
Brand Country Of Origin (X1) -> Perceived Quality (Y1)	0.619	0.628	0.064	9.764	0.000	Approved
Brand Country Of Origin (X1) -> Purchase Intention (Y2)	0.211	0.224	0.092	2.281	0.011	Approved
Perceived Quality (Y1) -> Purchase Intention (Y2)	0.525	0.524	0.100	5.246	0.000	Approved

The path coefficient results indicate that all three hypothesized relationships are statistically significant. The relationship between Brand Country of Origin and Perceived Quality shows the strongest effect, with a path coefficient of 0.619 and a highly significant t-value of 9.764 ($p = 0.000$). This confirms that brand origin positively influences how Indonesian Gen Z consumers perceive product quality.

The direct effect of Brand Country of Origin on Purchase Intention is also significant, though weaker, with a coefficient of 0.211 and t-value of 2.281 ($p = 0.011$). This suggests that while brand origin does influence buying decisions, its effect is more limited.

The strongest predictor of Purchase Intention is Perceived Quality, with a path coefficient of 0.525, t-value of 5.246, and p-value of 0.000. This highlights that product quality perception plays the most crucial role in shaping Gen Z's intention to buy Thai fast fashion brands.

4.3.4 Discussion (Comparing the previous study's results to our results)

The results of this study confirm that both Brand Country of Origin (COO) and Perceived Quality have a significant impact on Purchase Intention, whereas Perceived Quality is a better predictor. The path coefficient between Brand COO and Perceived Quality is 0.619, and this represents a very high and positive correlation. This suggests that the country of origin of a fashion brand influences the perception of its product quality by consumers. Conversely, the direct effect of Brand COO on Purchase Intention is positively yet low at 0.211. Yet the path coefficient for Perceived Quality towards Purchase Intention is 0.525, then, is the biggest variable in this model.

These findings are supported by Liu et al. (2021), who pointed out that while COO is still an important cue, consumers, especially in fast fashion, are more influenced by how they view the quality of the product rather than simply where it comes from. They found through their study that in actual shopping contexts, consumers' perceptions of performance and reliability are likely to predominate over COO importance. This is also observed in Indonesian Generation Z for the current study. Thai brands may have a cultural advantage and regional popularity, but what ultimately drives purchasing intention is whether a product has perceived good value for money and performance.

This study confirms the conceptualization that perceived quality mediates the effect of COO. Brand origin may receive some spotlight, but ultimately it is the customer's perceived quality of the product that has the most significant effect on his/her buying intention. The study affirms the need for fashion brands, particularly those in developing nations, not just to promote their origin stories but also to be transparent and consistent in information provision and in the production of high-quality products to secure consumer trust and loyalty.

5. CONCLUSION AND IMPLICATION

5.1 Conclusion

This study aimed to explore how the brand country of origin influences perceived product quality and purchase intention among Indonesian Generation Z consumers in the fast fashion industry. Through the application of Partial Least Squares Structural Equation Modeling (PLS-SEM), the analysis confirmed that all three proposed hypotheses were supported. Specifically, the brand country of origin had a significant positive effect on both perceived product quality and purchase intention, while perceived product quality itself emerged as a stronger direct predictor of purchase intention.

The findings reinforce the theoretical premise that brand origin serves not merely as a geographic label, but as a meaningful symbolic cue that shapes consumer perceptions. In line with the Country Image Congruence Theory and Contemporary Signaling Theory, this study showed that origin-related cues are particularly powerful when they align with consumers' existing beliefs about trend-forward and culturally resonant locations, such as Chatuchak and Pratunam in Thailand.

Nevertheless, it is not origin alone that drives behavioral intention. Perceived product quality plays a central mediating role in shaping consumer action, especially in the fast fashion segment where decisions are influenced by both emotional and functional factors. Among Gen Z consumers, who are highly influenced by digital exposure and trend responsiveness, the perception of product performance and style relevance is essential. Therefore, this study underscores that while country-of-origin cues can spark interest and trust, it is the perceived value and quality of the product that ultimately converts intention into action.

5.2 Limitation and Further Study

While the study contributes meaningfully to the understanding of Gen Z fashion consumer behavior, it is not without limitations. First, the research focused solely on a specific demographic segment, Indonesian Generation Z, with just over one hundred respondents participating in the survey. While this sample size was sufficient for the analysis conducted, future research may benefit from expanding the demographic scope to include older age groups or cross-generational comparisons, as well as consumers from other Southeast Asian countries for broader regional insights.

Second, the study deliberately concentrated on three primary variables: brand country of origin, perceived product quality, and purchase intention. Although this focus allowed for a clear and testable model, it does not encompass other potential influences of fashion purchasing behavior. Future research could explore additional variables such as pricing sensitivity, brand, image, sustainability concerns, or social media influence—especially relevant to trend-driven Gen Z consumers.

Lastly, while this research examined the mediating effect of perceived product quality, it did not incorporate moderating variables that could shape the strength or direction of these relationships. Future studies may consider factors like shopping frequency, brand familiarity, income level, or peer influence as potential moderators to refine the model further.

As the fast fashion industry continues to evolve in response to digital trends, cultural shifts, and environmental awareness, future research should adopt broader, more comparative frameworks. Expanding the analytical lens will help both academics and practitioners better understand the layered decision-making processes of young fashion consumers in a region that is increasingly interconnected.

5.3 Managerial Implications

The results of the path coefficient analysis reveal that the strongest indicator within the perceived quality construct was found in item Y1.2:

“I believe Thai market wear from Chatuchak and Pratunam cares about product performance.”



Figure 4: Chatuchak Market, one of Thailand’s iconic fashion hubs associated with perceived quality in Thai fast fashion.

This finding underscores the critical role of product performance perception in shaping consumer attitudes within the fast fashion context. It suggests that for brands seeking to build and sustain consumer trust, particularly among Indonesian Gen Z, consistent and strategic communication around product performance is essential. The ability of Thai fashion brands to embed messages of quality and reliability into their branding, particularly those originating from well-known markets like Chatuchak and Pratunam, serves as a valuable model.

From a managerial perspective, this insight offers practical implications for Indonesian small and medium-sized enterprises (SMEs). If Indonesia’s domestic market conditions support competitive fast fashion offerings in terms of quality and design, then similar promotional efforts that spotlight product excellence can be deployed to appeal to regional or even global consumers. Local SMEs should focus on identifying products that already exhibit strong performance attributes and use these as core benchmarks for expansion strategies. Emphasizing product features such as comfort, durability, and trend alignment in marketing campaigns can enhance both perceived value and brand credibility.

The second-highest contributing indicator emerged from the Brand Country of Origin (Brand COO) construct, particularly item X1.3:

“I am aware that Thai market wear comes from well-known local markets like Chatuchak and Pratunam.”



Figure 5: Pratunam Market in Bangkok, a popular origin for Thai fast fashion brands.

This reinforces the power of geographical branding in influencing consumer perceptions. The association of products with iconic and culturally vibrant shopping destinations significantly enhances brand awareness and perceived authenticity.

Accordingly, Indonesian SMEs can take inspiration from this branding strategy by amplifying the identity of their local production hubs. Markets such as Bali, Ponorogo, and Bandung, each with its own cultural richness and craftsmanship legacy, can be positioned as premium or trendsetting sources of fashion. By highlighting origin-based value in promotional narratives, Indonesian fashion brands can cultivate a sense of place, trust, and uniqueness that resonates with both domestic and international consumers.

In essence, this study reaffirms the interconnected influence of product performance messaging and country-of-origin associations on consumer behavior. For SMEs aiming to grow within and beyond the Indonesian market, these findings offer actionable insights: build on what's proven to work locally, and shape that narrative with a clear, consistent, and culturally grounded strategy.

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CHAPTER 9

Financial Health Analysis of PT. Mayora Indah Tbk. facing Covid-19 Pandemic and Global Economic Uncertainty for the period of 2020 - 2024

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ABSTRACT

The Covid-19 pandemic has a significant impact on businesses in Indonesia, including food and beverage in the fast-moving consumer goods (FMCG) industry. This study goal is to analyze the financial health of PT. Mayora Indah Tbk. where there was a 42% decrease in net profit in the period 2020 to 2021, considering the significant impacts of the pandemic and ongoing global economic uncertainty. The pandemic brought major challenges such as a decline in consumer purchasing power, restrictions on economic activity, supply chain disruptions, and increased export burdens due to protectionist policies in various countries. The company also faced additional challenges from logistical constraints and fluctuating market demand, which affected operational efficiency and cost structure. In the post-pandemic era from 2022 to 2024, global uncertainty has been exacerbated by geopolitical conflicts such as the Russia-Ukraine war, triggering a global food crisis and surging prices of key commodities such as wheat, oil, and energy. Additionally, global interest rate hikes and the appreciation of the Indonesian rupiah against several foreign currencies have added complexity to the management of raw material import costs and foreign exchange risks. Using financial ratio analysis and financial statement trends during the five years period, this study evaluates the company's profitability, liquidity, solvency, and operational efficiency. The data were examined using eight financial ratios analysis to assess the financial healthiness level, referring to the Decree of Indonesia Minister of State-Owned Enterprises (SOEs) No. KEP-100/MBU/2002 and all calculations are collected based on financial information of PT. Mayora Indah Tbk. within 2020 to 2024. The study shows that the company has managed to maintain financial stability amid global pressures, indicated by the healthy status of AA rating in 2020, slightly decrease to A in 2021 caused by pressure at the peak of the pandemic but still considered healthy, and rebound to AA ratings from 2022 to 2024. These findings provide valuable insights for industry players and stakeholders in formulating resilient business policies in the face of future global uncertainty.

Keywords: Financial Health, Financial Ratio Analysis, Food & Beverage Industry, Covid-19 Impact, Global Economic Uncertainty.

1. INTRODUCTION

In Indonesia, a country with a rapidly growing population and rising middle-class consumption, the food and beverage industry plays an essential role in the national economy, contributing 7.15% to the GDP in the first semester of 2024 (investasiid, 2024). The sector grew 5.9% at the end of the year, driven by robust domestic demand and rising exports. The industry's growth is supported by Indonesia's population of over 275 million, which is expected to surpass 281 million by 2025 as shown in Figure 1. Urbanization and increasing incomes are shifting consumer preferences towards convenience foods, health-conscious products, and innovative offerings such as plant-based and organic options. Despite challenges like rising production costs and logistical constraints, the sector's upward trajectory underscores its importance to Indonesia's economy and its appeal to foreign investors.

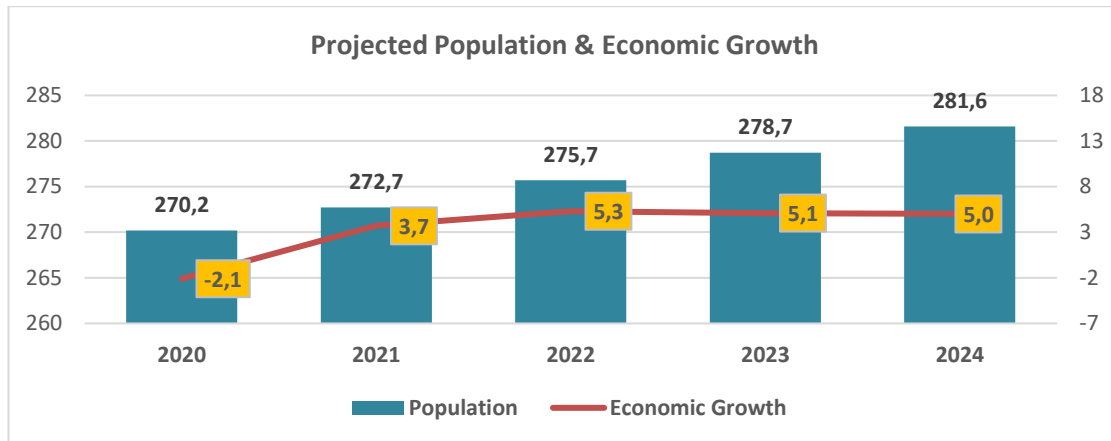


Figure 1: Indonesian Population & Economic Growth (Source: Statistical Yearbook of Indonesia 2025)

Among the industry leaders in the fast-moving consumer goods (FMCG) industry, PT. Mayora Indah Tbk. which was founded in 1977, is known for its robust market presence both domestic and international with its pioneer brands such as Kopiko, Astor, Torabika, Choki-choki, Energen, and Beng-Beng. The company became publicly listed in 1990, initially expanding its market to ASEAN consumers before broadening its reach to other Asian countries. Since then, it has successfully established a global presence, reaching consumers across five continents. PT Mayora Indah Tbk. has positioned itself as a resilient and competitive player in the FMCG industry. Today, the company and its subsidiaries operate 14 factories across seven locations in Indonesia and the Philippines. This research focuses on examining the financial health of PT. Mayora Indah Tbk. during the five-year period from 2020 to 2024, a timeline that includes the height of the pandemic and the volatile post-pandemic global economic recovery. It has shown that pandemic does not become the only factor that slows down the industry despite implementing large-scale social restriction, but also several other factors such as rising raw materials cost, logistic cost and the decline in purchasing power faced by Indonesia. (PT. Mayora Indah Tbk. Annual Report, 2020-2025).

The global economy has faced unprecedented disruption since early 2020, driven primarily by the outbreak of the Covid-19 pandemic. Lockdowns, movement restrictions, and supply chain interruptions became widespread, affecting nearly every industry globally. These challenges were exacerbated by the subsequent economic instability driven by rising inflation, fluctuating commodity prices, and shifting global trade dynamics. Amid this turmoil, businesses were compelled to adapt rapidly or risk failure. The food and beverage industry were also affected by this disruption, although not as significantly as other industries, since foods and beverages are considered as basic necessities. Figure 2 shows the growth of food and beverage industry in Indonesia between 2020 to 2024. Covid-19 has shifted the paradigm of consumers' behavior to be more health-conscious towards everything, especially in food and beverages, not only for the materials but also up to the supply chain and distribution.

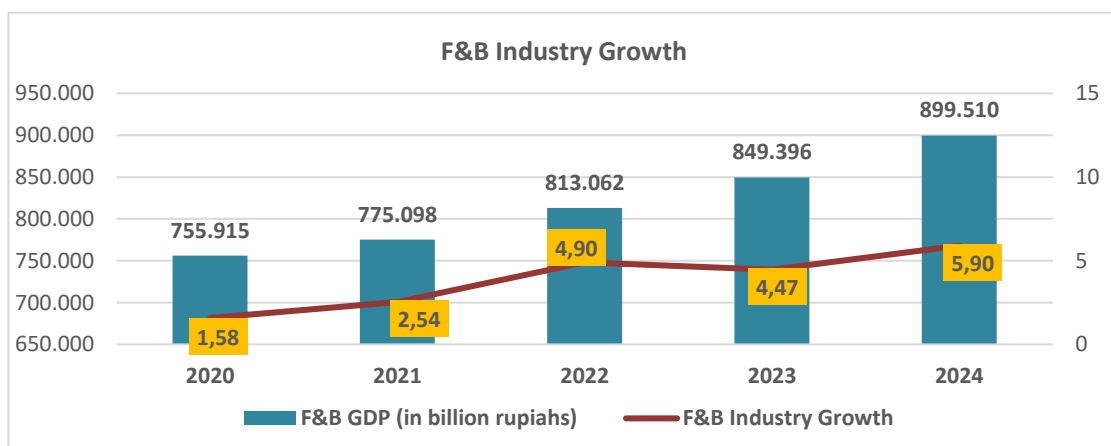


Figure 2: Food and Beverage Industry Growth (Source: CrifAsia, 2020-2024 Report)

Motivation for this study is to understand how a major food and beverage company like PT. Mayora Indah Tbk. managed to navigate and survive these extraordinary circumstances, particularly from a financial perspective. How did the company maintain liquidity, profitability, and solvency amidst the sudden changes in market behaviour? What financial strategies did it employ to mitigate risk and sustain performance? Did its pre-existing business model contribute to its resilience, or were new operational and strategic pivots required? These questions are important for stakeholders, including investors, managers, policymakers, and scholars, as they provide insight into corporate behaviour under economic distress.

PT. Mayora Indah Tbk. is recognized as an emblem of Indonesian entrepreneurial success and also a case study in multinational operational scalability. The company export its products to 5 continents from production facilities in Indonesia and Philippines, with a portfolio that spans into six main categories: biscuits, candy, wafers, chocolate, coffee, and healthy food. In Indonesia, the company is acknowledged not only for its role in producing processed foods and beverages but also for its position as a market leader, credited with introducing innovative, category-defining products. As of 2024, Mayora's market capitalization of 62,2 trillion rupiah was among the highest in the Indonesian consumer goods sector. However, financial resilience is tested not in periods of growth, but during economic downturns. Thus, the Covid-19 pandemic presented a rare "stress test" for the company's financial structure and strategic agility.

Globally, the FMCG sector witnessed major shifts in consumer behaviour during the pandemic. Panic buying, health consciousness, and the shift to online shopping became the norm. While demand for basic food items remained steady or increased, supply chain disturbances, increased logistic costs, and raw material shortages exerted downward pressure on corporate margins. In Indonesia, domestic producers faced additional hurdles such as fluctuating exchange rates, rising inflation, and regulatory constraints on movement and production. In 2021, during the second year of pandemic, PT. Mayora Indah Tbk. experienced a 42% decline in net profit to 1,2 trillion rupiah compared to 2,09 trillion in 2020, see Figure 3. Some of the obstacles being faced by the company, among others are the spread of the Covid-19 Delta variant which occurred in the middle of 2021.

This pandemic also happened in export destination countries, thus the company had to intensify efforts to sustain export sales due to lockdowns and container shortages. The prices of various commodities have also increased significantly, including raw materials used in the company's production process, such as sugar, wheat, coffee, palm oil, which resulted in the increase in production cost. Considering that the economic condition of the people has not yet fully recovered, the increase in production cost, that is being absorbed by the company, cannot readily be passed on to the consumers. An increase in product prices must be carefully evaluated. This has an effect on the net income achieved relative to target, but gradually the company has increased the selling price of its products in 2021 and this process will continue in the year 2022.

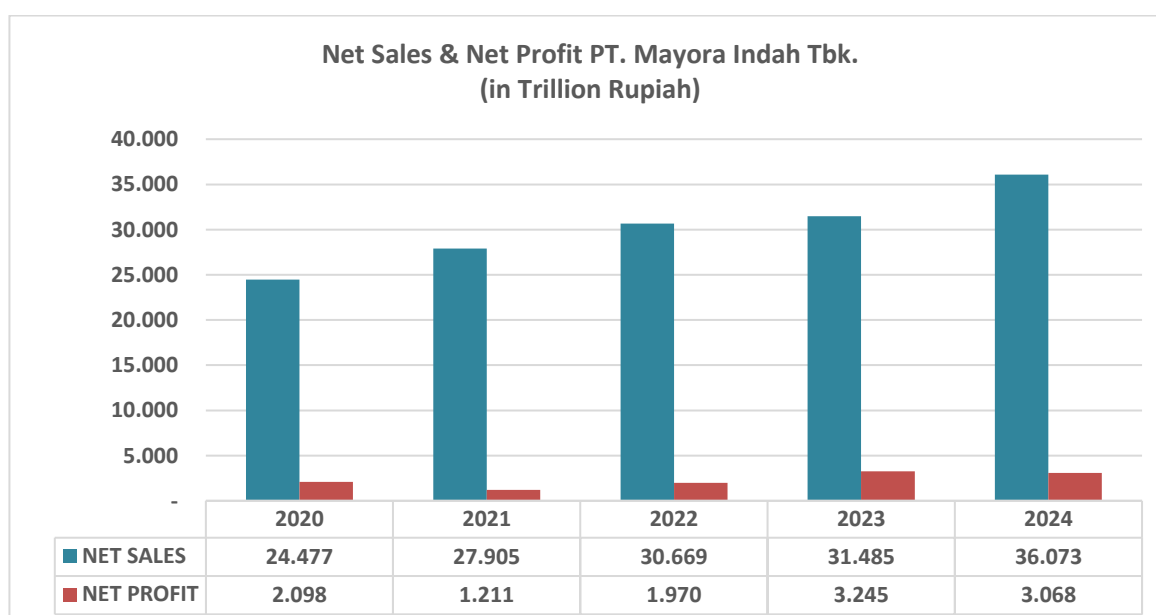


Figure 3: Net Sales & Net Profit PT. Mayora Indah Tbk. (Source: Mayora Annual Report 2020-2024)

Nevertheless, companies adapted swiftly to the "new normal" and almost simultaneously with the arrival of a new challenge, the Russia-Ukraine war. Broadly speaking, the obstacles that must be faced during 2022 are the fluctuations price of raw materials, increasing costs of distribution or delivery of products due to geopolitics issue and disrupting in global supply chains. PT. Mayora Indah Tbk. has proven its resilience by continuously innovating and successfully introduced several new product variants as a result of the innovation from the Research and Development (R&D) division.

In addition, the company makes various packaging options that can be selected according to consumer preferences. Another dimension of interest is the company's financial discipline and capital structure whereas firms faced cash flow uncertainties during lockdowns, decisions around debt management, liquidity buffers, and capital expenditures became crucial. This study seeks to analyse Mayora's financial statements to assess its performance in terms of key indicators like Revenue, Net Profit, Return on Equity (ROE), Return on Investment (ROI), Return on Assets (ROA), Current Ratio, Debt-to-Equity Ratio, and others. These metrics provide a holistic view of Mayora's financial standing and its trajectory through one of the most volatile periods in modern history.

In summary, this journal aims to explore and evaluate the financial health of PT. Mayora Indah Tbk. from 2020 to 2024,

focusing on how the company managed its operations and finances in reaction to the Covid-19 pandemic and ongoing global economic uncertainty. Through a blend of quantitative analysis and qualitative insight, the study provides a well-rounded understanding of Mayora's financial performance, its strategic adaptations, and the implications for corporate resilience in emerging markets. The next sections will provide a literature review to contextualize the research, outline the methodological framework, present results and discussion, and finally, offer conclusions, recommendations, while highlighting research limitations.

2. LITERATURE REVIEW

2.1. About PT. Mayora Indah Tbk.

The company was established in 1977 with its first factory located in Tangerang, targeting the Jakarta and surrounding markets. After successfully fulfilling domestic demand, the company conducted an Initial Public Offering in 1990 and became a publicly listed company, expanding its market to ASEAN and then widened its market share to other Asian countries. Today, the Company's products are available across five continents. As one of the leading Fast-Moving Consumer Goods (FMCG) companies, PT. Mayora Indah Tbk. has proven itself as a producer of high-quality food products and has received numerous awards, including: "Top 5 Best Managed Companies in Indonesia" from Asia Money, "Top 100 Exporter Companies in Indonesia" from SWA Magazine, "Top 100 Public Listed Companies" from Investor Indonesia Magazine, "Best Manufacturer of Halal Products" from the Indonesian Ulema Council (MUI), "Best Listed Company" from Berita Satu, "Indonesia's Corporate Secretary Award" "Top 5 Good Corporate Governance Issues in Consumer Goods Sector" from Warta Ekonomi, and many other awards.

2.2. Financial Statement Overview

The definition of financial statements in Financial Accounting Standards, according to the Institute of Indonesia Chartered Accountants (2015), is a structured presentation of an entity's financial position and financial performance. The balance sheet shows a company's financial position at a specific point in time, while the profit and loss statement shows its financial performance over a period of time. Cash flow is the movement of money into and out of a business over a specific period, showing how the company generates and uses cash for operations, investing, and financing activities. The report used in this study is the financial statement contained in the annual report of PT. Mayora Indah Tbk. in the fast-moving consumer goods (FMCG) industry from 2020 to 2024.

2.3. The Stated Owned Enterprise Ministry Decree No. KEP-100/MBU/2002

The Ministry Decree of State-Owned Enterprise (SOEs) No. KEP-100/MBU/2002 is a standardized guideline to analyze the financial health of the SOEs for a certain period. This system is applied to all SOEs in financial and non-financial industries covering the financial and operational aspects. In the non-financial sector, the fields are divided into infrastructure and non-infrastructure with different total weight scores, 50 for infrastructure and 70 for non-infrastructure. The evaluation carried out using eight Financial Ratio: Profitability (ROE, ROI), Liquidity (Cash Ratio, Current Ratio), Activity (Collection Period, Inventory Turnover, Asset Turnover), and Solvency (Total Equity to Asset Ratio). Although PT. Mayora Indah Tbk. is non SOEs, this research will use the Decree of State-Owned Enterprise (SOEs) standard to have a deeper understanding of the financial health of the company.

3. RESEARCH METHOD

3.1. Research Questions and Objectives

This research objectives was conducted to answer the following questions:

- Is there any impact on the company performance based on financial ratio measurement during the Covid-19 pandemic and rising global economic uncertainty?
- What is the condition of the company's financial health based on the descriptive financial ratio analysis in the Decree of State-Owned Enterprise (SOEs) No. KEP-100/MBU/2002?

3.2. Financial Statement Analysis

The definition of Financial Statements in Financial Accounting Standards, according to the Institute of Indonesia Chartered Accountants (IAI, 2015), is a structured presentation of an entity's financial position and financial performance. The financial statement shows what management has done and a report that shows the accountability of the resource entrusted to the management and the management use financial statement for decision making basis.

3.3. Financial Ratio Analysis

A financial ratio is a numerical results resulting from dividing one financial data by another and is used to express the relativity of various financial variables. Based on (Barnes, Winter 1987), a company uses financial ratios to assess its performance, starting from paying its debts, evaluating its businesses, and forecasting its future financial variable. Financial ratios are normally categorized into:

- Profitability ratio
- Short Term Solvency, or Liquidity ratio.
- Long Term Solvency, or Financial Leverage ratio.

- Activity or Efficiency ratio.
- Asset Management, or Turnover ratio.

3.4. Profitability Ratio

Profitability ratio is a method used to measure business ability to generate revenue and profit at certain period of time (Ross, 2012).

- 3.4.1. Return on Equity (ROE): measures how a company effectively generates profit from shareholders' equity.

$$\text{ROE (\%)} = \left(\frac{\text{Net Income}}{\text{Shareholders' Equity}} \right) \times 100$$

- 3.4.2. Return on Investment (ROI): measures how a company efficiently is using its capital to generate profits. It's often used by investors and analysts to assess how well a company is deploying its capital relative to its cost.

$$\text{ROI (\%)} = \left(\frac{\text{Net Operating Profit After Taxes (NOPAT)}}{\text{Capital Employed}} \right) \times 100$$

- 3.4.3. Return on Asset (ROA): measures how a company efficiently uses its assets to generate profit.

$$\text{ROA (\%)} = \left(\frac{\text{Net Income}}{\text{Total Assets}} \right) \times 100$$

- 3.4.4. Profit Margin: measures the percentage of revenue compared to Gross Profit, Operating Income and Net Profit or Net Income, indicating how efficiently a company produces and sells its products.

$$\text{Gross Profit Margin (\%)} = \left(\frac{\text{Revenue} - \text{COGS}}{\text{Revenue}} \right) \times 100$$

$$\text{Operating Margin (\%)} = \left(\frac{\text{Operating Income}}{\text{Revenue}} \right) \times 100$$

$$\text{Net Profit Margin (\%)} = \left(\frac{\text{Net Profit (Net Income)}}{\text{Revenue}} \right) \times 100$$

3.5. Liquidity Ratio

Liquidity ratio is a company's ability to raise cash in the short term to meet its obligations. Liquidity depends on the company's cash flow and the make-up of its current assets and current liability (Subramanyam & Wild, 2009).

- 3.5.1. Cash Ratio: measures a company's ability to pay its current liabilities using only the most liquid assets cash and cash equivalents.

$$\text{Cash Ratio (\%)} = \left(\frac{\text{Cash} + \text{Cash Equivalents}}{\text{Current Liabilities}} \right) \times 100$$

- 3.5.2. Current Ratio: measures a company's ability to pay its short-term liabilities with its short-term assets.

$$\text{Current Ratio (\%)} = \left(\frac{\text{Current Assets}}{\text{Current Liabilities}} \right) \times 100$$

- 3.5.3. Quick Ratio (normally known as the acid-test ratio): measures a company's ability to meet its short-term liabilities using its most liquid assets (excluding inventory and prepaid expenses).

$$\text{Quick Ratio (\%)} = \left(\frac{\text{Cash} + \text{Cash Equivalents} + \text{Marketable Securities} + \text{Accounts Receivable}}{\text{Current Liabilities}} \right) \times 100$$

3.6. Activity or Efficiency Ratio

Activity ratios are used to measure the level of efficiency in using company resources (Sales, Inventory, Accounts Receivable, etc.) or ratios to assess the company's ability to carry out daily activities. (Ambarukmi, 2017).

- 3.6.1. Collection Period: measures the average number of days it takes a company to collect payments from its credit customers.

$$\text{Collection Period} = \left(\frac{\text{Accounts Receivable}}{\text{Revenue}} \right) \times 365$$

3.6.2. Inventory Turnover: measures how many days a company sells and replaces its inventory over a period.

$$\text{Inventory Turnover (in days)} = \left(\frac{\text{Average Inventory}}{\text{Cost of Goods Sold (COGS)}} \right) \times 365$$

3.6.3. Asset Turnover: measures how efficiently a company uses its assets to generate sales. (Gibson, 2009).

$$\text{Asset Turnover (\%)} = \left(\frac{\text{Revenue}}{\text{Capital Employed}} \right) \times 100$$

3.7. Solvency Ratio or Financial Leverage

Solvency ratios are used to measure a company's long-term ability to meet its financial obligations (Ross, 2012:59). Solvency ratios also help the business owner keep an eye on downtrends that could suggest the potential for bankruptcy in the future.

3.7.1. Equity to Asset Ratio: measures the proportion of a company's assets that are financed by shareholders' equity, indicating financial stability and leverage.

$$\text{Equity to Asset Ratio (\%)} = \left(\frac{\text{Total Equity}}{\text{Total Assets}} \right) \times 100$$

3.7.2. Debt to Equity Ratio: measures a company's financial leverage by comparing its total liabilities to shareholders' equity.

$$\text{Debt to Equity Ratio (\%)} = \left(\frac{\text{Total Liabilities}}{\text{Total Equity}} \right) \times 100$$

3.7.3. Debt to Asset Ratio: measures the percentage of a company's assets that are financed through debt.

$$\text{Debt to Asset Ratio (\%)} = \left(\frac{\text{Total Liabilities}}{\text{Total Assets}} \right) \times 100$$

3.8. The Stated Owned Enterprise Ministry Decree No. KEP-100/MBU/2002

This research will use eight financial ratios as stated in the Ministry Decree of Stated Owned Enterprise (SOEs) No. KEP-100/MBU/2002 to measure the company's financial health, especially during and after the Covid-19 pandemic and amid global economic uncertainty. The ratios, variables, and weight scores are taken from the decree. Each financial ratio is calculated to assess each indicator and used to obtain a total score. Table 1 to table 6 shows the indicator and weight score for each ratio and the company's health indicator, which all the data are collected from the company's annual report. As explained in table 1, each indicator has its maximum score that will be weighted towards the total score (70) and compared to the criteria to determine their health. There are three levels of healthy standard and has their range of scores to determine each level, which consists of healthy (AAA, AA, A), less healthy (BBB, BB, B), and unhealthy (CCC, CC, C) The analysis will be mainly accountable for PT. Mayora Indah Tbk. financial ratio for the period of 2020 to 2024.

Table 1. Total Weight and Health Indicator

Classification	Indicator	Weight	Company Health Indicator		
		Non Infrastructure	Category	Rating	Score
Profitability	Return on Equity	20	Healthy	AAA	TS>95
	Return on Investment	15	Healthy	AA	80<TS<=95
Liquidity	Cash Ratio	5	Healthy	A	65<TS<=80
	Current Ratio	5	Less Healthy	BBB	50<TS<=65
Activity	Collection Period	5	Less Healthy	BB	40<TS<=50
	Inventory Turnover	5	Less Healthy	B	30<TS<=40
	Total Asset Turnover	5	Unhealthy	CCC	20<TS<=30
Solvency	Total Equity to Asset Ratio	10	Unhealthy	CC	10<TS<=20
	Total Weight	70	Unhealthy	C	TS<=10

Source: The Ministry of State-Owned Enterprise Decree No. KEP 100/MBU/2002

Table 2. ROE & ROI Assessment Score

Return on Equity (%)	Non Infrastructure	Return on Investment (%)	Non Infrastructure
15<ROE	20	18<ROI	15
13<ROE<=15	18	15<ROI<=18	13,5
11<ROE<=13	16	13<ROI<=15	12
9<ROE<=11	14	12<ROI<=13	10,5
7,9<ROE<=9	12	10,5<ROI<=12	9
6,6<ROE<=7,9	10	9<ROI<=10,5	7,5
5,3<ROE<=6,6	8,5	7<ROI<=9	6
4<ROE<=5,3	7	5<ROI<=7	5

2,5<ROE<4	5,5	3<ROI<=5	4
1<ROE<=2,5	4	1<ROI<=3	3
0<ROE<=1	2	0<ROI<=1	2
ROE<0	0	ROI<0	1

Source: The Ministry of State-Owned Enterprise Decree No. KEP 100/MBU/2002

Table 3. Cash Ratio and Current Ratio Assessment Score

Cash Ratio (%)	Non Infrastructure	Current Ratio (%)	Non Infrastructure
Cash Ratio >= 35	5	125<=Current Ratio	5
25<=Cash Ratio<35	4	110<=Current Ratio<125	4
15<=Cash Ratio<25	3	100<=Current Ratio<110	3
10<=Cash Ratio<15	2	95<=Current Ratio<100	2
5<=Cash Ratio<10	1	90<=Current Ratio<95	1
0<=Cash Ratio<5	0	Current Ratio<90	0

Source: The Ministry of State-Owned Enterprise Decree No. KEP 100/MBU/2002

Table 4. Collection Period (Days) and Inventory Turnover (Days) Assessment Score

Collection Period (days)	Adjustment (days)	Non Infrastructure	Inventory Turnover (days)	Adjustment (days)	Non Infrastructure
CP<=60	CP>35	5	ITO<=60	ITO>35	5
60<CP<=90	30<CP<=35	4,5	60<ITO<=90	30<ITO<=35	4,5
90<CP<=120	25<CP<=30	4	90<ITO<=120	25<ITO<=30	4
120<CP<=150	20<CP<=25	3,5	120<ITO<=150	20<ITO<=25	3,5
150<CP<=180	15<CP<=20	3	150<ITO<=180	15<ITO<=20	3
180<CP<=210	10<CP<=15	2,4	180<ITO<=210	10<ITO<=15	2,4
210<CP<=240	6<CP<=10	1,8	210<ITO<=240	6<ITO<=10	1,8
240<CP<=270	3<CP<=6	1,2	240<ITO<=270	3<ITO<=6	1,2
270<CP<=300	1<CP<=3	0,6	270<ITO<=300	1<ITO<=3	0,6
300<CP	0<CP<=1	0	300<ITO	0<ITO<=1	0

Source: The Ministry of State-Owned Enterprise Decree No. KEP 100/MBU/2002

Table 5. Asset Turnover (Days) Assessment Score

Total Asset Turnover	Adjustment (days)	Non Infrastructure
TATO>120	TATO>20	5
105<TATO<=120	15<TATO<=20	4,5
90<TATO<=105	10<TATO<=15	4
75<TATO<=90	5<TATO<=10	3,5
60<TATO<=75	0<TATO<=5	3
40<TATO<=60	TATO<=0	2,5
20<TATO<=40	TATO<0	2
TATO<=20	TATO<0	1,5

Source: The Ministry of State-Owned Enterprise Decree No. KEP 100/MBU/2002

Table 6. Equity to Asset Assessment Score

Equity to Asset (%)	Non Infrastructure
ETA<0	0
0<=ETA<10	4
10<=ETA<20	6
20<=ETA<30	7,25
30<=ETA<40	10
40<=ETA<50	9
50<=ETA<60	8,5
60<=ETA<70	8
70<=ETA<80	7,5
80<=ETA<90	7
90<=ETA<100	6,5

Source: The Ministry of State-Owned Enterprise Decree No. KEP 100/MBU/2002

4. RESULTS AND DISCUSSIONS

This section presents the findings from the financial analysis of PT. Mayora Indah Tbk. over the period from 2020 to 2024. The analysis focuses on key financial ratios: profitability, liquidity, efficiency and solvency to assess the company's financial health during the Covid-19 pandemic and the subsequent global economic uncertainties.

4.1. Profitability Performance:

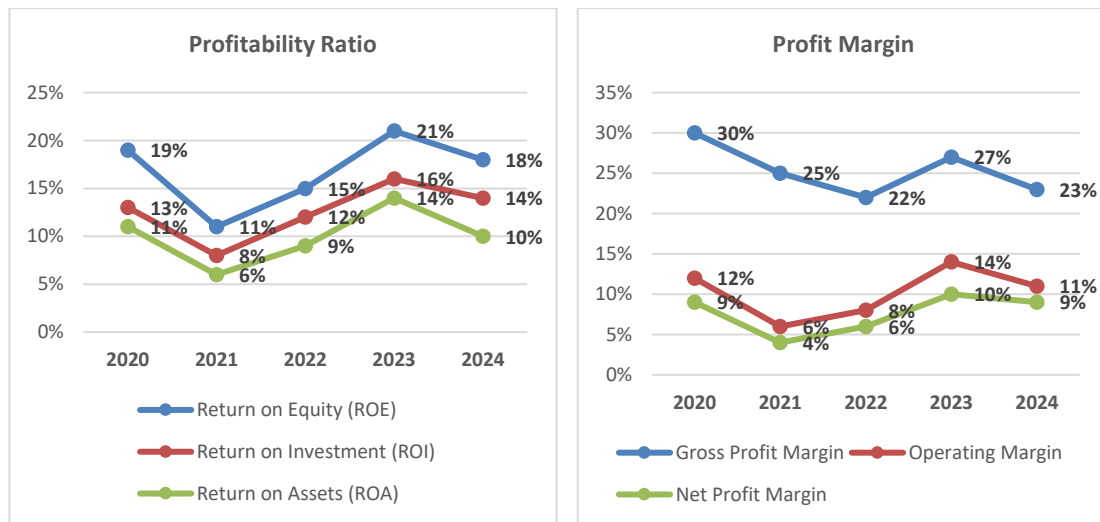


Figure 4: Profitability Ratio (ROE, ROI, ROA) and Profit Margin (GPM, OM, NPM)

The chart in Figure 4 illustrates the profitability performance from PT. Mayora Indah Tbk. based on ROE, ROI and ROA. There is a sharp decline in 2021 where ROE fell from 19% to 11%, ROI fell from 13% to 8% and ROA fell from 11% to 6%, but thereafter it increases gradually and peaked in 2023 with ROE at 21%, ROI at 16% and ROA at 14%. The profitability ratio chart is similar to the profit margin chart consisting of Gross Profit Margin, Operating Margin, and Net Profit Margin also showing the same trend, except Gross Profit Margin which shows a further decline in 2022 due to increasing COGS value triggered by rising of commodity prices and an increase in production cost. This chart shows that PT. Mayora Indah Tbk. is resilient in facing the impact of the pandemic, before finally experiencing a slight decrease in 2024 which occurred due to an increase in assets, especially inventory, which almost doubled from the previous year.

4.2. Liquidity Performance:

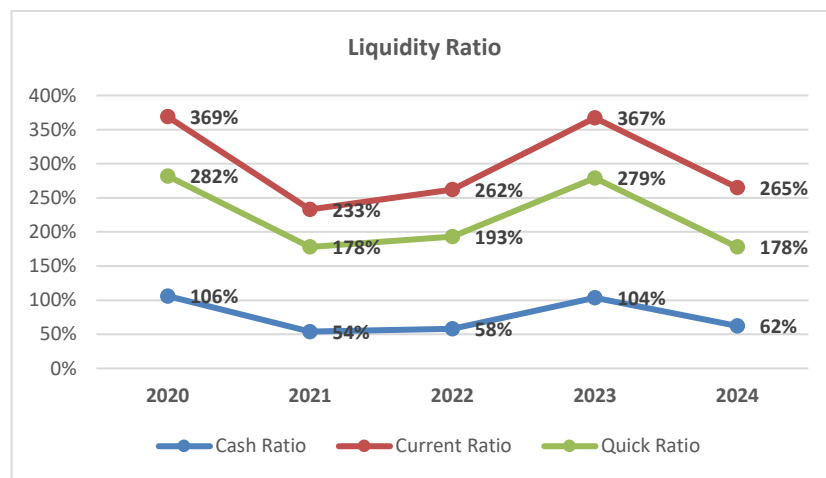


Figure 5: Liquidity Ratio (Cash Ratio, Current Ratio, Quick Ratio)

Figure 5 describe the liquidity performance of PT Mayora Indah Tbk, also experienced pressure during the Covid-19 pandemic period in 2021, slightly rebound in 2022 and rose in 2023 before falling again in 2024. In 2023, the Cash Ratio increased to 104%, the Current Ratio increased to 367% and the Quick Ratio increased to 279%, this occurred due to a significant increase in the value of total assets in 2022 as well as in 2023 and was supported with a decrease in the value of current liabilities, as seen in 2023. Meanwhile, in 2024, although total asset value and cash position still increased, but this was offset by a larger increase in current liabilities, especially in short term bank loans.

4.3. Activity or Efficiency Performance:

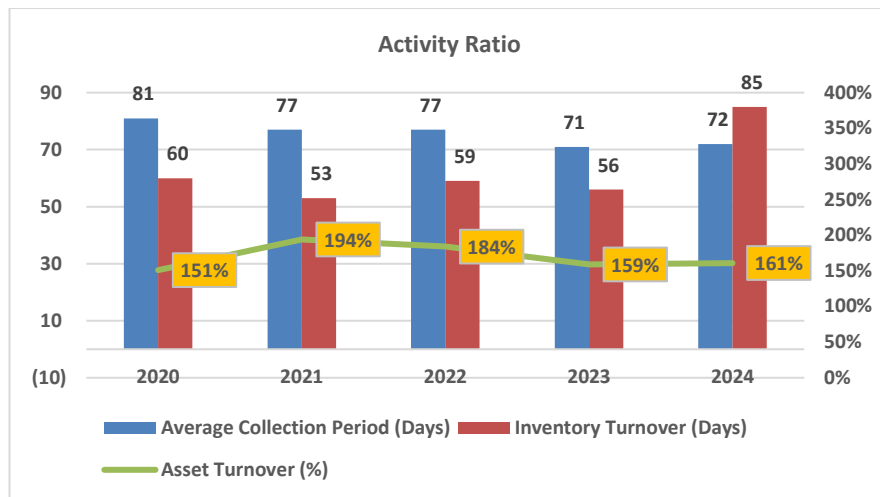


Figure 6: Activity or Efficiency Ratio (Average Collection Period, Inventory Turnover, Asset Turnover)

The graph in Figure 6 above shows the Average Collection Period improving from an average of 81 days in 2020 to 72 days in 2024. Inventory Turnover appears relatively stable during the period 2020 to 2023, but in 2024 there is a spike in the number of days in Inventory Turnover due to an increase in inventory. Asset Turnover also appears relatively stable during the period 2020 to 2024, although there was an increase in Asset Turnover in 2021 to 194% and in 2022 to 184% due to an increase in Revenue offset by a decrease in Capital employed, which triggered by an increase in Current Liabilities.

4.4. Solvency Performance or Financial Leverage:

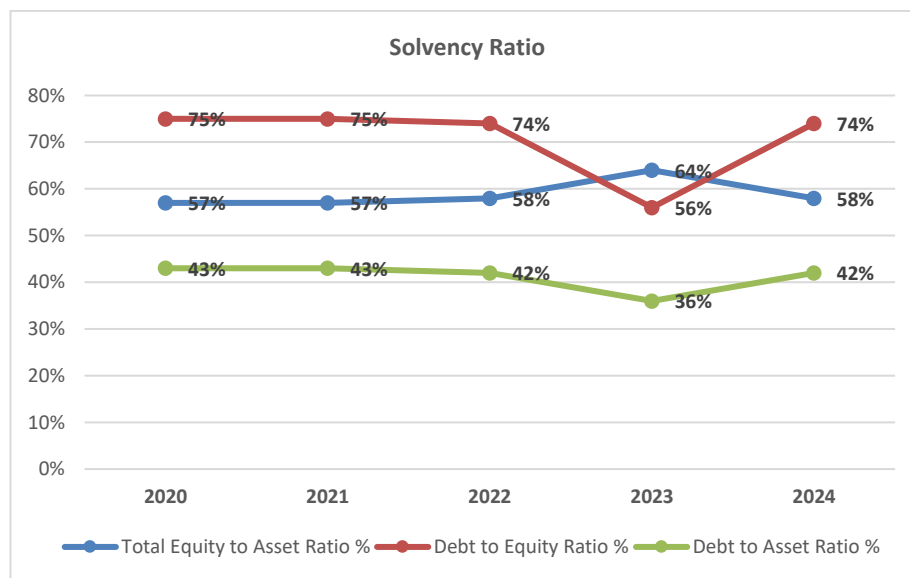


Figure 7: Solvency Ratio (Total Equity to Asset Ratio, Debt to Equity Ratio, Debt to Asset Ratio)

The chart in Figure 7 shows a stable pattern in the Total Equity to Asset Ratio, only in 2023 there is a slight increase to 64% due to the increase in the Equity, especially the Retained Earnings. Debt to Equity Ratio and Debt to Asset Ratio also appear stable, although in 2023 declined due to lower Liabilities.

4.5. Validation Testing

This research based on the SOE Ministry Decree NO. KEP-100/MBU/2002 with 8 predetermined ratios to validate and determine whether PT. Mayora Indah Tbk. is in a healthy condition facing Covid-19 pandemic and global economic uncertainty. Table 7 gives the information of the scoring for each ratio in 2020 to 2024, the total scores then will be used to calculate the total weight by dividing it with the designated total weight (70) and multiply it by 100%. The final score results in table 8 were relatively stable above 80 (score AA) except in 2021 where the total score dropped to only 76.4 (score A), this was due to a decrease in Profitability, namely ROE at 14 and ROI at 6. PT. Mayora Indah Tbk. as major player in food and beverages industry is still in healthy condition within the range A to AA ratings.

Table 7. Test Result for the Period 2020 - 2024 PT. Mayora Indah Tbk.

Classification	Indicator	2020	2021	2022	2023	2024
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		Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score
Profitability	Return on Equity (ROE)	19%	20	11%	14	15%	18	21%	20	18%	20
	Return on Investment (ROI)	13%	10,5	8%	6	12%	9	16%	13,5	14%	12
Liquidity	Cash Ratio	106%	5	54%	5	58%	5	104%	5	62%	5
	Current Ratio	369%	5	233%	5	262%	5	367%	5	265%	5
Activity	Collection Period (Days)	81	5	77	5	77	5	71	5	72	5
	Inventory Turnover (Days)	60	5	53	5	59	5	56	5	85	4,5
	Asset Turnover	151%	5	194%	5	184%	5	159%	5	161%	5
Solvency	Total Equity to Asset	57%	8,5	57%	8,5	58%	8,5	64%	8	58%	8,5
Total Weight			64,0		53,5		60,5		66,5		65,0

Table 8. The Summary of Test Result of PT. Mayora Indah Tbk.

Year	Total Score	Total Weight	Value	Rating	Category
2020	64,0	91,4	80>TS<=95	AA	Healthy
2021	53,5	76,4	65<TS<=80	A	Healthy
2022	60,5	86,4	80>TS<=95	AA	Healthy
2023	66,5	95,0	80>TS<=95	AA	Healthy
2024	65,0	92,9	80>TS<=95	AA	Healthy

As stated in its annual report, PT. Mayora Indah Tbk. has taken strategic policies including the implementation of a new sales strategy that is adaptive to the changes in the consumer behaviour and activities, introduce several new product variants as a result of the innovation of the research and development division, makes various packaging options that can be selected according to consumer preferences, innovation in order processes, expand its market territory and increased in areas which are the target markets for the company's products despite encountered challenges with respect to price increases of commodities. The company carefully implements a gradual price increase policy, ensuring stable demand across its market segments. This strategy is designed to recover Gross Margin, Operating Profit, and Net Profit without compromising growth, market share, or financial strength.

5. CONCLUSION

This study shows the financial performance of PT. Mayora Indah Tbk as one of the largest Food and Beverage (F&B) company in Indonesia during the period 2020 to 2024, where company had to face the Covid-19 pandemic and global economic uncertainty caused by the pandemic lockdowns and geopolitical conflicts such as the Russia-Ukraine war. This turmoil triggered a global food crisis and soaring prices of major commodities required by the company. Additionally, the increase in global interest rates and the appreciation of the Indonesian rupiah against several foreign currencies have added to the complexity of managing raw material import costs and foreign exchange rate risks.

The analysis was carried out based on the Ministry Decree of Stated Owned Enterprise (SOEs) No. KEP-100/MBU/2002, focuses on the big four of financial ratio measurement: profitability, liquidity, activity ratio and solvency. The results of the study show that PT. Mayora Tbk. experienced a fairly stable and healthy financial performance in 2020 to 2024 with AA ratings, only a slight decline in 2021 with A rating but the company managed to rebound the following year. Profitability performance, especially top line (Revenue) and bottom line (Net Profit Margin), can still be maintained with better result, even though there was pressure on ROE and ROI in 2021 and 2022 when the pandemic peaked. Liquidity performance still well maintained and is relatively stable although there was a decline of Liquidity Ratios in 2024. Activity performance also quite stable with a slight increase in Inventory Turnover which is likely caused by the increase in commodity prices and raw materials used in production and inventory reserves to anticipate market price fluctuations. Solvency performance is also considered quite good and under control without any risk of default on debt payments in the medium as well as long term.

In order to achieve sustainable business growth, customer satisfaction becomes PT. Mayora Indah Tbk. number one priority, the company believe that a successful business is one that can meet or even exceed customer expectations. The company has implemented a strategy encompassing quality, efficiency, and innovation, and executed strategic policies aimed not only at meeting customer expectations but also exceeding those of all stakeholders. By selling quality products, the company gains trust and loyalty from consumers, fostering strong long-term relationships and maintaining a reputation that becomes the foundation of sustainable business growth ultimately benefiting both the company and its stakeholders.

The company also maintain high productivity and avoid unnecessary costs to ensure fair pricing for consumers. Therefore, efficiency must be continually implemented across all company activities to increase profitability by maximizing existing resources effectively. Without innovation, the company would struggle to grow. Through continuous innovation, the company can keep producing new products that meet customer needs and remain competitive. Thus, product innovation remains a strategic policy, while also considering long-term social, environmental, and economic impacts. These strategies and policies led to a notable increase in the company's revenue in 2024.

5.1. Research Limitation

This study only focused to analyze eight financial ratio analysis and the company's financial health benchmark from the Indonesia Stated Owned Enterprise (SOE) Ministry Decree No. KEP-100/MBU/2002. Analysis of this study only sourced from secondary

data which provided by the company as the published annual financial reports 2020 to 2024. Hence the author did not implicate the financial performance analysis with the company's management strategy on the operational level.

5.2. Recommendation

The author recommends that PT. Mayora Indah Tbk. remains solid and prudent in running its business, especially in monitoring financial performance and important ratios, so that the company can continue to advance and thrive in the future. In addition, the management of other Food and Beverage (F&B) companies can use this kind of research as a reference when implementing a strategy to overcome the crisis caused by the pandemic and global economic uncertainty. Based on the research, when a crisis occurs, it is recommended that companies must try to improve their Liquidity and optimize their Activity Ratio.

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CHAPTER 10

Financial Health Analysis to Predict Potential Bankruptcy Using Financial Ratio Analysis and the Altman Z-Score Method Evidence of PT Smartfren Telecom Tbk for 2020 – 2024

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ABSTRACT

The telecommunications industry in Indonesia has experienced significant growth. The industry also has very tight business competition. However, not all business players in the telecommunications industry makes profit. PT Smartfren Telekom Tbk is one of these business players who suffered losses in the last ten years. This study aims to analyze Smartfren's financial health and potential bankruptcy, using Financial ratios and the Altmann Z-Score method. Secondary data is taken from the company's financial statements from 2020-2024. The analysis result shows that the company's ability to pay its current liabilities is low (liquidity ratio below 0,51). The company is also having difficulty generating profits (Average ratio's NPM -0,05; ROA -0,01; ROE -0,03). The Company's assets are quite large, and financed from debt (Average ratio DAR 0,64; DER 1,68). The operating activities ratio's indicate negative (average Working Capital Turnover ratio -0,03). The results of the Altmann Z-Score method show that Smartfren is in the bankrupt zone. The Z-Score score in all periods analyzed is negative, -0 0.70 (2020), -0.58 (2021), -0.30 (2022), -0.23 (2023) and -0.10 (2024). It can be concluded that the Company's financial health is in trouble. The company's main problem is the ability to generate profits from its large assets owned was Low. This has a direct impact on the company's liquidity aspect. Smartfren has the potential to go bankruptcy. The company needs to take corporate strategic action so that the business continues to run, generate profits, and the Company be able to capture opportunities for future industrial growth.

Keywords: Financial Health Analysis, Financial Performance, Financial Ratio, Bankruptcy, Company Health Altman Z-Score.

1. INTRODUCTION

The growth of the telecommunications industry in Indonesia between 2014 and 2024 shows a significant increase, especially in terms of internet penetration and mobile data usage. Based on data from *Aptika.kominfo.go.id*, published in October 2024, this increase was driven by technological developments, government policies, and increasing demand for digital services. In 2013, the number of internet users in Indonesia reached 71.19 million, which then increased to 221.56 million in 2024. This means that there has been a growth of 211.22% in 10 years, or around 21% per year.

The development of 4G technology, which has become popular since 2014, has increased internet speeds from 2.5 Mbps to 25 Mbps in 2024. This allows users to enjoy faster and more efficient digital services, such as video streaming, online games, and social media applications. (<https://m.antaranews.com/berita/4526581/atsi-telekomunikasi-kunci-percepatan-industri-digital-indonesia>). The government has implemented various policies to support the growth of the telecommunications industry, such as building digital infrastructure, providing tax incentives, and improving regulations to encourage foreign investment. The increasing use of the internet for various purposes, such as education, business, entertainment, and communication, has driven demand for broader and quality telecommunications services.

The Indonesian telecommunications market is expected to continue to grow, reaching USD 23.97 billion in 2030, with an annual growth rate of 5.76%. The growth of the telecommunications industry also has a positive impact on the Indonesian economy, with the potential for an increase in GDP of up to 2.44% with an increase in broadband penetration of 10%. (<https://investinasia.id/blog/telecommunication-industry-in-indonesia/>).

The competition map of the telecommunications industry in Indonesia is very tight. Telecommunications companies face challenges such as high competition amidst efforts to maintain sustainable growth. There are 4 (four) main players in this industry that control almost the entire market share of cellular internet in Indonesia, namely Telkomsel, Indosat Ooredoo, Excel and Smartfren. The war of marketing and price strategies occurs in every period of the business trip. And this has a direct impact on the company's income. The war of marketing and price strategies from cellular operators has resulted in revenue per user (ARPU) tending to decline every year.

On the other hand, the telecommunications industry is a capital and labor-intensive industry. In order to provide the best service with wide coverage to the community, telecommunications companies must make large investments to build network infrastructure, such as fiber optic cables, cellular towers, and satellite technology. Telecommunications companies must also adapt to rapid technological changes, to ensure that mobile internet access is available in various regions. This has an impact on the high investment, operation and maintenance costs that must be borne by cellular operator companies.

The challenges faced by these companies are especially in terms of maintaining profit margins related to determining the selling price of data services. Provider company services are highly determined by the availability of infrastructure owned, both in terms of area coverage and in terms of providing and developing technological equipment. This means that telecommunications companies must continue to invest, both in the main telecommunications infrastructure and supporting infrastructure.

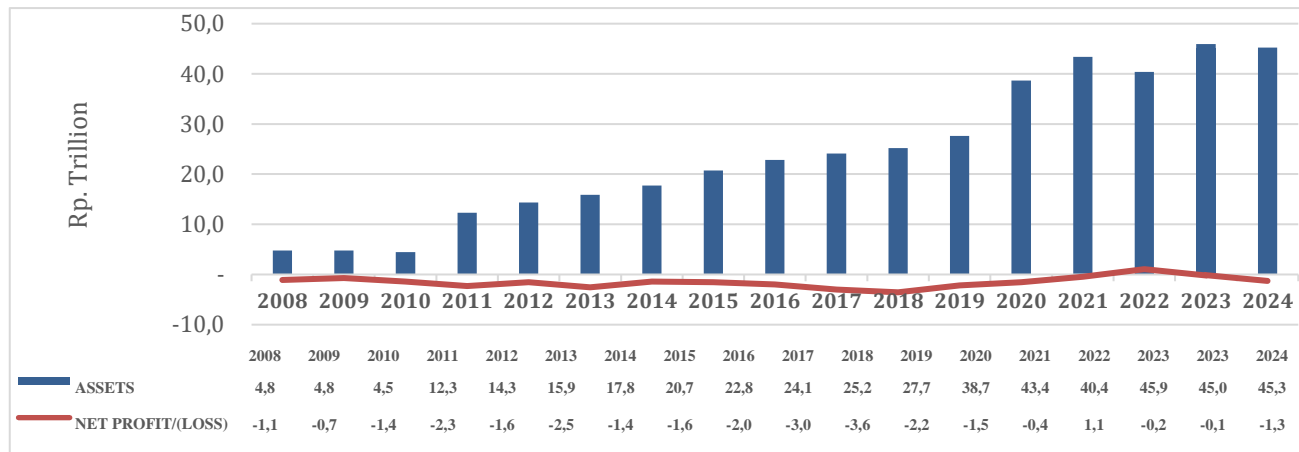
PT Smartfren Telecom Tbk is one of the companies that operates in the telecommunications industry. The company was founded in 2002 under the name PT Mobile-8 Telecom Tbk. The company was later acquired by Sinarmas Group in 2009 and changed its name to PT Smartfren Telecom Tbk in 2011. On October 30, 2014, Smartfren signed a cooperation agreement with Bakrie Telecom to build a 4G network. Entering early 2015, this project was already running well. This cooperation continued along with the closure and termination of Esia services from Bakrie Telecom, where on April 1, 2015 its data services were disconnected and in early 2016 Esia officially stopped all its CDMA2000 services throughout Indonesia except Jakarta.

In 2015, Smartfren launched Smartfren 4G LTE-Advanced, becoming the first cellular operator in Indonesia to use 4G LTE Advanced technology. And continued to provide Voice over LTE (VoLTE) services commercially the following year. In 2017, Smartfren strengthened its position as a leading 4G operator service provider through the migration of CDMA customers to 4G customers. In 2015, Smartfren launched Smartfren 4G LTE-Advanced, becoming the first cellular operator in Indonesia to use 4G LTE Advanced technology. And continued to provide Voice over LTE (VoLTE) services commercially the following year.

In 2017, Smartfren strengthened its position as the leading 4G operator service provider through the migration of CDMA customers to 4G customers. Smartfren's customer market share is the smallest of the 4 main players of cellular internet operators. Smartfren's customer market share is only 10% of the total cellular internet customers. In 2024, Smartfren has 36 million customers. Meanwhile, Telkomsel has 159 million customers, followed by Indosat Ooredoo with 100 million customers, and XL Axiata with 57 million customers.

Based on Figure-1 and Table-1, although Smartfren's users and revenue have increased from year to year, Smartfren has suffered losses for 12 years since 2008,. Only in 2022 did Smartfren record a profit of Rp. 1 trillion, but experienced losses again in 2023 and 2024. The losses were due to poor operational performance, where operating expenses were greater than the income received.

**Figure-1. PT Smartfren Telecom Tbk.
Assets & Profit/(Loss)**



Source: Financial Report PT. Smartfren Telecom Tbk

Despite years of losses, Smartfren still exists in the telecommunications industry. This is because Smartfren is supported by the Sinar Mas business empire, which is one of the largest conglomerates in Indonesia. In fact, Smartfren still wants to expand and invest, by increasing the number of base transceiver stations (BTS), with a target of increasing service coverage and increasing the number of customers to 40 million users in 2024. However, at the end of 2024, this target was not met.

2. LITERATURE REVIEW

Bankruptcy

According to Irham Fahmi (2020), there are several types of financial conditions that can cause a company to go bankrupt. Bankruptcy in the context of a company refers to a situation where a company fails, goes bankrupt, or closes down, where the company experiences major losses so that it is unable to fulfill its obligations and eventually stops operating.

Financial Performance

Hery (2016:25) states that financial performance is a formal effort to evaluate the efficiency and effectiveness of a company in generating profits and certain positions. Financial performance assessment is useful for seeing the prospects for growth and development of a company's finances.

Unhealthy Financial Condition

Platt and Platt (2002) define a company's financial condition as unhealthy or in crisis where the company experiences financial difficulties in meeting its obligations. Bankruptcy is often characterized by unhealthy financial conditions, such as debts that exceed assets, insufficient income to cover operating costs, or loss of trust from investors and creditors.

Financial Ratios

Hery (2016) said that financial ratios are "analyses carried out by connecting various data in financial statements in the form of percentage ratios". Financial statements can be compared with each other or between the balance sheet and profit and loss.

Liquidity Ratio

According to Hery (2016), the liquidity ratio is a ratio that shows the company's ability to meet obligations or pay its short-term debts. This ratio measures the extent to which the company is able to pay off short-term obligations that will soon mature.

Profitability Ratio

Solvency/Leverage Ratio

According to Hery (2016), the solvency ratio (leverage ratio) is used to measure the extent to which a company's assets are financed with debt. This ratio indicates the company's ability to meet its debt obligations in the long term.

Altman Z-Score Model (1968)

The Altman Z-Score Model was developed by Edward I. Altman in 1968. This model is a financial analysis tool used to predict the possibility of a company going bankrupt. Altman, a professor of finance, conducted research in 1967 and published the results of his research in the form of the Z-Score model in 1968. This model uses a combination of several financial ratios to calculate a single score that indicates how close a company is to bankruptcy.

The basic principle of the Altman Z-Score model is to combine several company financial ratios into a mathematical equation (discriminant model) to produce a Z-Score value. The Altman Z-Score model considers financial ratios such as working capital, retained earnings, earnings before interest and taxes (EBIT), market value of equity, sales, total assets, and total liabilities.

Altman Z'-Score Model analysis to analyze financial distress using the Altman Z-Score model, the following formula:

The Altman Z-score: $Z = 1,2X1 + 1,4X2 + 3,3X3 + 0,6X4 + 1,0X5$

Where:

$X1$ = Working Capital / Total Assets (measures the company's ability to cover short-term liabilities).

$X2$ = Retained Earnings / Total Assets (indicates how much of the company's profits have been reinvested).

$X3$ = Earnings Before Interest and Taxes (EBIT) / Total Assets (reflects the company's operating profitability).

$X4$ = Market Value of Equity / Total Liabilities (shows the market's perception of the company's financial health).

$X5$ = Sales / Total Assets (measures how efficiently the company uses its assets to generate revenue).

The Z-Score value is then interpreted to determine the level of risk of bankruptcy of the company. A Z-Score value below 1.8 indicates that the company is at high risk of bankruptcy, while a Z-Score value of 3 or more indicates that the company is in good financial condition. The purpose of the Altman Z-Score modeling is to help investors and creditors evaluate the risk of bankruptcy of a company before they provide loans or investments.

3. RESEARCH METHOD

Research Object

This research was conducted at PT. Smartfren Telecom Tbk, a company engaged in the telecommunications sector in Indonesia. In this study, the author will discuss the prediction of the company's potential bankruptcy using the Altman Z-Score model.

The author conducted this research because the company, namely PT Smartfren Telecom Tbk. experienced continuous losses, namely the period 2008 to the period 2024, where the company only recorded a profit in 2022, so based on this information the company has the potential for financial distress. The data used for analysis in this study is the financial data of PT Smartfren Telecom Tbk. for the years 2020 - 2024.

Data Sources

Secondary data collected by the author from existing sources in the form of data from the company's annual report, data from the internet, books, journals and financial position reports of PT. Smartfren Telecom Tbk for the period 2020-2024 on its official website.

The data and information obtained were analyzed to provide answers to the problems that will be discussed in this study. In analyzing the data, the author used data analysis using financial ratios and the Altman Z - Score model. Hypothesis testing was not carried out because this study only needed to implement the company's financial ratio formula and carry out Altman Z-Score modeling as data analysis to predict the potential for company bankruptcy.

The Table-2 is financial highlight data based on PT Smartfren Telecom Tbk. financial reports for the year 2020 to 2024.

**Table 1 - PT. Smartfren Telecom Tbk.
Financial Data Highlight For The Year 2020 – 2024
Currency Rupiah (in Million)**

Description	2020	2021	2022	2023	2024
Balance Sheet					
Cash & Equivalent	654.460	463.219	308.146	225.773	155.311
Account Receivable	78.196	143.496	234.896	229.954	244.210
Inventory	57.516	73.045	125.892	94.430	55.813
Current Assets	2.646.319	2.322.498	2.364.668	4.336.479	4.357.734
Intangible Assets	1.584.790	1.823.094	1.722.535	1.655.135	1.771.578
Total Assets	38.684.277	43.357.850	46.492.367	45.044.801	43.184.370
Current Liabilities	8.417.956	9.603.232	8.658.869	6.620.255	6.089.420
Total Liabilities	26.318.344	30.704.407	30.732.855	29.372.146	21.736.030
Shareholder's Equity	12.365.932	12.653.442	15.759.512	15.672.655	21.448.296
Total Equity	12.365.932	12.653.442	15.759.512	15.672.655	21.448.296
Profit / (Loss)					

Revenue	9.407.882	10.456.828	11.202.579	11.655.708	11.419.725
Gross Profit	- 784.675	247.188	623.122	543.702	- 309.349
Earnings Before Interest & Tax	- 1.597.362	- 566.284	1.076.476	85.139	- 1.286.363
Interest Expense	- 850.789	- 962.670	- 1.048.162	- 1.278.193	- 1.317.934
Earning After Tax	- 1.523.602	- 435.325	1.064.304	- 108.952	- 1.294.976

Source: Financial Report PT. Smartfren Telecom Tbk

4. RESULTS & DISCUSSION

Result's from Company Financial Ratio Analysis

The author conducted a company financial ratio analysis based on the data, namely the liquidity ratio, profitability, solvency and company activity ratio, as shown in Table-3. This financial ratio analysis is intended to assess the company's financial performance from 2020 - 2024.

**Table 2 - PT. Smartfren Telecom Tbk.
Financial Ratio Analysis For The Year 2020 – 2024**

Financial Ratio:	2020 Ratio	2021 Ratio	2022 Ratio	2023 Ratio	2024 Ratio	Average Ratio
Liquidity Ratios:						
1. Cash Ratio	0,25	0,20	0,13	0,05	0,04	0,13
2. Quick Ratio	0,31	0,23	0,26	0,64	0,71	0,43
3. Current Ratio	0,31	0,24	0,27	0,66	0,72	0,44
Profitability Ratios:						
1. Gross Profit Margin (GPM)	- 0,08	0,02	0,06	0,05	- 0,03	0,00
2. Net Profit Margin (NPM)	- 0,16	- 0,04	0,10	- 0,01	- 0,11	-0,05
3. Return on Assets (ROA)	- 0,04	- 0,01	0,02	- 0,00	- 0,03	-0,01
4. Return on Equity (ROE)	- 0,12	- 0,03	0,07	- 0,01	- 0,06	-0,03
Solvency Ratios:						
1. Debt to Assets Ratio (DAR)	0,68	0,71	0,66	0,65	0,50	0,64
2. Debt to Equity Ratio (DER)	2,13	2,43	1,95	1,87	1,01	1,88
Activity Ratios:						
1. Working Capital Turnover	- 1,63	- 1,44	- 1,78	- 5,10	- 6,59	-3,31
2. Assets Turnover	0,24	0,24	0,24	0,26	0,26	0,25

Smartfren's financial ratios for the 2020-2024 period show fluctuations and various financial indicators. In general, the company recorded a net loss in 2020-2024. Some financial ratios to consider:

- The liquidity ratio shows the company's ability to pay its short-term liabilities using current assets. The higher the ratio, the better the company's liquidity capability. The ratio less than 1 indicates potential liquidity problems and difficulty paying short-term debt.
 - Cash ratios: The results of the cash ratio analysis show that the company's cash ratio throughout 2020 - 2024 was below 1, that is 0,25 (2020), 0,20 (2021), 0,13 (2022), 0,05 (2023), 0,04 (2024). This means that the company has difficulty paying off current liabilities (short-term debt) using the cash and cash equivalents it has.
 - Quick ratios: The results of the study show that the company's quick ratio for 2020 - 2024 is below 1, which is 0,31(2020), 0,23 (2021), 0,26 (2022), 0,64 (2023), 0,71 (2024). This means that the company is considered unable to pay current debts in a certain operational cycle.
 - Current ratios: The results of the study show that the company's current ratio for 2020 - 2024 is below 1, which is 0,31 (2020), 0,24 (2021), 0,27 (2022), 0,66 (2023), 0,72 (2024). This may indicate that the company has liquidity problems and may have difficulty paying its debts.
- The Profitability Ratio is a financial metric used to measure a company's ability to generate profits (profits) from aspects of business operations, asset resources and capital. The results of the analysis show that only in 2022 it generated a profit, while in other years the company experienced losses.

- Gross Profit Margin (GPM) ratios: The results of the study show that the company's GPM ratio throughout 2020 - 2024 was low or negative outcome, that is -0,08 (2020), 0,02 (2021), 0,05 (2022), 0,06 (2023), -0,03 (2024). A negative or low gross profit margin means that the company's cost of sold (COS) is higher than, or not generating enough revenue from its core operations. This is a significant sign of financial instability or financial health, and can lead difficulties to covering operating expenses, attracting investors, or securing loans.
 - Net Profit Margin (NPM) ratios: The results of the study show that the company's NPM ratio throughout 2020 - 2024 was low or negative outcome, that is -0,16 (2020), -0,04 (2021), 0,10 (2022), -0,01 (2023), -0,11 (2024). A negative or low net profit margin means that the company's is not making as much profit on its sales relative to its revenue.
 - Return on Assets (ROA) ratios: The results of the study show that the company's ROA for 2020 - 2024 is negative or very low, which is -0,04 (2020), -0,01 (2021), 0,02 (2022), -0,01 (2023), -0,03 (2024). This may indicate that the company is not generating enough income to cover its expenses and the costs associated with its assets. The company is incurring losses instead of profits from its assets.
 - Return on Equity (ROE) ratios: The results of the study show that the company's ROE for 2020 - 2024 is negative or very low, which is -0,12 (2020), -0,03 (2021), 0,07 (2022), -0,01 (2023), -0,06 (2024). This means the company has not generated enough profit from its shareholders' investments, resulting in a negative return. The company is losing money on each Rupiah of shareholder equity.
- 3) The Solvency Ratio measures the company's ability to meet its obligations, especially long-term liabilities, and pay debts on time. This ratio shows the extent to which the company's assets are funded by debt. The smaller the ratio below 1 (one), the better the company's financial performance. The results of the analysis show that the solvency ratio is below 1 (one) for the value of assets and equity.
- Debt to Assets Ratio (DAR) ratios: The results of the study show that the company's DAR for 2020 - 2024 is negative or very low, which is 0,68 (2020), 0,71 (2021), 0,66 (2022), 0,65 (2023), 0,50 (2024). DAR ratios 0.5 indicate that more than 50% of its assets are financed by debt, which that the company has a higher risk of defaulting on its loans.
 - Debt to Equity Ratio (DER) ratios: The results of the study show that the company's DER for 2020 - 2024 is more than 1, which is 2,13 (2020), 2,43 (2021), 1,95 (2022), 1,87 (2023), 1,01 (2024). This indicates that a significant portion of the company's capital financing comes from debt. A higher DER ratio generally increased financial risk, as the company struggle to meet its debt obligations, especially while revenues decline.
- 4) The activity ratio is a measure of financial performance that measures how efficiently a company uses its assets to generate revenue and cash flow. This ratio provides an explanation of how efficient the company's operations and resource management are.
- Working Capital Turnover ratios: The results of the study show that the company's Working Capital Turnover ratio for 2020 - 2024 is negative, which is -1,63 (2020), -1,44 (2021), -1,78 (2022), -5,10 (2023), -6,59 (2024). This indicates that the company's current liabilities exceed current assets, so the company may have difficulty pay of its short-term obligations.
 - Assets Turnover ratios: The results of the study show that the company's Assets Turnover ratio for 2020 - 2024 is low, which is 0,24 (2020), 0,24 (2021), 0,24 (2022), 0,26 (2023), 0,26 (2024). An asset turnover ratio of 0,2 means that every Rupiah of assets owned generates 0,2 Rupiah of revenue. This indicates that the company may not be using its assets efficiently to generate revenue.

Result's from Company Bankruptcy potential analysis using the Altman Z-Score model

After knowing the results of the company's financial performance analysis using financial ratios, the author conducted an analysis of the company's bankruptcy potential using the Altman Z-Score model. The financial data needed as analysis material is the financial account data of PT Smartfren Telecom Tbk. for the period 2020 - 2024 as shown in Table-4.

Table 3 - PT. Smartfren Telecom Tbk.
Financial Data to Analise Using Altman Z-Score For The Year 2020 – 2024
Currency Rupiah (in Million)

Parameter	2020	2021	2022	2023	2024
<i>Total Assets</i>	38.684.277	43.357.850	46.492.367	45.044.801	43.184.370
<i>Total Liabilities</i>	26.318.344	30.704.407	30.732.855	29.372.146	21.736.030
<i>Current Assets</i>	2.646.319	2.322.498	2.364.668	4.336.479	4.357.734
<i>Current Liabilities</i>	8.417.956	9.603.232	8.658.869	6.620.255	6.089.420
<i>EBIT</i>	- 1.597.362	- 566.284	1.076.476	85.139	- 1.286.363
<i>Retained Earnings</i>	- 25.624.361	- 26.034.314	- 26.034.314	- 25.043.305	-26.330.809
<i>Net Sales</i>	9.407.882	10.456.828	11.202.579	11.655.708	11.419.725
<i>Market Capitalization</i>	12.365.932	12.653.442	15.759.512	15.672.655	21.448.296

Source: Financial Report PT. Smartfren Telecom Tbk

Table-5 classifies the financial data above into several groups of variables, namely variables X1, X2, X3, and X4, and enters them into the Altman Z'-Score formula that has been determined for the calculation process. The following are the calculation results for each variable:

Table 4 - PT. Smartfren Telecom Tbk.

Altman Z-Score Result For The Year 2020 – 2024 Currency Rupiah (in Million)

Variabel	ALTMANN Z - SCORE				
	2020	2021	2022	2023	2024
X1	-015	-0,17	-0,14	-0,05	-0,04
X2	-0,66	-0,60	-0,56	-0,56	-0,61
X3	-0,04	-0,01	0,02	0,00	-0,03
X4	0,47	0,41	0,51	0,53	0,99
X5	0,24	0,24	0,24	0,26	0,26
Z – Score	-0,70	-0,58	-0,30	-0,23	-0,10
Categorize	Bankrupt Zone	Bankrupt Zone	Bankrupt Zone	Bankrupt Zone	Bankrupt Zone

The classification of healthy or potentially bankrupt companies is based on the Altman Z-Score model value, namely:

- If the Z value is ≥ 2.99 , then from the financial aspect assessment the company is included in the safety zone category or is in a healthy state.
- If the Z value is $1.81 < 2.99$, then from the financial aspect assessment the company is included in the grey area category (it cannot be determined whether the company is healthy or unhealthy).
- If the Z value is ≤ 1.81 , then from the financial aspect assessment the company is included in the bankrupt zone category or is experiencing an unhealthy financial condition.

The results of the study show that the company's Z-Score value is negative, which is result's -0,70 (2020), -0,58 (2021), -0,30 (2022), -0,23 (2023), -0,10 (2024). This indicates that from the financial aspect assessment the company is included in the bankrupt zone category or is experiencing an unhealthy financial condition.

5. CONCLUSION & RECOMMENDATION

Conclusion

Based on the results of the financial ratio analysis and bankruptcy potential assessment using the Altman Z-Score model that has been carried out on PT Smartfren Telecom Tbk for the period 2020 - 2024, several conclusions can be drawn, as follows:

- 1) Financial Ratios of PT Smartfren Telecom for the period 2020 – 2024 indicate that the Company's facing of unhealthy financial condition. This condition can be explained as follows:
 - a. The liquidity ratio shows that the company's current assets are smaller than its current liabilities, with an adequacy ratio value of less than 1 (one).
 - b. The Profitability Ratio shows that the company's ability to generate profits is fluctuating, where the company only made a profit in 2022, while in other years the company experienced losses. This means that the company is not capable enough to generate profits from aspects of business operations, use of assets and capital.
 - c. Further analysis needs to be done to assess what factors influence the positive profitability ratio from 2022, whether the impact of improved operating performance, or the impact of asset sales, or from increasing the number of shares to increase the working capital adequacy ratio.
 - d. The Solvency Ratio shows that the company's Debt to Assets Ratio (DAR) ratios for 2020 - 2024 is negative or very low. Its indicate that assets are financed by debt, which that the company has a higher risk of defaulting on its loans. The Company's Debt to Equity Ratio (DER) ratios is more than 1. This indicates that a significant portion of the company's capital financing comes from debt. The Company's facing financial risk, as the company struggle to meet its debt obligations, especially while revenues decline.
 - e. The activity ratio from the working capital turnover aspect shows a negative value. It can be interpreted that the company has current liabilities that are greater than current assets, where the company has difficulty in meeting its short-term obligations and shows potential cash flow problems. The results of the asset turnover ratio analysis show a low ratio of 0.24 and 0.26. This means that the ability to use assets to generate profits is low.

2. Assessment of bankruptcy potential using the Altman Z-Score model

The assessment of the financial aspects of PT Smartfren Telecom for the period 2020 - 2024 shows that the company is included in the bankrupt zone category or is experiencing an unhealthy financial condition, where the Z-Score score in all periods analyzed is negative, - 0.70 (2020), - 0.58 (2021), - 0.30 (2022), - 0.23 (2023) and - 0.10 (2024).

Recommendation

Based on the analysis conducted on the company's financial statements to assess the company's financial health, the company's main problem is the ability to generate low profits from large assets owned. This has a direct impact on the company's liquidity aspect. When liquidity is disrupted, the company will seek funding options for operations and investments from debt, thereby increasing the solvency ratio. In the medium and long term, it will disrupt operations as indicated by a negative or low activity ratio.

The company is recommended to carry out corporate strategic actions, such as Operational Efficiency, optimizing the use of existing assets, through strategic partnerships by carrying out unorganic action strategies with collaboration and joint ventures, mergers, and others, for operational efficiency and optimizing the use of assets to gain profit.

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Chapter 11

Corporate Financial Health Analysis and Profitability Measurement Using the Du Pont Method

Evidence of PT. ANTAM Tbk for the year 2020-2024

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ABSTRACT

PT ANTAM Tbk, as a state-owned mining enterprise, plays a role in Indonesia's economic development. Beyond its core contribution in managing the country's strategic mineral resources, the company is also expected to deliver financial returns to the state in the form of dividends. In 2024, PT ANTAM Tbk reported total assets of IDR 44.52 trillion, total liabilities of IDR 12.32 trillion, total equity of IDR 32.19 trillion, and a net profit of IDR 3.85 trillion. This study aims to evaluate PT ANTAM Tbk's contribution in terms of financial performance and capital efficiency by conducting a profitability analysis using the Du Pont Analysis framework, which breaks down Return on Equity (ROE) into three interrelated components: Net Profit Margin, Asset Turnover, and Equity Multiplier (Financial Leverage). The financial performance analysis of PT ANTAM Tbk for the 2020–2024 period indicates a generally positive and healthy condition. Key financial ratios show solid results, with average figures over the five years including a net profit margin of 6.09%, asset turnover of 1.18, financial leverage of 1.48, and ROA of 7.29%. The Du Pont ROE analysis further confirms this with an average ROE of 10.58%. To further improve ROE Dupont, PT ANTAM Tbk should focus on optimizing asset utilization and generating strong profit margins, while addressing financial performance volatility by exploring new business development opportunities to enhance profitability and long-term stability.

Keywords: Financial Performance, Du Pont Analysis, PT ANTAM TBK.

I. INTRODUCTION

PT ANTAM Tbk (ANTAM) is one of the members of MIND ID (Mining Industry Indonesia), the state-owned mining industry holding company, and is a diversified and vertically integrated mining company with an export-oriented focus. Through its operational areas spread across mineral-rich regions of Indonesia, ANTAM's activities cover exploration, mining, processing, and marketing of nickel ore, ferronickel, gold, silver, bauxite, and coal commodities. ANTAM is listed on both the Indonesia Stock Exchange (IDX) and the Australian Securities Exchange (ASX). (ANTAM Annual Report, 2024)

According to Corporate long-term strategy 2030, ANTAM's vision is to become a leading global corporation through business diversification and integration based on natural resources. PT ANTAM Tbk plays an important role not only in managing the nation's natural resources but also in making significant contributions to the country, including through dividend payments, which are a key component of non-tax state revenue (PNBP). As a company majority-owned by the state through MIND ID, ANTAM carries a dual responsibility: on one hand, to increase economic value for shareholders, especially the government, and on the other hand, to ensure operational sustainability and make a positive contribution to national development. (ANTAM Annual Report, 2024)

During the 2020–2024 period, ANTAM has consistently sought to strengthen its operational performance by increasing production volumes, diversifying products, improving cost efficiency, and optimizing its supply chain. However, achieving strong operational performance must go hand in hand with maintaining sound financial performance so that the company can remain competitive and meet shareholder expectations, particularly regarding profitability and dividend distribution. (ANTAM Annual Report, 2024)

The company's financial health is one of the fundamental aspects reflecting ANTAM's ability to maintain business stability amid global market dynamics, commodity price fluctuations, regulatory changes, and other external challenges. Therefore, analyzing financial health through various financial ratios such as liquidity, solvency, profitability, and activity ratios becomes essential to evaluate how well the company manages its assets, liabilities, and capital.

Furthermore, ANTAM's profitability should not be assessed solely based on the size of its net profit but through a more comprehensive approach, such as the Du Pont analysis. The Du Pont method provides deeper insights into the factors driving Return on Equity (ROE) by breaking it down into three key components: profit margin, asset turnover, and equity multiplier. This approach allows the analysis to go beyond just the final ROE figure, enabling an evaluation of the quality of profitability, the efficiency of asset utilization, and the company's capital structure.

This study aims to conduct a comprehensive analysis of the financial health and profitability of PT ANTAM Tbk over the period 2020–2024, using financial ratio analysis and the Du Pont framework. The study seeks to address the following research questions:

1. How is the financial performance of PT ANTAM Tbk from the period 2020–2024 measured through financial ratio analysis and the Du Pont method?
2. How does the Return on Assets (ROA) performance of PT ANTAM Tbk give the efficiency of the company's asset utilization during the 2020–2024 period?
3. What are the challenges and opportunities for PT ANTAM Tbk in improving its financial performance in the future?

Accordingly, this study is expected not only to provide a comprehensive and holistic picture of the company's financial position and its potential for value creation for stakeholders, particularly the government as the majority shareholder but also to offer valuable insights, indepth analysis, and well-founded strategic recommendations. These findings aim to benefit PT ANTAM Tbk's management, investors, regulators, policymakers, academics, and other relevant parties who have an interest or stake in the development of Indonesia's mining industry, whether from the perspectives of economic contribution, sustainability, or national development.

II. PROBLEM FORMULATION

The problem formulation in this study is as follows:

1. What methods and indicators are employed to measure the financial performance of PT ANTAM Tbk during the period from 2020 to 2024?
2. What are the findings of the financial performance analysis of PT ANTAM Tbk for the 2020–2024 period, as evaluated using financial ratio analysis and the Du Pont method?
3. How can PT ANTAM Tbk identify strategic challenges and opportunities to enhance and strengthen its financial performance in the future?

III. LITERATURE REVIEW

Financial Performance

Financial performance is an analysis of a company's financial position statements for a specific period to determine how

efficiently and effectively a company generates revenue. (Malik & Nadim. 2023)

Unhealthy Financial Condition

The define a company's financial condition as unhealthy or in crisis where the company experiences financial difficulties in meeting its obligations. Bankruptcy is often characterized by unhealthy financial conditions, such as debts that exceed assets, insufficient income to cover operating costs, or loss of trust from investors and creditors. (Adrian., Meidy., Afrizawati., & Pebrianti, Yulia. 2023)

Financial Ratios

Financial ratios are "analyses carried out by connecting various data in financial statements in the form of percentage ratios". Financial statements can be compared with each other or between the balance sheet and profit and loss. (Anthony, R. N., Merchant, K. A., & Hawkins, D. 2010)

The Du Pont of Model

The fundamental reason for analyzing a company's financial performance using multiple ratios is that most scholars believe financial health should be evaluated on various levels. This belief is justified because many researchers have employed different measures of business financial performance, including profit margin and return on assets. However, return on equity (ROE) remains the best measure because the DuPont model breaks it down into three key ratios. This model demonstrates that return on equity is driven by the operating margin, asset turnover, and leverage multiplier ratios. (Brealey., Myers., Marcus. 2023)

IV. RESEARCH METHOD

This study employs a descriptive quantitative approach to analyze the financial performance of PT ANTAM Tbk from 2020 to 2024. The data used in this study consists of secondary data obtained from the annual reports and financial statements of PT ANTAM Tbk. The data was collected from the company's official website and other reliable sources. Subsequently, the data was processed and analyzed using Microsoft Excel software.

The sample in this study is PT ANTAM Tbk itself. The sample selection was carried out using purposive sampling techniques. The analytical methods used in this study include financial ratio analysis and the Du Pont method. The financial ratios calculated in this study cover ROE, ROA, NPM, AT, DER, and CR. The explanations for each of these ratios are as follows: (Brealey, R. A., Myers, S. C., & Marcus, A. J. 2023)

1. Net Profit Margin (NPM):
This ratio reflects the company's efficiency in generating net profit from its total revenue. The higher the NPM, the greater the company's ability to generate profit from each unit of revenue.
2. Asset Turnover (AT):
AT measures the extent to which a company's assets are used to generate revenue. This ratio reflects the company's efficiency in utilizing its assets to support operational activities.
3. Return on Investment (ROI):
ROI is a performance measure that indicates how much profit is gained from an investment compared to its initial cost. In other words, ROI represents the percentage of return earned for each unit of funds invested.
4. Equity Multiplier (EM):
EM is a financial leverage measure that indicates the extent to which a company uses debt to finance its assets. The higher the EM, the greater the level of debt usage in the company's capital structure
5. Return on Equity (ROE):
ROE is a measure of a company's profitability that indicates how efficiently the company generates profit from the shareholders' equity. In other words, ROE measures the extent to which the company's management utilizes shareholders' funds to create earnings.

The Du Pont analysis is used to break down ROE into NPM, AT, and EM. The analysis results are interpreted and discussed to provide insights and recommendations for PT ANTAM Tbk.

5. RESULT AND DISCUSSION

In this study, the DuPont method and time series analysis were used to conduct the analysis. The data used in this research are presented in Table-1. Table-1 shows net profit margin peak in 2022 suggests strong cost control, while the drop in 2024 indicates potential margin pressures from rising costs or competition, Asset turnover improved significantly from 0.86x in 2020 to 1.55x in 2024, showing better efficiency in using assets to generate revenue. However, the dip to 0.96x in 2023 suggests temporary underutilization, possibly due to excess capacity or slower sales growth, Financial leverage has steadily declined from 1.67x in 2020 to 1.38x in 2024, indicating a more conservative capital structure with less reliance on debt, Return on Assets (ROA) rose sharply from 3.62% in 2020 to 11.36% in 2022, reflecting strong profitability and asset efficiency. It then dropped to 7.18% in 2023 before recovering to 8.65% in 2024, ROE followed a similar trend to ROA and each component will be discussed.

Tabel 1. Consolidated Financial Statements and ratios for the Years 2020–2024

(In Billions of Rupiah)	2020	2021	2022	2023	2024	Average
net profit	1149,35	1861,74	3820,96	3077,65	3852,22	2752,383
revenue	27372,46	38445,60	45930,36	41047,69	69192,44	44397,71
total assets	31729,51	32916,15	33637,27	42851,33	44522,65	37131,38
equity	19039,45	20837,10	23712,06	31165,67	32199,51	25390,76
Time Series Du Pont Analysis						
net profit margin	4,20%	4,84%	8,32%	7,50%	5,57%	6,09%
asset turnover	0,86	1,17	1,37	0,96	1,55	1,18
finance leverage (equity multiplier)	1,67	1,58	1,42	1,37	1,38	1,48
return on asset	3,62%	5,66%	11,36%	7,18%	8,65%	7,29%
return on equity Analisis Du Pont	6,04%	8,93%	16,11%	9,88%	11,96%	10,58%

Source: Author's Analysis Based on Consolidated Financial Statements of PT ANTAM Tbk and Its Subsidiaries, 2020–2024.

Net Profit Margin (NPM)

From 2020 to 2024, the average net profit margin stood at a positive 6.09%, indicating stable and consistent profitability over the period. NPM declined twice, as shown in Figure 1: a slight decrease of 0.82% from 2022 to 2023, and a significant drop of 1.93% from 2023 to 2024. Two consecutive increases occurred from 2020 to 2022. The peak profitability was reached in 2022, with NPM hitting 8.32%, reflecting the company's efficiency in converting revenue into net profit. However, the downward trend over the last two years is an important signal for management to focus more on cost efficiency, operational control, and strategies to improve margins so that profitability can strengthen again.

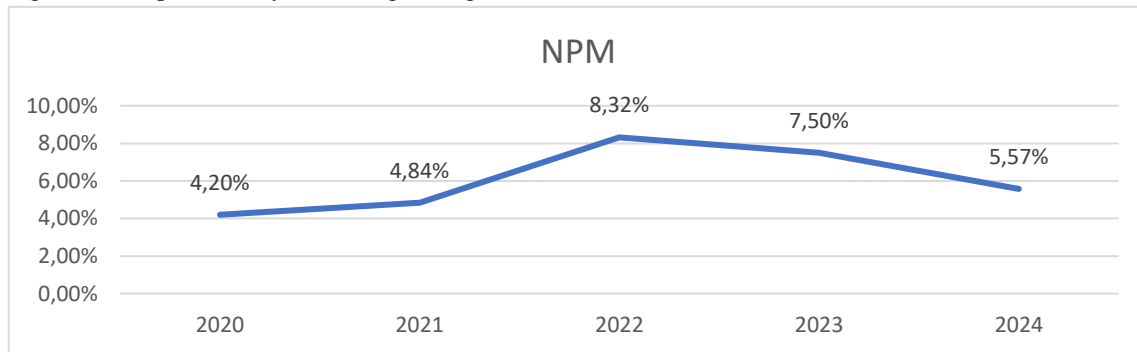


Figure 1. Net Profit Margin (NPM) Years 2020–2024

Source: Author's Analysis Based on Consolidated Financial Statements of PT ANTAM Tbk and Its Subsidiaries, 2020–2024.

Asset Turnover (AT)

From 2020 to 2024, the average Asset Turnover stood at a positive 1.18, suggesting that the company was able to generate IDR 1.18 in revenue for every IDR 1 of assets, although there remains room for improvement in maximizing asset utilization to drive higher returns. Figure 2, demonstrates a generally positive pattern similar to that of the net profit margin (NPM). AT showed significant growth from 2020 to 2022 and again from 2023 to 2024, notwithstanding a decline observed between 2022 and 2023. Beginning at 0.86 in 2020, the ratio increased to 1.17 in 2021, indicating enhanced efficiency in asset utilization. The peak was recorded in 2022 with a ratio of 1.37. However, a marked decrease occurred in 2023, with the ratio falling to 0.96, signaling a reduction in the effectiveness of assets to generate revenue. In 2024, asset turnover rebounded sharply to 1.55, the highest level within the five-year span. This recovery reflects improvements in operational management, asset optimization, or an increase in sales volume relative to the preceding year.

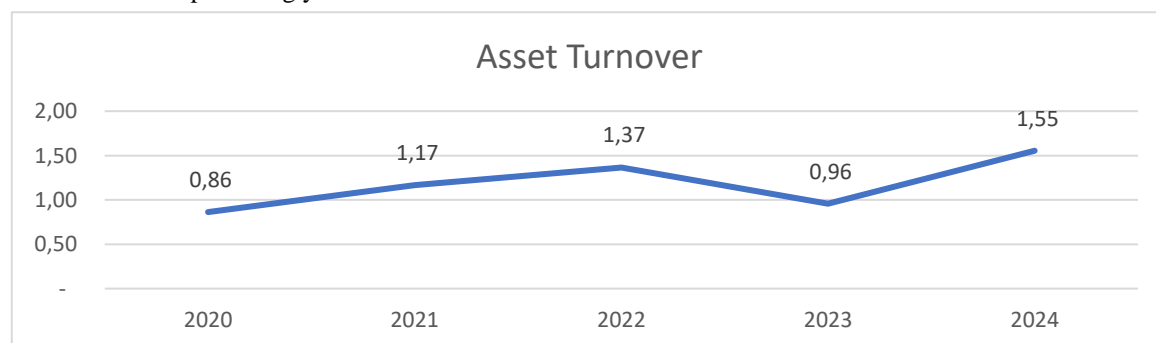


Figure 2. Aset Turnover (AT) Years 2020–2024

Source: Author's Analysis Based on Consolidated Financial Statements of PT ANTAM Tbk and Its Subsidiaries, 2020–2024.

Financial leverage/equity multiplier

From 2020 to 2024, the average financial leverage/equity multiplier stood at a positive 1.48. Figure 3 demonstrates, in 2020, the ratio stood at 0.86, indicating greater reliance on equity. The ratio gradually increased to 1.17 in 2021 and 1.37 in 2022, reflecting increased debt utilization. In 2023, it declined to 0.96, showing reduced debt dependence. However, in 2024, the ratio jumped sharply to 1.55 the highest in five years indicating a strategic increase in leverage to support expansion or working capital needs.

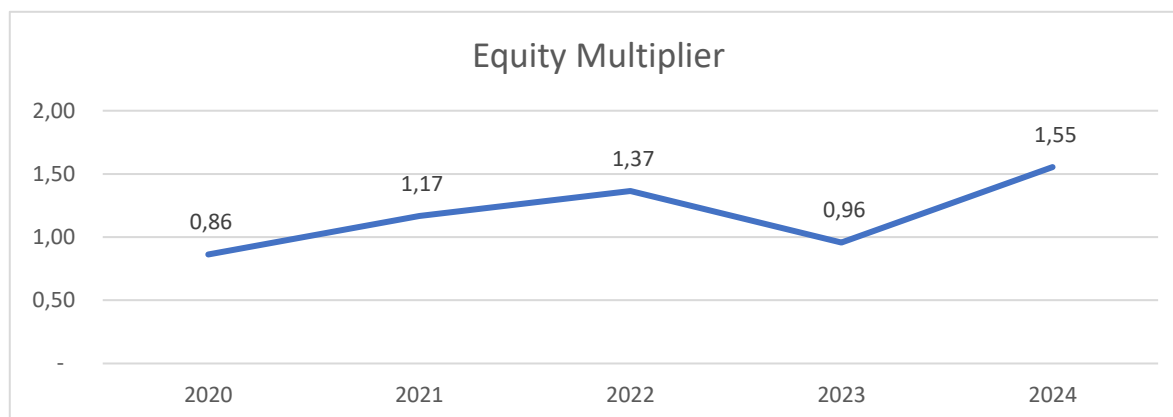


Figure 3. Equity Multiplier (EM) Years 2020–2024

Source: Author's Analysis Based on Consolidated Financial Statements of PT ANTAM Tbk and Its Subsidiaries, 2020–2024.

Return on Asset (ROA)

From 2020 to 2024, the average Return on Asset (ROA) stood at a positive 7.29%, reflecting the company's consistent ability to generate healthy earnings from its total assets and indicating efficient asset utilization. Figure 4 demonstrates, ROA increased from 2020 to 2022, then declined in 2023, before rising again in 2024. This consistent upward movement resulted in a total increase of 5.03%, from 3.62% in 2020 to 8.65% in 2024. The ROA trend reflects the company's efficiency in utilizing its total assets to generate profits. The sharp increase in 2022 indicates a period of highly efficient performance, while the subsequent decline highlights challenges in maintaining that efficiency. The recovery in 2024 sends a positive signal, yet ANTAM must continue focusing on optimal asset management to ensure this improving trend is sustained and supports long-term profitability.

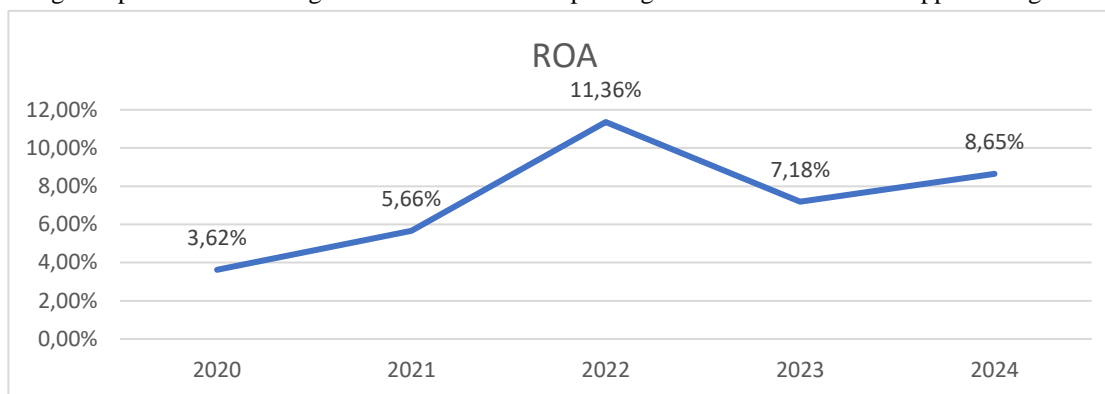


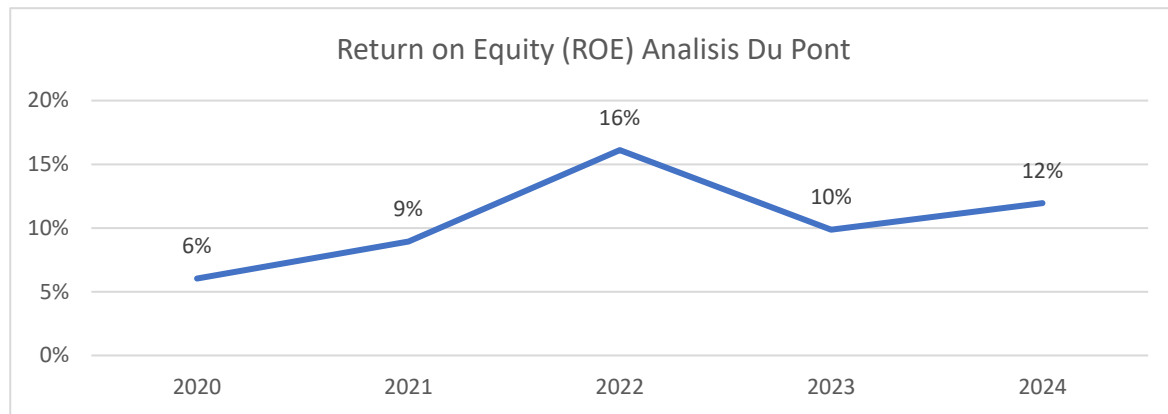
Figure 4. Return on Aset (ROA) Tahun 2020–2024

Source: Author's Analysis Based on Consolidated Financial Statements of PT ANTAM Tbk and Its Subsidiaries, 2020–2024.

Return on Equity (ROE) (Du Pont)

From 2020 to 2024, the average Return on Equity (ROE) Du Pont stood at a positive 10.58%, suggesting that the company was able to deliver solid returns to shareholders. Figure 5 demonstrates a steady increase, reaching its peak in 2022 at 16%. This reflects the company's strongest point in generating returns for shareholders, likely supported by improved profit margins, optimal asset turnover, or efficient leverage. However, in 2023, ROE declined sharply to 10%, possibly due to reduced profitability, lower operational efficiency, or changes in capital structure (such as decreased leverage). In 2024, ROE rebounded to 12%, although it has not yet returned to the peak level seen in 2022. This signals ongoing recovery efforts by the company, though further work is needed to restore ROE to its highest levels.

Overall, PT ANTAM Tbk's ROE shows a fluctuating pattern over the five-year period. Based on the DuPont analysis, these fluctuations highlight the importance of carefully managing the three key components that drive ROE profitability (profit margin), efficiency (asset turnover), and financial structure (leverage) as a decline in any one of these components will directly impact overall ROE performance.



Gambar 5. Return on Equity (ROE) Analisis Du Pont Tahun 2020–2024

Source: Author's Analysis Based on Consolidated Financial Statements of PT ANTAM Tbk and Its Subsidiaries, 2020–2024.

5. CONCLUSION AND RECOMMENDATIONS

5.1. CONCLUSION

The conclusion of the fundamental financial ratio analysis of PT ANTAM Tbk for the period 2020 to 2024 can be summarized as follows:

1. The financial performance analysis of PT ANTAM Tbk for the 2020–2024 period using financial ratio analysis reveals a positive performance with an average for the five years for net profit margin 6.09%, asset turnover 1.18, financial leverage/equity multiplier 1.48 and Return on Assets (ROA) 7.29%.
2. Furthermore, the analysis using the Du Pont ROE method also showed positive results, with an average of 10.58% over the 2020–2024 period. This indicates that, from a financial performance standpoint, PT ANTAM Tbk is in a healthy position.
3. To maximize Return on Equity (ROE), in accordance with the Du Pont principle, the focus must begin with the optimal and efficient utilization of existing assets, which in turn can generate strong profit margins and support improvements in the company's capital structure. Furthermore, given the lessons learned from PT ANTAM Tbk's financial performance during the 2020–2024 period—which has shown considerable fluctuations—management should take proactive steps to enhance margins and profitability by exploring new business development opportunities.

5.2. RECOMMENDATIONS

As a recommendation, PT ANTAM Tbk should focus on improving asset productivity to address the optimal ROE Dupont by exploring a new business developments that can deliver high margin and profitability. In addition, further research should assess the productivity of existing assets while enhancing operational efficiency, fostering innovation, and community engagement to maximize sustainable value creation.

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Chapter 12

Uncovering Financial Performance Trends of PT Prodia Widyahusada Tbk in a Post Pandemic Economy (2020 – 2024) through DuPont and Financial Ratio Analysis

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ABSTRACT

The period from 2020 to 2024 was characterized by significant macroeconomic volatility in Indonesia, driven primarily by the impacts of the COVID-19 pandemic and the subsequent path to recovery. These years saw major disruptions to economic activity, especially in the healthcare infrastructure and health services sector. Within this dynamic environment, the financial performance of companies in the healthcare industry, including PT Prodia Widyahusada Tbk (Prodia) became increasingly influenced by external economic factors. This study focuses on assessing PRDA's financial condition during this period, using ratio analysis and DuPont analysis to understand how macroeconomic challenges shaped its liquidity, solvency, profitability, and efficiency metrics. A key focus will be placed on understanding the determinants of Return on Equity (ROE), as it represents a comprehensive indicator of financial performance and shareholder value. The analysis revealed a strong but fluctuating ROE, which peaked at 27.0% in 2021 due to exceptional COVID-19 testing revenues, before normalizing to 11.7% in 2024. The DuPont decomposition identified net profit margin as the primary driver of ROE volatility, while total asset turnover and equity multiplier remained comparatively stable. The peak performance in 2021 showcases the firm's responsiveness to market opportunities during a public health crisis, while the subsequent normalization reflects the company's transition toward sustainable, long-term value creation in the post-pandemic healthcare landscape.

Keywords: COVID-19 Pandemic, Healthcare Sector, Macroeconomic, DuPont Analysis.

1. INTRODUCTION

Indonesia's healthcare system has seen remarkable progress in recent times, particularly in the clinical laboratory services segment. This expansion is driven by factors such as increased public health awareness, a rising prevalence of chronic diseases, and advancements in diagnostic technologies. In 2023, the Indonesian diagnostic lab market size was valued at approximately IDR 5.608 trillion and is projected to grow at a compound annual growth rate (CAGR) of 5.8% over 5 years, as shown in Figure 1.

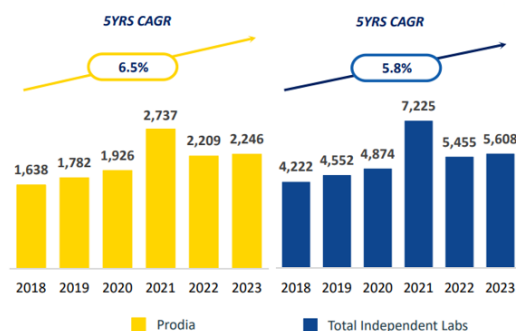


Figure-1: Indonesia's Diagnostic Lab Market Size (2018 - 2023)

Source: Annual Report PT Prodia Widyahusada Tbk, 2024

Amidst this dynamic landscape, PT Prodia Widyahusada Tbk stands out as a pioneering entity in Indonesia's clinical laboratory industry. Established in 1973, Prodia has consistently demonstrated a commitment to delivering high-quality diagnostic services across the nation. With a network of over 150 laboratories, the company has played a pivotal role in enhancing access to reliable diagnostic testing for the Indonesian population (Prodia, 2023).

Prodia's dedication to excellence is further evidenced by its early adoption of advanced diagnostic technologies and its emphasis on research and development. The company's continuous efforts have not only elevated the standards of laboratory services in Indonesia but also contributed to broader public health goals. In 2016, Prodia's commitment to transparency and corporate governance was recognized when it became a publicly listed company on the Indonesia Stock Exchange (Indonesia Stock Exchange [IDX], 2016).

As the requirement for clinical laboratory services keeps expanding, driven by the increasing burden of non-communicable diseases and a growing emphasis on preventive healthcare, Prodia's role becomes ever more significant. The company's strategic initiatives and expansive reach position it as a key player in addressing the evolving healthcare needs of Indonesia (Aisyah & Gunawan, 2021).

This study focuses on assessing PRDA's financial condition during this period, using ratio analysis and DuPont analysis to understand how macroeconomic challenges shaped its liquidity, solvency, profitability, and efficiency metrics. A key focus will be placed on understanding the determinants of Return on Equity (ROE), as it represents a comprehensive indicator of financial performance and shareholder value. The findings are expected to contribute to a better understanding of how private healthcare providers like PRDA have navigated systemic disruptions and adapted their financial strategies during a period of economic uncertainty.

2. LITERATURE REVIEW

2.1 Healthcare Laboratory in Indonesia

The healthcare laboratory industry in Indonesia has been extensively reshaped in the past ten years, influenced by demographic changes, healthcare reform, and the growing importance of diagnostic testing in clinical decision-making. The implementation of the national health insurance scheme, Jaminan Kesehatan Nasional (JKN), in 2014 significantly increased the demand for diagnostic services, particularly in underserved regions (Soewondo, P., et al., 2018). This initiative aimed to provide universal healthcare coverage to Indonesia's population and has had a notable impact on the volume and accessibility of laboratory testing.

Based on Figure-2, the Indonesian clinical laboratory market consists of both public and private players, with private entities increasingly dominating the high-end and specialized testing segment. Leading private providers, such as PT Prodia Widyahusada Tbk, Kimia Farma Diagnostika, and Pramita Lab, have expanded their networks nationwide, offering not only routine testing but also advanced diagnostics, including molecular biology, histopathology, and genomics (Aisyah, M. N., & Gunawan, J., 2021). These labs often serve as referral centers for public healthcare facilities that lack specialized testing infrastructure.



Figure-2: Market Share by Revenue, Independent Clinical Labs (2021 - 2023)

Source: Annual Report PT Prodia Widyahusada Tbk, 2024

Technology adoption is a key trend shaping the sector. The integration of digital health platforms, electronic medical records (EMRs), and laboratory information systems (LIS) has improved the accuracy and turnaround time of diagnostic services. Moreover, the emergence of precision medicine and next-generation sequencing (NGS) has led to the introduction of more sophisticated tests in urban-based reference laboratories (Satam et al, 2023).

2.2 Profitability in Corporate Finance

Profitability represents a fundamental indicator of a firm's financial health, reflecting its capacity to generate income relative to incurred operational and capital expenditures over a defined period. As noted by Brigham and Houston (2019), key profitability metrics serve as critical instruments for evaluating financial outcomes and facilitating cross-industry comparisons. In capital-intensive industries, particularly construction, maintaining profitability poses significant challenges due to extended project timelines, substantial fixed asset investments, and vulnerability to macroeconomic fluctuations. Prior empirical research suggests that state-owned enterprises (SOEs) frequently encounter persistent profitability constraints, often attributable to organizational inefficiencies and the influence of non-commercial, politically driven objectives (Megginson & Netter, 2001).

2.3 Du Pont Analysis Framework

The Du Pont analysis framework, originally conceptualized by the Du Pont Corporation in the early 20th century, remains a widely utilized methodology for dissecting Return on Equity (ROE) into its fundamental drivers: Net Profit Margin, Total Asset Turnover, and the Equity Multiplier (Stickney, Weil, Schipper, & Francis, 2010). This decomposition enables a more granular examination of a firm's financial performance by isolating the contributions of operational efficiency, profitability, and financial leverage. Gitman and Zutter (2015) emphasize the utility of the Du Pont system as a diagnostic tool for identifying financial strengths and weaknesses, particularly across capital-intensive industries such as construction and infrastructure.

3. RESEARCH METHOD

This study aims to explore how the financial performance of healthcare laboratory companies has evolved during and after the COVID-19 pandemic, employing quantitative methods such as financial ratio analysis and the DuPont system to examine the underlying factors contributing to their resilience and growth. Theoretically, it advances the understanding of financial stability and strategic adaptation in the healthcare laboratory sector amid crisis conditions. Practically, the findings offer valuable guidance to corporate managers, investors, and policymakers in emerging markets on leveraging financial indicators and strategic financial management to navigate disruptions and maintain sustainable performance.

3.1 Financial Ratio Analysis

Financial ratio analysis is a quantitative tool used to assess a company's financial condition and performance by examining relationships among various financial statement items. These ratios provide standardized metrics that enable stakeholders—such as investors, creditors, analysts, and management—to evaluate a firm's operational efficiency, profitability, liquidity, solvency, and overall financial stability over time or in comparison with industry peers (Brigham & Houston, 2019). The analysis typically involves categorizing financial ratios into key groups:

3.1.1 Profitability Ratios

These ratios assess a firm's capacity to produce profits in relation to its total revenue, asset base, or shareholders' equity.

a. Net Profit Margin

This ratio indicates the extent to which each rupiah of revenue contributes to net income. An elevated margin suggests enhanced profitability, reflecting the firm's efficiency in managing operational costs, implementing effective pricing strategies, and controlling overall expenditures.

$$NPM = \frac{\text{Net Income}}{\text{Total Revenue}} \times 100\%$$

(Brigham & Houston, 2019)

b. Return on Assets (ROA)

Return on Assets (ROA) assesses the efficiency with which a company utilizes its total assets to produce net income. A higher ROA indicates a more effective deployment of assets in generating profits, reflecting strong operational performance relative to the firm's asset base.

$$ROA = \frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$$

(Brigham & Houston, 2019)

c. Earnings per Share (EPS)

Earnings Per Share (EPS) represents the portion of a company's net income attributable to each outstanding share of common stock. A higher EPS reflects stronger profitability and is typically interpreted by investors as a sign of favorable financial performance and value creation.

$$EPS = \frac{\text{Net Income}}{\text{Number of Shares Outstanding}} \times 100\%$$

(Brigham & Houston, 2019)

3.1.2 Liquidity Ratios

Liquidity ratios evaluate a firm's capacity to fulfill its short-term liabilities by utilizing its current assets, thereby indicating the organization's short-term financial health and operational flexibility

a. Current Ratio

This ratio measures the extent to which a company's short-term assets are sufficient to cover its short-term liabilities. A value above 1.0 is typically viewed as a sign of sound liquidity; however, an excessively high ratio may suggest inefficient asset utilization or overly conservative working capital management.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} \times 100\%$$

(Brigham & Houston, 2019)

b. Quick Ratio

This ratio reflects a company's capacity to settle its current obligations using its most liquid assets, excluding inventories. A higher value indicates greater short-term financial strength and a more conservative liquidity position.

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventories}}{\text{Current Liabilities}} \times 100\%$$

(Brigham & Houston, 2019)

3.1.3 Efficiency Ratios

Efficiency ratios assess a company's effectiveness in utilizing its assets and operational resources to generate revenue and manage inventory levels. These metrics provide insight into how the firm optimizes its operations to support business performance.

a. Total Asset Turnover

This ratio evaluates the effectiveness with which a company utilizes its assets to generate revenue. A higher value signifies greater operational efficiency and more productive use of the firm's asset base.

$$\text{Total Asset Turnover} = \frac{\text{Total Revenue}}{\text{Total Assets}} \times 100\%$$

(Brigham & Houston, 2019)

b. Inventory Turnover

This ratio quantifies the rate at which a company sells and replenishes its inventory within a given timeframe. A higher turnover indicates effective inventory management; however, excessively high turnover may imply potential stock shortages or missed sales opportunities.

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}} \times 100\%$$

(Brigham & Houston, 2019)

3.1.4 Solvency Ratios

Solvency ratios evaluate a company's ability to meet its long-term financial obligations and the extent to which it depends on debt financing to support its operations.

Debt-to-Equity Ratio

The debt-to-equity ratio compares a company's total liabilities to its shareholders' equity, reflecting the proportion of debt used to finance the firm's assets. A lower ratio indicates reduced financial risk and a more conservative capital structure, whereas a higher ratio signifies increased leverage and heightened vulnerability to economic downturns.

$$\text{Debt-to-Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Total Equity}} \times 100\%$$

(Brigham & Houston, 2019)

3.2 Du Pont Analysis

As part of the analytical framework in this study, the Du Pont analysis is applied to evaluate the profitability and overall financial performance of PT Prodia Widyahusada Tbk during the period 2020–2024. The Du Pont model decomposes Return on Equity (ROE) into three key components: Net Profit Margin, which captures operational efficiency; Total Asset Turnover, reflecting asset utilization; and the Equity Multiplier, which measures financial leverage (Brigham & Houston, 2019). This analytical approach enables a systematic investigation into the underlying drivers of fluctuations in ROE, facilitating a more nuanced understanding of Prodia's financial dynamics in response to internal performance and external market conditions. Such decomposition is particularly useful in service-based industries like healthcare, where margins and asset structures differ significantly from capital-intensive sectors (Higgins, 2012).

3.2.1 Net Profit Margin

The Net Profit Margin serves as an indicator of a firm's efficiency in translating revenue into net earnings, derived by dividing net income by total revenue. This ratio offers critical insight into the effectiveness of the company's cost management, pricing strategy, and overall profitability. A higher net profit margin typically reflects stronger financial performance and operational efficiency, whereas a declining margin may indicate escalating expenses, diminishing pricing power, or operational inefficiencies.

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Total Revenue}} \times 100\%$$

(Brigham & Houston, 2019)

3.2.2 Total Asset Turnover

Total Asset Turnover is a financial metric derived by dividing total revenue by total assets, offering a measure of how efficiently a company employs its asset base to generate sales. This ratio reflects the effectiveness of resource utilization in supporting operational activities. A higher Total Asset Turnover indicates more efficient asset usage, whereas a lower ratio may point to underutilized assets or inefficiencies in asset management practices.

$$\text{Total Asset Turnover} = \frac{\text{Total Revenue}}{\text{Total Assets}}$$

(Higgins, 2012)

3.2.3 Equity Multiplier

The Equity Multiplier, determined by dividing total assets by total equity, functions as an indicator of a firm's financial leverage. It illustrates the degree to which a company's asset base is financed through shareholder equity relative to debt. A higher equity multiplier denotes increased reliance on debt financing, potentially elevating financial risk, whereas a lower ratio implies a more conservative approach to capital structure with greater dependence on equity funding.

$$\text{Equity Multiplier} = \frac{\text{Total Assets}}{\text{Total Equity}}$$

(Ross, Westerfield, & Jordan, 2018)

3.2.4 Return on Equity (ROE)

Return on Equity (ROE) is a key indicator of a company's profitability relative to shareholders' equity. The Du Pont Analysis provides a deeper insight into the components driving ROE by breaking it down into three fundamental factors: net profit margin,

asset turnover, and equity multiplier. This decomposition allows analysts to understand not just how much return is generated on equity, but why that return is achieved.

$$ROE = \text{Net Profit Margin} \times \text{Asset Turnover} \times \text{Equity Multiplier}$$

(Brigham & Houston, 2019)

4. RESULT AND DISCUSSION

4.1 Financial Ratio Analysis

Table-1: PRDA Financial Analysis Calculation, 2020 - 2024

REFERENCE	FINANCIAL RATIO	YEAR				
		2020	2021	2022	2023	2024
3.1.1		PROFITABILITY RATIOS				
a	Net Profit Margin	14.3%	23.5%	17.0%	11.7%	12.0%
	Net Income	268,747	623,230	371,626	259,324	270,041
	Total Revenue	1,873,375	2,652,257	2,181,642	2,222,466	2,252,194
b	Return on Asset (ROA)	12.0%	23.1%	13.9%	9.6%	9.5%
	Net Income	268,747	623,230	371,626	259,324	270,041
	Total Assets	2,232,052	2,702,163	2,669,591	2,708,056	2,840,136
c	Earning per Share (EPS)	286.7	664.8	396.4	276.6	288.0
	Net Income	268,747	623,230	371,626	259,324	270,041
	Number of Share Outstanding	937.5	937.5	937.5	937.5	937.5
3.1.2		LIQUIDITY RATIOS				
a	Current Ratio	6.5	6.6	6.4	5.5	4.3
	Current Assets	1,360,012	1,769,058	1,464,980	1,291,760	1,066,470
	Current Liabilities	210,115	268,910	230,224	235,030	250,718
b	Quick Ratio	6.1	6.4	6.2	5.3	4.1
	Current Assets	1,360,012	1,769,058	1,464,980	1,291,760	1,066,470
	Inventories	68,199	46,541	45,168	42,266	42,803
	Current Liabilities	210,115	268,910	230,224	235,030	250,718
3.1.3		EFFICIENCY RATIOS				
a	Total Asset Turnover (times)	0.8	1.0	0.8	0.8	0.8
	Total Revenue	1,873,375	2,652,257	2,181,642	2,222,466	2,252,194
	Total Assets	2,232,052	2,702,163	2,669,591	2,708,056	2,840,136
b	Inventory Turnover (times)	12.1	21.9	18.9	21.4	21.0
	COGS	827,152	1,019,556	854,535	903,247	900,167
	Inventories	68,199	46,541	45,168	42,266	42,803
3.1.4		SOLVENCY RATIOS				
	Debt-to-Equity Ratio	0.2	0.2	0.2	0.2	0.2
	Total Liabilities	370,790	391,720	358,450	347,450	355,450
	Total Equity	1,845,210	2,310,440	2,311,140	2,306,100	2,311,140

Source: Prodia' Financial Statement, Author's Analysis (2025)

According to Table-1, PT Prodia Widyahusada Tbk's financial performance from 2020 to 2024 reflects notable shifts associated with the onset and aftermath of the COVID-19 pandemic. Prior to the pandemic, Prodia demonstrated consistent growth driven by rising demand for healthcare diagnostics in Indonesia. Notably, the company achieved its highest Return on Assets (ROA) in 2021 at 23.1%, reflecting effective asset utilization despite pandemic-related challenges. This peak in ROA indicates that Prodia managed to maintain strong profitability relative to its asset base during a period when many healthcare providers faced operational disruptions. Meanwhile, the company's financial leverage, as measured by the debt-to-equity ratio, remained stable at approximately 0.2 throughout the 2020–2024 period. This low and consistent ratio underscores Prodia's conservative capital structure, limiting financial risk and ensuring sustainable solvency even during periods of economic uncertainty.

Post-pandemic recovery became evident in 2023 and intensified in 2024, as Prodia reported a rebound in revenue and profitability. In 2023, revenues were recorded at approximately IDR 2.22 trillion with a net profit of IDR 259 billion. By 2024, revenue increased modestly by 1.3% to IDR 2.25 trillion, while net profit improved by 4% to IDR 270 billion. This recovery aligns with increased demand for diagnostic services, especially in the routine testing segment.

Liquidity and financial stability indicators also improved in the post-pandemic period. The current ratio rose to 4.3 in 2024, indicating strong short-term solvency and financial flexibility compared to the more constrained liquidity environment during the pandemic peak. Additionally, earnings per share (EPS) grew to IDR 288 in 2024.

4.2 DuPont Analysis

Table-2: PRDA Du Pont Analysis, 2020 – 2024

REFERENCE	COMPONENTS	YEAR					Average
		2020	2021	2022	2023	2024	
3.2.1	Net Profit Margin	14.3%	23.5%	17.0%	11.7%	12.0%	15.7%
3.2.2	Asset Turnover	0.8	1.0	0.8	0.8	0.8	0.9
3.2.3	Equity Multiplier	1.21	1.17	1.16	1.17	1.23	1.19
3.2.4	Return on Equity (ROE)	14.6%	27.0%	16.1%	11.2%	11.7%	16.1%

Source: Prodia' Financial Statement, Author's Analysis

The Return on Equity (ROE) of PT Prodia Widyahusada Tbk between 2020 and 2024 offers a comprehensive view of the company's ability to generate shareholder value across varying macroeconomic and healthcare conditions, as shown in Table-2.

In 2020, during the onset of the COVID-19 pandemic, Prodia recorded an ROE of 14.6%. This reflected a moderate but solid return, considering the widespread disruptions in routine healthcare services. The most notable performance occurred in 2021, when ROE surged to 27.0% which is the highest within the observed five-year period. This spike was largely driven by an extraordinary increase in demand for diagnostic testing, particularly COVID-19-related services. Prodia effectively leveraged this demand through operational scalability and cost control, resulting in exceptional profitability. Enhanced asset turnover and strong profit margins during this period significantly contributed to the elevated ROE, as explained through the DuPont decomposition.

In 2022, ROE decreased to 16.1%, signalling a return to more normalized levels of healthcare demand as pandemic-specific services declined. While the company maintained strong fundamentals, the dissipation of pandemic-related revenue streams led to a recalibration of financial returns. This trend continued into 2023, when ROE fell further to 11.2%, the lowest in the five-year period. This decline likely reflects a combination of sector-wide normalization, increasing competitive pressure in the diagnostic market, and rising operational costs associated with digital transformation and service diversification.

By 2024, PRDA saw a modest improvement in ROE to 11.7%, supported by strategic realignment toward core diagnostic services, enhanced efficiency measures, and a more stabilized post-pandemic operating environment. This multi-dimensional approach is particularly useful for understanding capital efficiency in the healthcare diagnostics sector (Gitman & Zutter, 2015; Stickney et al., 2010).

5. CONCLUSION AND RECOMMENDATIONS

This study applied financial ratio analysis and the DuPont system to evaluate the financial performance of PT Prodia Widyahusada Tbk (PRDA) over the 2020–2024 period. The analysis revealed a strong but fluctuating Return on Equity (ROE), which peaked at 27.0% in 2021 due to exceptional COVID-19 testing revenues, before normalizing to 11.7% in 2024. The DuPont decomposition identified net profit margin as the primary driver of ROE volatility, while total asset turnover and equity multiplier remained comparatively stable.

Based on these insights, several recommendations are proposed:

1. Improving asset utilization through strategic investment in automation, integrated laboratory systems, and digital health platforms may enhance operational throughput and revenue generation without proportional increases in capital expenditure.
2. Tightening inventory management, particularly for reagents and diagnostic supplies that can reduce working capital needs and free up resources for higher-yield investments.
3. To enhance shareholder value, PRDA should consider optimizing its dividend policy in line with sustainable earnings growth and ROE stability. Transparent communication of capital allocation strategies and operational efficiency initiatives will be critical to reinforcing investor confidence in a competitive and evolving healthcare diagnostics market.

In summary, Prodia's ROE trajectory from 2020 to 2024 illustrates a cycle of resilience, adaptation, and recovery. The peak performance in 2021 showcases the firm's responsiveness to market opportunities during a public health crisis, while the subsequent normalization reflects the company's transition toward sustainable, long-term value creation in the post-pandemic healthcare landscape.

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