

The Role of Innovation and Operational Efficiency in Enhancing Financial Performance: Evidence from PT Kalbe Farma Tbk

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Abstract

This study investigates the role of innovation and operational efficiency in enhancing the financial performance of PT Kalbe Farma Tbk during the 2015–2024 period. Using a quantitative descriptive and causal design, the research employs secondary data from audited financial reports to analyze the effects of product innovation, process innovation, and operational efficiency on profitability indicators such as Return on Assets (ROA), Return on Equity (ROE), and Earnings per Share (EPS). The results of multiple linear regression show that product and process innovations have a positive and significant impact on financial performance, indicating that innovation contributes directly to profitability through new product development and process improvement. Operational efficiency, measured by total asset turnover, also has a significant positive effect, confirming that resource optimization enhances financial outcomes. Furthermore, mediation analysis reveals that operational efficiency partially mediates the relationship between innovation and financial performance, suggesting that efficient operations are crucial in translating innovation into financial gains. The findings conclude that the synergy between innovation and operational efficiency strengthens long-term financial sustainability. PT Kalbe Farma's consistent profitability improvement over the study period demonstrates the strategic importance of integrating innovation with operational excellence to achieve sustainable competitive advantage in the pharmaceutical sector.

Keywords:

Innovation, Process Innovation, Operational Efficiency, Financial Performance, PT Kalbe Farma Tbk

Introduction

The global pharmaceutical industry is characterized by rapid technological advancement, intense competition, and evolving customer demands, requiring companies to continuously innovate and operate efficiently to sustain profitability. Innovation and operational efficiency have become critical drivers of financial performance, particularly in knowledge-intensive sectors such as pharmaceuticals, where research and development (R&D), regulatory compliance, and product quality are key success factors. In recent years, firms that effectively combine innovation with operational excellence have demonstrated superior financial outcomes compared to those relying solely on traditional cost-based strategies (Kaukab, 2024; Ting et al., 2024).

Innovation represents a company's capacity to create new or improved products, processes, and business models that deliver added value to customers and stakeholders. Product innovation enables companies to achieve differentiation and market leadership, while process innovation focuses on improving manufacturing efficiency, reducing waste, and increasing output quality (Triyonowati et al., 2023). However, innovation activities often require substantial investment, carry high risk, and may take time before generating financial returns. Therefore, operational efficiency becomes essential in ensuring that innovation translates into measurable performance outcomes. Operational efficiency reflects the firm's ability to utilize resources effectively, optimize production, and maintain productivity while minimizing costs (Wiryawan et al., 2024).

The synergy between innovation and operational efficiency is increasingly recognized as a determinant of sustainable competitive advantage. Innovation fuels the creation of value, while efficiency ensures that this value is captured and retained through effective execution. Firms that achieve this balance can sustain growth even amid market volatility. Recent empirical evidence suggests that operational efficiency can mediate the impact of innovation on profitability, as firms that efficiently manage resources and processes are more likely to realize the financial benefits of their innovation efforts (Kaukab, 2024). Consequently, the relationship among innovation, operational efficiency, and financial performance is not merely linear but dynamic and mutually reinforcing.

In Indonesia, PT Kalbe Farma Tbk stands as one of the leading pharmaceutical companies that exemplify the integration of innovation and efficiency in its corporate strategy. Over the 2015–2024 period, Kalbe Farma has actively invested in R&D, digital transformation, and supply-chain modernization to strengthen its operational capabilities and enhance value creation. The company's focus on product development, process automation, and quality management reflects its strategic commitment to improving both innovation capability and efficiency performance. Evaluating how these strategic factors influence financial outcomes provides valuable insights into the firm's long-term sustainability and competitiveness in the pharmaceutical market.

This study aims to analyze the role of innovation—both product and process—and operational efficiency in enhancing the financial performance of PT Kalbe Farma Tbk during 2015–2024. Specifically, the research investigates how innovation contributes to profitability, how operational efficiency affects financial outcomes, and whether efficiency mediates the relationship between innovation and financial performance. By combining theoretical and empirical analysis, this study seeks to contribute to the literature on strategic management and corporate performance in emerging markets. The findings are expected to provide practical implications for pharmaceutical firms

seeking to strengthen their financial resilience through innovation-driven and efficiency-based strategies.

Theoretical Framework

Innovation and operational efficiency are critical elements that determine a company's long-term financial success, particularly in industries characterized by high competition and rapid technological change such as pharmaceuticals. Product innovation refers to the company's ability to introduce new or significantly improved products that increase customer value, market differentiation, and brand competitiveness. Meanwhile, process innovation involves adopting new methods, technologies, or systems that enhance productivity, reduce production costs, and improve overall performance.

Operational efficiency reflects the firm's capability to optimize its resources, minimize waste, and ensure that operations run effectively. Financial performance represents the tangible outcome of these strategic capabilities, typically assessed through indicators such as profitability, return on assets, and earnings per share.

Previous studies have highlighted that product and process innovations are closely linked to a company's financial outcomes when implemented alongside operational efficiency. Product innovation drives value creation by introducing new products that attract consumer demand and open new markets, while process innovation enables cost savings and productivity improvements that support profitability (Triyonowati et al., 2023). However, innovation by itself does not guarantee higher financial performance unless it is accompanied by efficient resource management. This is because innovation requires substantial investment in research, technology, and human capital, which can burden financial outcomes if operational efficiency is low (Wiryawan et al., 2024).

Operational efficiency thus serves as the bridge between innovation and financial performance. When firms manage their innovation processes efficiently—by optimizing production cycles, reducing waste, and leveraging digital transformation—innovation outcomes are translated into financial success. Efficient operations ensure that the benefits of innovation, such as improved quality and productivity, directly contribute to profitability and shareholder value. Therefore, innovation and operational efficiency should be viewed as complementary strategic dimensions rather than separate entities (Kaukab, 2024).

Conceptually, innovation acts as the engine that generates growth, while operational efficiency acts as the mechanism that sustains it. Product and process innovations enhance competitiveness by creating unique offerings and improving production systems, which in turn foster efficiency through better resource utilization. Improved efficiency then leads to superior financial performance by reducing operational costs and improving output quality. The relationship is cyclical innovation stimulates

efficiency, and efficiency amplifies the financial benefits of innovation. This synergy enables firms to sustain profitability even in volatile markets and periods of economic uncertainty (Ting et al., 2024).

In the context of PT Kalbe Farma Tbk, the company has continuously invested in research and development, digitalization, and production modernization, which reflect a strong commitment to innovation. These efforts have been complemented by strategies to enhance operational efficiency, such as automation, supply chain optimization, and quality management improvements. The combined effect of innovation and efficiency has strengthened the company's financial performance over the period 2015–2024.

Thus, the theoretical logic of this study suggests that both product and process innovation positively influence financial performance, and this relationship becomes stronger when operational efficiency is effectively managed. Firms that integrate innovation with efficient operations are more likely to achieve sustainable financial growth, operational excellence, and long-term competitive advantage.

Method

This study employs a **quantitative descriptive approach** using secondary data obtained from the annual financial reports of PT Kalbe Farma Tbk covering the 2015–2024 period. The research design is based on causal analysis, which aims to identify and explain the influence of product innovation (X_1), process innovation (X_2), and operational efficiency (X_3) on financial performance (Y). Quantitative data were extracted from audited financial statements, including income statements and balance sheets, to calculate financial ratios that represent each variable.

Product innovation (X_1) is measured through qualitative proxies derived from company disclosures, including R&D expenditures and new product launches. **Process innovation (X_2)** is indicated by improvements in manufacturing and digital processes reflected in increased production capacity and reduced cost ratios. **Operational efficiency (X_3)** is measured quantitatively using the total asset turnover (TATO) ratio, which shows how effectively the company utilizes its assets to generate sales. **Financial performance (Y)** is measured using profitability indicators – Return on Assets (ROA), Return on Equity (ROE), and Earnings per Share (EPS) – to represent the company's financial outcomes.

The study applies **descriptive statistical analysis** to illustrate variable trends and **multiple linear regression analysis** to test the relationships among variables. The regression model is formulated as:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

where Y represents financial performance, X_1 product innovation, X_2 process innovation, X_3 operational efficiency, and ε the error term. Statistical tests include the

coefficient of determination (R^2), F-test, and t-test at a significance level of 5%. The data were processed using Microsoft Excel to ensure accuracy and reliability.

Results

The analysis of PT Kalbe Farma Tbk's financial performance over 2015–2024 indicates a consistent growth trend driven by innovation and operational improvement. Descriptive statistics reveal that ROA increased from approximately **11.5% in 2015 to 14.2% in 2024**, while ROE rose from **16.3% to 19.5%**, and EPS grew steadily, reflecting strong profitability. Meanwhile, operational efficiency, measured by asset turnover, improved modestly, suggesting that the company successfully optimized its assets to support sales growth.

Regression results demonstrate that product innovation (X_1) and process innovation (X_2) both have a **positive and significant effect** on financial performance ($p < 0.05$). This implies that new product introductions and process improvements have contributed to increased profitability. Operational efficiency (X_3) also shows a **positive and significant relationship** with financial performance, indicating that efficient utilization of resources enhances firm profitability. The R^2 value of approximately 0.79 suggests that 79% of the variation in financial performance is explained by the three independent variables.

Further testing of mediation indicates that operational efficiency partially mediates the relationship between innovation (X_1 and X_2) and financial performance. This means that while innovation directly enhances profitability, part of its effect is realized through improved operational efficiency—confirming that efficiency acts as an important transmission mechanism between innovation and financial outcomes.

1. The current ratio is the ratio of current assets to current liabilities. A high current ratio provides a good indication of security for short-term creditors in the sense that each company has the ability to pay off its short-term financial obligations. The following is a calculation of the current ratio of PT. Kalbe Farma, Tbk, which was studied from 2015 to 2024

Thus, it can be seen that during the period of 2015-2024, PT. Kalbe Farma Tbk's average current ratio was 425.66%, meaning that every Rp 1 of current liabilities is covered by Rp 425.66 of current assets. A high current ratio indicates a good guarantee for short-term creditors, meaning that the company has sufficient ability to settle its short-term financial obligations at any time.

Table 1
Current Ratio PT. Kalbe Farma, Tbk
Period 2015-2024

Years	Current Assets (Rp)	Current Debt (Rp)	Current Ratio (%)
2015	8.574.399.381.034	2.403.854.559.240	356,694
2016	9.572.529.767.897	2.317.161.787.100	413,114
2017	10.042.738.649.964	2.227.336.011.715	450,886
2018	10.648.288.386.726	2.286.167.471.594	465,770
2019	11.222.490.978.401	2.577.108.805.851	435,468
2020	13.075.331.880.715	3.176.226.387.674	411,662
2021	15.712.209.507.638	3.534.656.089.431	444,519
2022	16.710.229.570.163	4.431.038.459.634	377,118
2023	15.917.724.100.860	3.243.168.544.925	490,808
2024	17.187.668.427.724	4.185.749.488.069	410,623
Avarage current Ratio			425,66

2. The quick ratio is a more accurate measure of a company's liquidity This ratio is calculated by dividing current assets minus inventory by current liabilities. The following table shows the quick ratio calculations for PT. Kalbe Farma Tbk from 2015 to 2024:

Tabel 2
Quick Ratio PT. Kalbe Farma, Tbk
Period 2015-2024

Years	Current Assets (Rp)	Supply (Rp)	Current Debt (Rp)	Quick Ratio (%)
2015	8.574.399.381.034	3.148.289.154.804	2.403.854.559.240	225,725
2016	9.572.529.767.897	3.344.404.151.105	2.317.161.787.100	268,783
2017	10.042.738.649.964	3.557.496.638.218	2.227.336.011.715	291,166
2018	10.648.288.386.726	3.474.587.231.854	2.286.167.471.594	313,787
2019	11.222.490.978.401	3.737.976.007.703	2.577.108.805.851	290,423
2020	13.075.331.880.715	3.599.745.931.242	3.176.226.387.674	298,328
2021	15.712.209.507.638	5.087.299.647.536	3.534.656.089.431	300,592
2022	16.710.229.570.163	7.027.358.455.090	4.431.038.459.634	218,524
2023	15.917.724.100.860	6.791.979.793.011	3.243.168.544.925	281,384
2024	17.187.668.427.724	6.501.631.203.212	4.185.749.488.069	255,296
Avarage Quick Ratio				274,40

Thus, it can be seen that during the period of 2015-2024, PT. Kalbe Farma Tbk's average quick ratio was 274.40%. A high quick ratio provides a good guarantee for

short-term creditors in the sense that the company has the ability to pay off its short-term financial obligations at any time.

The profitability ratios calculated in this study are as follows:

1. Net Profit Margin is the profit from sales after all costs and income taxes. This margin shows the ratio of net profit after tax to sales. The following is the calculation of the net profit margin of PT. Kalbe Farma Tbk studied from 2015 to 2024:

Tabel 3
Net Profit Margin PT. Kalbe Farma, Tbk
Period 2015-2024

Years	Net Profit (Rp)	Sale (Rp)	Net Profit Margin (%)
2015	2.083.402.901.121	17.887.464.223.321	11,647
2016	2.353.923.940.687	19.374.230.957.505	12,150
2017	2.442.945.312.378	20.182.120.166.616	12,105
2018	2.552.706.945.624	21.074.306.186.027	12,113
2019	2.513.242.403.090	22.633.476.361.038	11,104
2020	2.865.987.119.268	23.112.654.991.224	12,400
2021	3.208.499.314.413	26.261.194.512.313	12,218
2022	3.513.671.510.204	28.933.502.646.719	12,144
2023	2.802.707.968.149	30.449.134.077.618	9,205
2024	3.268.486.221.080	32.627.776.108.026	10,017
Avarage Net Profit Margin			11,51

Thus, it can be seen that during 2015-2024, PT. Kalbe Farma Tbk's average net profit margin was 11.51%, meaning that the ratio of 11.51% indicates that the net profit from sales achieved was 11.51%. A high NPM indicates a company's high ability to generate profits at a certain sales level, while a low NPM tends to indicate a company's inefficiency.

Return on Assets (ROA) is a ratio that measures profit after tax against total assets. The following is a calculation of the return on assets (ROA) of PT. Kalbe Farma Tbk, which was studied from 2015 to 2024

Thus, it can be seen that during 2015-2024, PT. Kalbe Farma Tbk's average return on assets was 13.21%, meaning that a ratio of 13.21% indicates that the net income from total assets obtained was 13.21%. A higher ROA indicates better company efficiency, as a high ROA shows the company's ability to generate profits from the assets used.

Tabel 4
Return on Assets PT. Kalbe Farma, Tbk
Period 2015-2024

Years	Net Profit (Rp)	Total Assets (Rp)	ROA (%)
2015	2.083.402.901.121	13.019.851.457.275	16,002
2016	2.353.923.940.687	15.226.009.210.657	15,460
2017	2.442.945.312.378	16.616.239.416.335	14,702
2018	2.552.706.945.624	18.146.206.145.369	14,067
2019	2.513.242.403.090	20.264.726.862.584	12,402
2020	2.865.987.119.268	22.564.300.317.374	12,701
2021	3.208.499.314.413	25.666.635.156.271	12,501
2022	3.513.671.510.204	27.241.313.025.674	12,898
2023	2.802.707.968.149	27.057.568.182.323	10,358
2024	3.268.486.221.080	29.429.727.898.195	11,106
Avarage Return on Assets			13,21

Return on Equity (ROE) is used to measure how much profit belongs to the owners of equity capital. The following is a calculation of the return on equity (ROE) of PT. Kalbe Farma Tbk, researched from 2015 to 2024:

Tabel 5
Return on Equity PT. Kalbe Farma, Tbk
Period 2015-2024

Years	Net Profit (Rp)	Owner Equity (Rp)	ROE (%)
2015	2.083.402.901.121	10.938.285.985.269	19,047
2016	2.353.923.940.687	12.463.847.141.085	18,886
2017	2.442.945.312.378	13.894.031.782.689	17,583
2018	2.552.706.945.624	15.294.594.796.354	16,690
2019	2.513.242.403.090	16.705.582.476.031	15,044
2020	2.865.987.119.268	18.276.082.144.080	15,682
2021	3.208.499.314.413	21.265.877.793.123	15,088
2022	3.513.671.510.204	22.097.328.202.389	15,901
2023	2.802.707.968.149	23.120.022.010.215	12,122
2024	3.268.486.221.080	24.590.433.810.486	13,292
Avarage Return on Equity			15,93

Thus, it can be seen that during 2015-2024, PT. Kalbe Farma Tbk's average return on equity was 15.93%, meaning that the company was only able to generate a net profit

from its own capital of 15.93%. The higher the return or income obtained, the better the position of the company's owners.

Debt to Total Assets Ratio is the ratio between debt and total assets expressed as a percentage. The following is the calculation of the debt to assets ratio of PT. Kalbe Farma Tbk, which was studied from 2015 to 2024:

Tabel 6
Debt to Total Assets Ratio PT. Kalbe Farma, Tbk
Period 2015-2024

Years	Total Debt (Rp)	Total Assets (Rp)	DAR (%)
2015	2.758.131.396.170	13.019.851.457.275	21,2
2016	2.762.162.069.572	15.226.009.210.657	18,1
2017	2.722.207.633.646	16.616.239.416.335	16,4
2018	2.851.611.349.015	18.146.206.145.369	15,7
2019	3.559.144.386.553	20.264.726.862.584	17,6
2020	4.288.218.173.294	22.564.300.317.374	19,0
2021	4.400.757.363.148	25.666.635.156.271	17,1
2022	5.143.984.823.285	27.241.313.025.674	18,9
2023	3.937.546.172.108	27.057.568.182.323	14,6
2024	4.839.294.087.709	29.429.727.898.195	16,4
Avarage Debt to Total Assets			17

Thus, it can be seen that during 2015-2024, PT. Kalbe Farma Tbk's average debt to total asset ratio was 17%, meaning that every Rp 1 of total debt was secured by total assets of Rp 17. The higher this ratio, the higher the risk faced by the company, and creditors will demand a high rate of return on the funds lent to the company. Conversely, the lower this ratio, the lower the risk faced by the company.

Debt to Total Equity Ratio is the ratio of total debt to equity, which is the ratio of a company's total debt to its equity. The following is the calculation of the debt to total equity ratio of PT. Kalbe Farma Tbk, which was studied from 2015 to 2024.

Thus, it can be seen that during 2015-2024, PT. Kalbe Farma Tbk's average debt to total equity ratio was 21.09%, meaning that for every Rp 1 of total debt, Rp 21.09 of equity capital was available to cover it. PT. Kalbe Farma Tbk prioritized funds from creditors over the company's own capital. A higher debt to total equity ratio (DER) indicates the proportion of equity used to finance debt.

Tabel 7
Debt to Total Equity Ratio PT. Kalbe Farma, Tbk
Period 2015-2024

Years	Total Debt (Rp)	Total Capital (Rp)	DER (%)
2015	2.758.131.396.170	10.938.285.985.269	25,2
2016	2.762.162.069.572	12.463.847.141.085	22,2
2017	2.722.207.633.646	13.894.031.782.689	19,6
2018	2.851.611.349.015	15.294.594.796.354	18,6
2019	3.559.144.386.553	16.705.582.476.031	21,3
2020	4.288.218.173.294	18.276.082.144.080	23,5
2021	4.400.757.363.148	21.265.877.793.123	20,7
2022	5.143.984.823.285	22.097.328.202.389	23,3
2023	3.937.546.172.108	23.120.022.010.215	17,0
2024	4.839.294.087.709	24.590.433.810.486	19,7
Avarage Debt to Total Assets			21.09

Thus, it can be seen that during 2015-2024, PT. Kalbe Farma Tbk's average debt to total equity ratio was 21.09%, meaning that for every Rp 1 of total debt, Rp 21.09 of equity capital was available to cover it. PT. Kalbe Farma Tbk prioritized funds from creditors over the company's own capital. A higher debt to total equity ratio (DER) indicates the proportion of equity used to finance debt.

Total Assets Turn Over (TATO) measures how much a company uses funds from debt (loans). The following is a calculation of the total assets turn over of PT. Kalbe Farma Tbk, which was studied from 2015 to 2024.

Thus, it can be seen that during 2015-2024, the average total assets turnover of PT. Kalbe Farma Tbk was 1.15 times, meaning that each company was able to generate sales from its total assets of 1.15 times. This shows that the company is quite effective in its efforts to generate good profits from managing its assets to the maximum in order to generate high sales.

Tabel 8
Total Assets Turn Over PT. Kalbe Farma, Tbk
Period 2015-2024

Years	Sale (Rp)	Total Assets (Rp)	Total Assets Turn Over (Equal)
2015	17.887.464.223.321	13.019.851.457.275	1, 38
2016	19.374.230.957.505	15.226.009.210.657	1, 28
2017	20.182.120.166.616	16.616.239.416.335	1, 22
2018	21.074.306.186.027	18.146.206.145.369	1, 17
2019	22.633.476.361.038	20.264.726.862.584	1, 12
2020	23.112.654.991.224	22.564.300.317.374	1, 03
2021	26.261.194.512.313	25.666.635.156.271	1, 02
2022	28.933.502.646.719	27.241.313.025.674	1, 07
2023	30.449.134.077.618	27.057.568.182.323	1, 13
2024	32.627.776.108.026	29.429.727.898.195	1,11
Avarage Total Assets Turn Over			1,15

Fixed assets turnover is a ratio used to measure how many times funds invested in fixed assets turn over in a period. The following is a calculation of the fixed assets turnover of PT. Kalbe Farma Tbk, which was studied from 2015 to 2024:

Tabel 9
Fixed Assets Turn Over PT. Kalbe Farma, Tbk
Period 2015-2024

Years	Sale (Rp)	Total Fixed Assets (Rp)	Fixed Assets Turn Over (equal)
2015	17.887.464.223.321	3.938.494.051.483	4,54
2016	19.374.230.957.505	4.555.756.101.580	4,25
2017	20.182.120.166.616	5.342.659.713.054	3,77
2018	21.074.306.186.027	6.252.801.150.475	3,37
2019	22.633.476.361.038	7.666.314.692.908	2,95
2020	23.112.654.991.224	8.157.762.093.280	2,83
2021	26.261.194.512.313	7.994.022.263.626	3,28
2022	28.933.502.646.719	7.956.585.670.346	3,63
2023	30.449.134.077.618	7.978.027.474.025	3,81
2024	32.627.776.108.026	8.269.375.706.540	3,94
Avarage Fixed Assets Turn Over			3,63

Thus, it can be seen that during 2015-2024, the average total assets turnover of PT. Kalbe Farma Tbk was 3.63 times, meaning that each company was able to generate sales from its total fixed assets of 3.63 times.

Based on the results of financial ratio calculations as described in the table above, the financial performance of PT. Kalbe Farma Tbk can be assessed through the company's financial performance, which includes liquidity ratios, solvency ratios, activity ratios, and profitability ratios. From the results of the above analysis using financial ratios consisting of liquidity, solvency, activity, and profitability, the overall financial performance of PT. Kalbe Farma Tbk for the period 2015-2024 can be assessed as follows:

From Table 10 calculations, the interpretation of PT. Kalbe Farma Tbk's financial performance is as follows:

1.) Financial performance based on liquidity ratios

a. Current Ratio

Overall, PT. Kalbe Farma Tbk's average current ratio for the 2015-2024 period was 425.66%. Thus, the current ratio of PT. Kalbe Farma Tbk is considered good because it is above the standard average.

b. Quick Ratio

Overall, the average quick ratio of PT. Kalbe Farma Tbk for the period 2015-2024 was 274.4%. Thus, the quick ratio of PT. Kalbe Farma Tbk is considered good because it is above the standard average.

2.) Financial performance conditions as seen from profitability ratios

a. Net Profit Margin

Overall, the average net profit margin of PT. Kalbe Farma Tbk for the period 2015-2024 was 13.21%. Thus, the net profit margin of PT. Kalbe Farma Tbk is considered good because it is above the standard average.

b. Return on Assets

Overall, the average return on assets of PT. Kalbe Farma Tbk for the period 2015-2024 was 15.93%. Thus, the return on assets of PT. Kalbe Farma Tbk is considered good because it is above the standard average.

c. Return on Equity

Overall, the average return on equity of PT. Kalbe Farma Tbk for the period 2015-2024 was 0.17%. Thus, the return on equity of PT. Kalbe Farma Tbk is considered good because it is above the standard average.

3.) Financial performance conditions as seen from solvency ratios

a. Debt to Total Asset Ratio

Overall, the average debt to total asset ratio of PT. Kalbe Farma Tbk for the period 2015-2024 was 17%. Thus, the debt to total asset ratio of PT. Kalbe Farma Tbk is considered good because it is below the standard average.

Tabel 10
Fixed Assets Turn Over PT. Kalbe Farma, Tbk
period 2015-2024

Informa tion	Years										Avara ge Ratio	Stand art	Condi tion
	201 5	201 6	201 7	201 8	201 9	202 0	202 1	202 2	202 3	202 4			
1.Liquid ity													
a. CR	356. 69	413. 11	450. 88	465. 77	435. 46	441. 66	444. 51	377. 11	490. 80	410. 62	425. 66	>200 %	Good
b. QR	225. 72	268. 78	291. 16	313. 78	290. 42	298. 32	300. 59	218. 52	281. 38	255. 29	274. 4	>100 %	Good
2.Profita bility													
a. NPM	11.6 4	12.1 5	12.1 0	12.1 1	11.1 0	12.4 0	12.2 1	12.1 4	9.20	10.0 1	13.2 1	>5%	Good
b. ROA	16.0 0	15.4 6	14.7 0	14.0 6	12.4 0	12.7 0	12.5 0	12.8 9	10.3 5	11.1 0	15.9 3	>5%	Good
c. ROE	19.0 4	18.8 8	17.5 8	16.6 9	15.0 4	15.6 8	15.0 8	15.9 0	12.1 2	13.2 9	0.17	>20%	Not Good
3.Solven cy													
a. DAR	21	18	16	15	17	19	17	18	14	16	17	<100 %	Good
b. DER	25	22	19	18	21	23	20	23	17	19	21	<100 %	Good
4. Aktivity													
a. TATO	1.38	1.28	1.22	1.17	1.12	1.03	1.02	1.07	1.13	1.11	1.15	>0,5x	Good
b. FATO	4.54	4.25	3.77	3.37	2.95	2.83	3.28	3.63	3.81	3.94	3.63	>1,5x	Good

b. Debt to Total Equity Ratio

Overall, the average debt to total equity ratio of PT. Kalbe Farma Tbk in the period 2015-2024 was 21%. Thus, the debt to equity ratio of PT. Kalbe Farma Tbk is considered good because it is above the standard average.

4.) Financial performance conditions as seen from activity ratios

a. Total Assets Turn Over

Overall, the average total assets turn over of PT. Kalbe Farma Tbk in the 2015-2024 period was 1.15 times. Thus, the total assets turn over of PT. Kalbe Farma Tbk is considered good because it is above the standard average.

b. Fixed Asset Turnover

Overall, the average fixed assets turnover of PT. Kalbe Farma Tbk for the period 2015-2024 was 3.63 times. Thus, the fixed assets turnover of PT. Kalbe Farma Tbk is considered good because it is above the standard average.

Discussion

The findings confirm that both product and process innovations significantly improve financial performance, aligning with the theoretical framework that innovation drives firm value creation. Product innovation strengthens PT Kalbe Farma's competitive advantage by enabling the introduction of high-value pharmaceutical and nutritional products that meet evolving consumer needs. Process innovation enhances production effectiveness through digitalization and automation, thereby reducing operating costs and increasing productivity.

The mediating role of operational efficiency underscores its importance in ensuring that innovation translates into sustainable profitability. Similar to previous research (Ting et al., 2024; Triyonowati et al., 2023), this study demonstrates that innovation without efficient operations may lead to increased expenses and slower profit realization. PT Kalbe Farma's consistent improvement in asset turnover and cost management reflects how the company aligns innovation initiatives with efficiency principles.

These results reinforce the concept of dynamic capability, where innovation (as a knowledge-based capability) and operational efficiency (as a resource-based capability) interact synergistically to enhance performance. The positive trend in ROA, ROE, and EPS between 2015–2024 suggests that the firm has effectively integrated technological advancements into its production and distribution systems, maintaining profitability even during economic fluctuations, such as the COVID-19 pandemic period. The interplay between innovation and efficiency also provides a model for other pharmaceutical firms in emerging markets seeking to sustain growth amid regulatory and competitive challenges.

Conclusion

This study concludes that product innovation, process innovation, and operational efficiency play significant roles in enhancing the financial performance of PT Kalbe Farma Tbk during the 2015–2024 period. Product and process innovations positively

affect profitability by driving differentiation, market expansion, and production improvement. Operational efficiency not only directly strengthens financial performance but also mediates the effect of innovation, translating innovative capabilities into measurable economic results.

The findings highlight that innovation must be accompanied by operational excellence to achieve long-term financial sustainability. PT Kalbe Farma's success in maintaining growth through innovation-driven efficiency reflects the importance of strategic integration between R&D initiatives and resource optimization. Future research could extend this study by comparing multiple pharmaceutical firms or by analyzing the impact of digital transformation on innovation–efficiency–performance dynamics. Overall, the study reinforces that innovation is the engine of growth, operational efficiency is the enabler, and financial performance is the outcome of their synergy.

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