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FINANCIAL STATEMENT ANALYTICS USING TABLEAU: EVALUATING PROFITABILITY, RISK, AND LIQUIDITY TRENDS AT PT SUMBER ALFARIA TRIJAYA TBK (2021–2025)

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Abstract: The fast-growing retail business environment requires management to make decisions quickly and accurately. However, traditional financial reports in the form of numerical tables are often difficult for managers to interpret rapidly. This study aims to build an interactive executive dashboard using Tableau to analyze the financial performance of PT Sumber Alfaria Trijaya Tbk (Alfamart) from 2021 to 2025. The research method used is a case study using secondary data from the company's audited annual financial statements. The analysis focuses on profitability (DuPont System), capital structure, liquidity, and revenue growth. The results show that data visualization through Tableau significantly helps management identify operational changes more quickly. Alfamart's performance over the past five years indicates stable revenue growth backed by a reduction in long-term debt risk and improvement in liquidity, despite a slowdown in asset efficiency. The implication of this study suggests that implementing data visualization technology in modern management accounting practices is essential to accelerate the performance evaluation process.
Keywords: Management Accounting; Data Visualization; Tableau; Financial Performance; Retail.

Abstrak: *Perkembangan dunia bisnis retail yang sangat cepat menuntut manajemen untuk mengambil keputusan secara tepat. Namun, laporan keuangan konvensional yang berbentuk tabel angka sering kali sulit dipahami dengan cepat oleh pihak manajemen. Penelitian ini bertujuan untuk membuat dashboard interaktif menggunakan Tableau untuk menganalisis kinerja keuangan PT Sumber Alfaria Trijaya Tbk (Alfamart) dari tahun 2021 sampai 2025. Metode riset yang digunakan adalah studi kasus dengan menggunakan data sekunder berupa laporan keuangan tahunan perusahaan yang telah diaudit. Analisis dilakukan pada aspek profitabilitas (DuPont System), struktur modal, likuiditas, dan pertumbuhan pendapatan. Hasil penelitian menunjukkan bahwa penggunaan visualisasi data melalui Tableau dapat membantu manajemen mengidentifikasi masalah operasional dengan lebih cepat. Kinerja Alfamart selama lima tahun terakhir menunjukkan pertumbuhan pendapatan yang stabil didukung oleh penurunan risiko utang jangka panjang dan perbaikan likuiditas, meskipun terdapat perlambatan dalam perputaran aset. Implikasi penelitian ini menunjukkan pentingnya penerapan teknologi visualisasi data dalam praktik akuntansi manajemen modern untuk mempercepat proses evaluasi kinerja.*
Kata kunci: *Akuntansi Manajemen; Visualisasi Data; Tableau; Kinerja Keuangan; Retail.*

INTRODUCTION

In the modern retail sector, business environments change very rapidly. Financial managers need to analyze operational data quickly to make the right strategic decisions (Appelbaum et al., 2017). Traditional accounting reports usually present performance figures in long, complex numerical tables. This static format often delays decision-making because managers must read rows of figures to find trends or hidden operational inefficiencies (Warren et al., 2015). Therefore, a digital transformation is necessary, using data visualization software like Tableau to make accounting information clearer and more accessible (Bhimani, 2020).

The main objective of this study is to build an interactive executive dashboard using Tableau to evaluate the five-year financial performance of PT Sumber Alfaria Trijaya Tbk (Alfamart) from 2021 to 2025. The retail sector provides an ideal object of study because it operates on thin profit margins with massive transaction volumes. In this type of business, even small changes in asset utilization or cost control will immediately impact overall returns.

The novelty of this research lies in its integrated dashboard approach. It combines four core financial dimensions—profitability drivers via the DuPont System, long-term capital structure risk, short-term liquidity safety, and annual revenue growth velocity—into a single, four-quadrant visual analytical canvas using recent corporate data up to 2025. The practical contribution of this study is to provide a clear blueprint for corporate accountants on designing visual tools that support decision-making. Academically, this study enriches the literature on business intelligence implementation within management accounting practices.

LITERATURE REVIEW

Data Visualization in Management Accounting

Management accounting focuses on providing financial and operational data to help internal managers plan, monitor, and execute business strategies (Garrison et al., 2021). As companies gather larger amounts of operational data, presenting information visually becomes vital. Data visualization utilizes patterns, charts, and colors to display financial information, which helps human brains process complex datasets faster. Effective visual reporting layouts reduce cognitive effort, allowing managers to spot operational variances and structural shifts immediately (Rikhardsson & Yigitbasioglu, 2018; Yigitbasioglu & Velcu, 2012).

The DuPont Analysis Framework

DuPont analysis is a financial diagnostic method that decomposes Return on Equity (ROE) into its core operational components (Soliman, 2008; Nissim & Penman, 2001). This breakdown helps managers identify whether a firm's profitability is driven by cost efficiency or asset utilization speed (Fairfield & Yohn, 2001). In its basic form, ROE is determined by multiplying Net Profit Margin (NPM) and Asset Turnover (ATO). The relationship is stated as follows:

$$ROE = NPM \times ATO \quad (1)$$

NPM measures how much net income a company extracts from its total revenue, reflecting cost-control capabilities. ATO measures the efficiency with which a firm utilizes its total asset base to generate sales, reflecting asset productivity.

Capital Structure and Liquidity Theories

According to the Pecking Order Theory, highly profitable companies prefer to rely on internal funding, such as retained earnings, before looking for external debt financing (Myers & Majluf, 1984; Frank & Goyal, 2003). Capital structure, measured by the Debt to Equity Ratio (DER), shows the balance between debt and equity financing, which represents long-term solvency risk. Meanwhile, short-term survival is measured by the Current Ratio (CR). CR evaluates whether a firm has sufficient current assets to cover its short-term obligations as they fall due (Garrison et al., 2021).

RESEARCH METHOD

This study employs a descriptive quantitative case study design focused on financial visual analytics. The research object is PT Sumber Alfaria Trijaya Tbk (SMAT). This company was chosen because it is one of the largest and fastest-growing retail giants in Indonesia. Operating a massive retail network means the company deals with high transaction volumes, intensive capital requirements, and thin profit margins. These specific characteristics make it an ideal and compelling model to demonstrate how data visualization can help management accounting quickly monitor and diagnose the trade-offs between rapid expansion, operational efficiency, short-term liquidity, and long-term financial risk.

As a single-object case study, the research target focuses on purposive historical financial data. The secondary data used were gathered from the audited annual financial statements of the company spanning five fiscal years, from 2021 through 2025, downloaded from the official website of the Indonesia Stock Exchange (IDX). The data collection technique utilized the documentation method, extracting key financial figures from the statement of financial position, the statement of profit or loss, and the statement of cash flow.

To provide a clear analytical framework, the operational variables in this study are defined across four main financial pillars.

1. Profitability. Measured by Return on Equity (ROE), which shows the return generated for shareholders, and Net Profit Margin (NPM), which evaluates cost-control efficiency.
2. Operating Efficiency. Measured by Asset Turnover (ATO), which calculates how fast the company uses its assets to generate sales revenue.
3. Long-Term Solvency Risk. Measured by the Debt to Equity Ratio (DER), which compares total liabilities to total equity.
4. Short-Term Liquidity. Measured by the Current Ratio (CR), which evaluates the ability to cover short-term debts with current assets, and nominal Operating Cash Flow (OCF), which tracks the real cash generated from core business operations.

The underlying research model is anchored in the classic DuPont framework, which models equity returns as a direct result of profit margins and asset utilization speed. This financial model is then expanded and integrated into a multi-dimensional four-quadrant visual analysis framework.

Finally, the data analysis technique followed two main technical steps. First, the extracted data figures were calculated chronologically in Microsoft Excel to produce the baseline financial ratios. Second, the calculated dataset was imported into Tableau Public to design custom interactive charts—including scatter plots, dual-axis combinations, and area visualizations—which were then assembled into the final integrated executive dashboard for deep financial evaluation.

RESULT AND ANALYSIS

Before building the visual dashboard in Tableau, the financial ratios were calculated chronologically. The complete calculation figures are presented in Table 1.

Table 1. Financial Variables and Calculated Ratios of Alfamart (2021–2025)

Financial Variables	2025	2024	2023	2022	2021
Current Assets (Trillion Rp)	21.20	20.34	17.33	15.66	14.21
Total Assets (Trillion Rp)	42.58	38.80	34.25	30.75	27.37
Current Liabilities (Trillion Rp)	20.55	19.47	17.26	17.39	16.38
Total Liabilities (Trillion Rp)	23.20	21.10	18.54	19.28	17.94
Total Equity (Trillion Rp)	19.38	17.70	15.71	11.47	9.43
Total Revenue (Trillion Rp)	126.74	118.23	106.94	96.92	84.90
Net Profit (Trillion Rp)	3.46	3.17	3.51	2.83	1.96
Operating Cash Flow (Trillion Rp)	7.67	8.12	6.27	6.95	5.36
Current Ratio (CR)	1.07	1.04	1.00	0.90	0.87
Debt to Equity Ratio (DER)	1.20	1.19	1.18	1.68	1.90
Net Profit Margin (NPM)	0.03	0.03	0.03	0.03	0.02
Asset Turnover (ATO)	2.98	3.05	3.12	3.15	3.10
Return on Equity (ROE)	0.18	0.18	0.22	0.25	0.21

The historical dataset from Table 1 was imported into Tableau to generate an integrated four-quadrant executive dashboard, displayed in Figure 1.

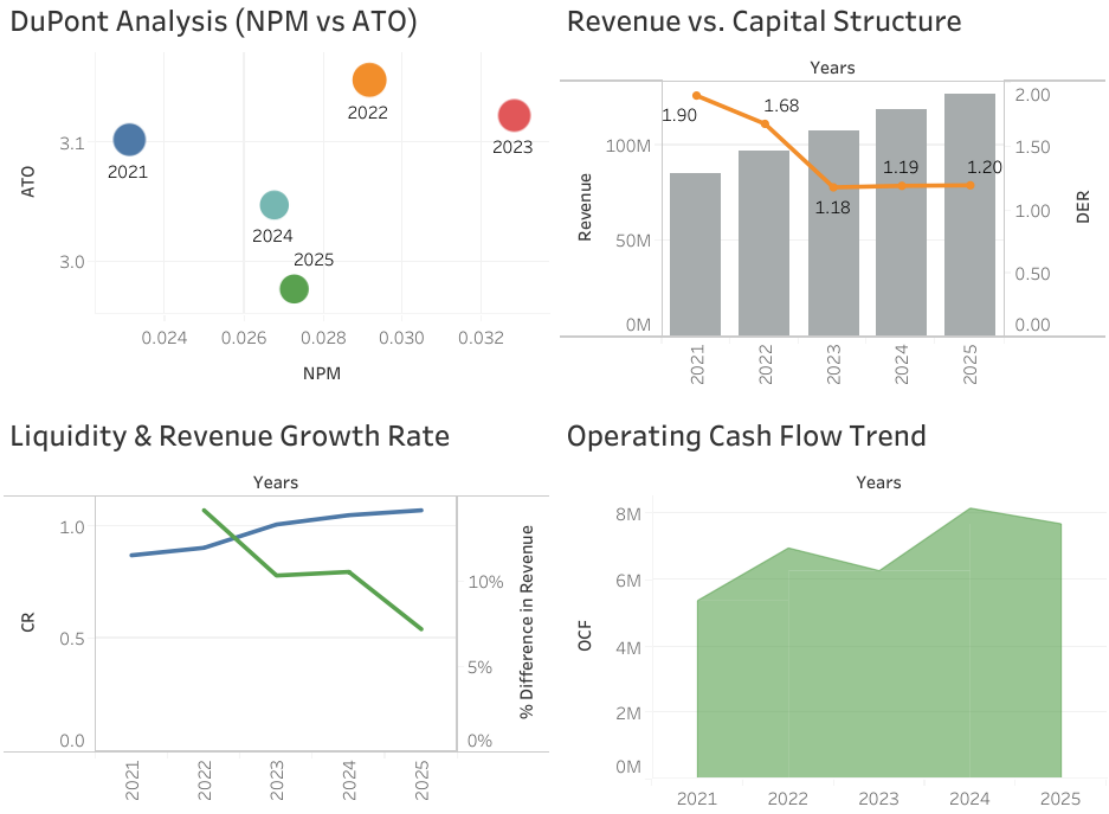

Figure 1. Integrated Executive Financial Dashboard of Alfamart (2021-2025)
Source: Tableau Public Output (Processed Data, 2026)

DuPont Analysis Insight (Top-Left Quadrant)

The DuPont scatter plot shows how the internal profitability drivers shifted over the five-year period. In 2022 and 2023, the company reached its highest ROE levels at 25% and 22%, represented by the larger bubble sizes. This peak performance was heavily supported by an increase in Net Profit Margin to 3.2% in 2023.

However, in 2024 and 2025, the bubbles moved downward because Asset Turnover decreased from 3.15 times to 2.98 times. This visual trend gives an immediate warning to managers: although cost control remains stable with NPM staying around 3%, the rapid opening of new retail stores and distribution centers is outpacing immediate sales growth, which lowers asset efficiency.

Revenue and Capital Structure Trend (Top-Right Quadrant)

The dual-axis chart offers a clear picture of long-term solvency risk management. Total revenue displayed a powerful, uninterrupted upward trend, growing from Rp84.9 Trillion in 2021 to over Rp126.7 Trillion in 2025. Concurrently, the Debt to Equity Ratio fell sharply from a highly leveraged 1.90 in 2021 to a stable 1.20 in 2025.

Visually, this chart proves that the company successfully funded its aggressive business expansion using internal operational cash and equity rather than taking on dangerous long-term debt. The stabilization of the DER line at 1.19–1.20 between 2024 and 2025 shows that the firm has reached an optimal target capital structure.

Liquidity and Revenue Growth Dynamics (Bottom-Left Quadrant)

The liquidity and growth chart shows how the company balanced short-term safety against expansion speed. In 2021 and 2022, the company faced short-term

liquidity risk because the Current Ratio was below the safe threshold of 1.0 (0.87 and 0.90).

However, the chart captures a steady upward trend as the blue line crossed the 1.0 barrier, reaching 1.07 in 2025. This liquidity improvement happened while the annual revenue growth rate slowed down from 14% to 7.3%. This combination shows a clear managerial decision: as revenue growth normalized, the company focused on strengthening its financial position by paying off short-term liabilities and expanding liquid current assets.

Operating Cash Flow Performance (Bottom-Right Quadrant)

The area chart validates the overall quality of corporate earnings. The green area shows that Operating Cash Flow remained very strong and healthy, staying between Rp5.3 Trillion and Rp8.1 Trillion throughout the five-year period.

The small drop in 2023 shows that more cash was temporarily used in operations to achieve the record-high profit margin of that fiscal year. The quick recovery to Rp7.6 Trillion in 2025 confirms that the company's recorded accounting profits are fully backed by real cash flows, proving high financial reporting quality and strong internal funding capabilities.

CONCLUSION

This study shows that shifting from traditional data tables to an interactive four-quadrant dashboard in Tableau makes financial evaluation much easier and faster. Based on the visual analysis, PT Sumber Alfaria Trijaya Tbk performed a successful structural financial adjustment between 2021 and 2025. The company expanded its revenue scale to Rp126.7 Trillion, reduced its long-term debt risk (DER dropped to 1.20), improved its short-term liquidity safety (CR rose to 1.07), and backed its profits with solid operating cash flow. The only minor issue identified is a slight drop in asset turnover speed in 2025. For future research, it is suggested to add non-financial operational data, such as the total number of retail stores and geographic distribution, to give a deeper look into asset utilization efficiency.

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