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Analysis of Strategic Business Unit Portfolio by Using Boston Consulting Group (BCG) Matrix to Determine Capital Allocation Strategy at PT Astra International Tbk in 2021-2024 Period

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ABSTRACT

Slowing automotive market growth amid Indonesia's post-pandemic economic recovery highlighted the need for strategic business evaluation. This study aimed to analyze the strategic position of the four-wheel automotive business unit of PT Astra International Tbk using the Boston Consulting Group (BCG) Matrix and to determine an appropriate capital allocation strategy for the 2021-2024 period. A descriptive quantitative approach was applied using secondary data obtained from the company's annual reports and GAIKINDO industry statistics. The analysis was conducted by calculating the Market Growth Rate (MGR) and Relative Market Share (RMS), which were then mapped onto the BCG Matrix. The results showed that MGR fluctuated from 67% in 2021 to 18% in 2022, then declined to -4% in 2023 and -14% in 2024, while RMS remained consistently above one, ranging from 3.44 to 4.67. The mapping results indicated that the automotive business unit occupied the Star quadrant in 2021-2022 before shifting to the Cash Cow quadrant in 2023-2024. PT Astra International Tbk was accordingly recommended to apply a Build strategy while in the Star position and a Hold strategy while in the Cash Cow position, in order to sustain its competitive advantage and optimize the utilization of its cash flow.

Keywords : Capital Allocation; Market Growth Rate; Boston Consulting Group (BCG) Matrix; PT Astra International Tbk; Relative Market Share

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INTRODUCTION

Indonesia's economy exhibited a post-pandemic recovery pattern between 2021 and 2024, with growth ranging from 3.7% to 5.1% (BPS, 2024). Despite this recovery, industry performance varied across sectors, prompting companies to reassess their business portfolios to allocate resources and capital more effectively. PT Astra International Tbk (ASII), one of Indonesia's largest conglomerates, operates across multiple sectors including automotive, financial services, heavy equipment and mining, agribusiness, infrastructure and logistics, information technology, and property (Astra International, 2025). As a holding company, ASII continuously seeks to optimize its business portfolio to support sustainable growth and enhance shareholder value.

The automotive business unit is one of Astra's major contributors to revenue and profit. However, the national automotive industry experienced considerable volatility during the study period due to changes in purchasing power and macroeconomic conditions, intensifying competition, and the emergence of electric vehicles and new market entrants. According to GAIKINDO data, national four-wheel vehicle sales rose from 887,202 units in 2021 to 1,048,040 units in 2022, before declining to 1,005,802 units in 2023 and 865,723 units in 2024.

Consistent with this trend, Astra's automotive division reported a 2% decline in net profit to Rp11.2 trillion in 2024, driven by a 14% contraction in the national car market to 866 thousand units and a corresponding 14% decrease in Astra's car sales to 483 thousand units (PT Astra International Tbk, 2025). Nevertheless, Astra maintained a 56% market share, indicating that its competitive position remained strong despite the industry slowdown. Market share dominance alone, however, does not fully capture a business unit's strategic position in terms of market growth and competitive strength.

A more comprehensive evaluation tool is therefore needed to quantitatively assess a business unit's competitive position as a basis for investment and capital allocation decisions. The Boston

Consulting Group (BCG) Matrix is one such tool for assessing business portfolio balance based on Market Growth Rate and Relative Market Share (Maulida et al., 2021). By classifying business units into four categories—Stars, Cash Cows, Question Marks, and Dogs—the BCG Matrix enables management to allocate resources more effectively and efficiently (David & David, 2017).

Prior studies confirm the relevance of the BCG Matrix across various contexts. Suwito et al. (2023) applied the BCG Matrix to classify the business positions of pharmaceutical companies listed on the Indonesia Stock Exchange, finding that the model successfully differentiated business units according to market conditions and competitive strength. Saputra et al. (2020) used the BCG Matrix to analyze the market position of PT Mayora Indah Tbk, finding it fell within the Question Mark quadrant and recommending investment to strengthen its market position. Similarly, Sulasih (2020) applied the BCG Matrix to a furniture business, positioning it in the Question Mark quadrant and recommending market penetration and product development strategies. At the international level, Umema and Japee (2024) applied the BCG Matrix to segment Ethiopia's coffee export markets, demonstrating its usefulness in guiding investment and divestment decisions across international destination markets, while Pan (2023) analyzed the distinct strategic implications attached to each BCG Matrix quadrant, reinforcing that Star and Cash Cow positions call for fundamentally different resource allocation approaches Within the researchers' own institution, Madyasari and Andriani (2023) examined the marketing strategy of a Sharia-based insurance company in Kediri and emphasized the importance of formulating a competitive strategy to sustain customer growth, while Saipullah et al. (2026) compared the competitive pricing strategies of two ride-hailing platforms in Indonesia and their effect on consumer loyalty, underscoring that a clear understanding of competitive market position is essential for strategic decision-making.

Despite these contributions, previous studies reveal several research gaps. Most studies focus on individual companies within specific sectors rather than strategic business units within conglomerates, while many examine only one or two observation periods instead of tracking changes in business position over time. Furthermore, few studies explicitly link BCG Matrix results to capital allocation recommendations, while research using publicly available secondary data to examine business units within Indonesian conglomerates remains limited. This study addresses these gaps by applying the BCG Matrix to the four-wheel automotive business unit of PT Astra International Tbk over the 2021–2024 period as a basis for formulating capital allocation strategy recommendations.

The novelty of this study lies in applying the BCG Matrix to an automotive business unit within an Indonesian conglomerate across four consecutive years, enabling changes in business position to be observed over time rather than through a single-period analysis. In addition, this study directly links the resulting BCG positions to capital allocation strategy recommendations. Accordingly, this study aims to (1) classify the position of PT Astra International Tbk's automotive business unit within the BCG Matrix quadrants during 2021–2024, (2) analyze the development of Market Growth Rate (MGR) and Relative Market Share (RMS) of the business unit over the same period, and (3) formulate capital allocation strategy recommendations based on the results of the BCG Matrix analysis.

RESEARCH METHODS

This study employed a descriptive quantitative approach, focusing on the measurement and analysis of two key BCG Matrix indicators: Market Growth Rate (MGR) and Relative Market Share (RMS) (Sugiyono, 2023). The study aimed to describe the strategic position of PT Astra International Tbk's automotive business unit during 2021–2024 and formulate corresponding capital allocation strategy recommendations.

The object of this study was PT Astra International Tbk, with a specific focus on its four-wheel automotive business unit. This unit was selected because of its significant contribution to overall company performance and the relatively complete and consistent availability of sales and market share data throughout the study period. As the study relied entirely on secondary data from official corporate and industry publications, it was conducted as desk research.

Secondary data were obtained from three main sources: national four-wheel vehicle sales data published by the Association of Indonesian Automotive Industries (GAIKINDO); PT Astra International Tbk's annual reports for 2021–2024; and supporting publications from Statistics Indonesia (BPS). The required data included national four-wheel vehicle sales for 2020–2024 (as the basis for

MGR calculation), Astra's four-wheel vehicle sales and market share for 2021–2024, and the sales and market share of Astra's largest competitor for the same period.

Data were collected through documentation and library research (Sugiyono, 2023). The documentation technique was used to gather secondary data from annual reports, industry publications, and other official sources, while library research involved reviewing books, journal articles, and prior studies relevant to strategic management, business portfolio analysis, and the BCG Matrix.

Data analysis was conducted using the BCG Matrix based on two indicators: Market Growth Rate (MGR), operationalized as the annual growth of national four-wheel vehicle sales, and Relative Market Share (RMS), which measures Astra's competitive strength relative to its largest competitor. The analysis proceeded through the following steps: (1) compiling data on Astra's four-wheel vehicle sales, national industry sales for 2020–2024, and the largest competitor's sales for 2021–2024; (2) calculating the market share of Astra and its largest competitor based on the ratio of company sales to total national industry sales; (3) calculating MGR based on the annual growth of national four-wheel vehicle sales during the study period; (4) calculating RMS by comparing Astra's market share to that of its largest competitor; (5) mapping the resulting MGR and RMS values onto the BCG Matrix quadrants (Star, Cash Cow, Question Mark, or Dog) using the criteria presented in Table 1; (6) analyzing the development of MGR and RMS values over the 2021–2024 period and interpreting the resulting business positions; and (7) formulating capital allocation strategy recommendations based on the resulting BCG Matrix position.

Table 1. BCG Position Mapping Criteria

Market Growth Rate (MGR)	Relative Market Share (RMS)	BCG Position
High (>10%)	High (>1)	Star
Low (≤10%)	High (>1)	Cash Cow
High (>10%)	Low (≤1)	Question Mark
Low (≤10%)	Low (≤1)	Dog

Source: Maulida et al. (2021)

RESULTS AND DISCUSSION

The study used secondary data obtained from PT Astra International Tbk's annual reports and GAIKINDO publications for the 2021–2024 period. Table 2 presents national four-wheel vehicle industry sales for 2020–2024, used as the basis for MGR calculation.

Table 2. National Four-Wheel Vehicle Industry Sales, 2020–2024

Year	National Four-Wheel Vehicle Industry Sales (units)
2020	532,407
2021	887,202
2022	1,048,040
2023	1,005,802
2024	865,723

Source: PT Astra International Tbk (2021–2024), based on GAIKINDO data

National four-wheel vehicle sales fluctuated considerably during the period, increasing sharply in 2021–2022 before declining in 2023–2024. Table 3 presents Astra's sales, market share, and its largest competitor's sales for 2021–2024, used as the basis for RMS calculation.

Table 3. Astra's Sales, Market Share, and Largest Competitor's Sales, 2021–2024

Year	Astra Sales (units)	Astra Market Share	Largest Competitor	Competitor Sales (units)
2021	489,209	55%	Mitsubishi	144,123
2022	574,198	55%	Mitsubishi	136,637
2023	560,717	56%	Honda	138,969
2024	482,964	56%	Mitsubishi	99,938

Source: PT Astra International Tbk (2021–2024) and GAIKINDO, processed by the author (2026)

Market Growth Rate (MGR) was calculated using the formula MGR = [(Current Year Sales − Previous Year Sales) ÷ Previous Year Sales] × 100%. For example, the 2021 MGR was calculated as [(887,202 − 532,407) ÷ 532,407] × 100% = 67%. The complete MGR results for 2021–2024 are presented in Table 4.

Table 4. Market Growth Rate (MGR) Results

Year	Previous Year Sales	Current Year Sales	MGR (%)
2021	532,407	887,202	67%
2022	887,202	1,048,040	18%
2023	1,048,040	1,005,802	-4%
2024	1,005,802	865,723	-14%

Source: Data processed (2026)

As shown in Table 4, national four-wheel vehicle market growth fluctuated substantially. MGR reached 67% in 2021, reflecting exceptionally high growth, before moderating to 18% in 2022, still within the high-growth category (above 10%). MGR subsequently turned negative, at -4% in 2023 and -14% in 2024, indicating market contraction. These results show that the national four-wheel vehicle market experienced strong growth at the beginning of the study period, followed by a gradual slowdown and outright contraction in the final two years.

Relative Market Share (RMS) was calculated by comparing Astra's four-wheel vehicle market share with that of its largest competitor. The largest competitor's market share was first calculated using the formula Market Share = (Competitor Sales ÷ Total Industry Sales) × 100%. For example, Mitsubishi's 2021 market share was calculated as (144,123 ÷ 887,202) × 100% = 16%. Table 5 presents the resulting competitor market share for 2021–2024.

Table 5. Largest Competitor's Market Share, 2021–2024

Year	Largest Competitor	Competitor Sales	Industry Sales	Competitor Market Share
2021	Mitsubishi	144,123	887,202	16%
2022	Mitsubishi	136,637	1,048,040	13%
2023	Honda	138,969	1,005,802	14%
2024	Mitsubishi	99,938	865,723	12%

Source: Data processed (2026)

RMS was then calculated using the formula RMS = Astra's Market Share ÷ Competitor's Market Share. For example, the 2021 RMS was calculated as 55% ÷ 16% = 3.44. The complete RMS results are presented in Table 6.

Table 6. Relative Market Share (RMS) Results

Year	Astra Market Share	Competitor Market Share	RMS
2021	55%	16%	3.44
2022	55%	13%	4.23
2023	56%	14%	4.00
2024	56%	12%	4.67

Source: Data processed (2026)

As shown in Table 6, Astra's RMS remained above one throughout the study period, ranging from 3.44 to 4.67. This indicates that Astra's market share was consistently higher than that of its largest competitor, supporting its position as a market leader in the national four-wheel vehicle industry throughout 2021–2024.

The MGR and RMS values obtained for each year were mapped onto the BCG Matrix quadrants according to the criteria in Table 1. The resulting positions are presented in Table 7 and Figure 1.

Table 7. BCG Matrix Mapping Results of PT Astra International Tbk's Automotive Business Unit

Year	MGR (%)	RMS	BCG Position
2021	67%	3.44	Star
2022	18%	4.23	Star
2023	-4%	4.00	Cash Cow
2024	-14%	4.67	Cash Cow

Source: Data processed (2026)

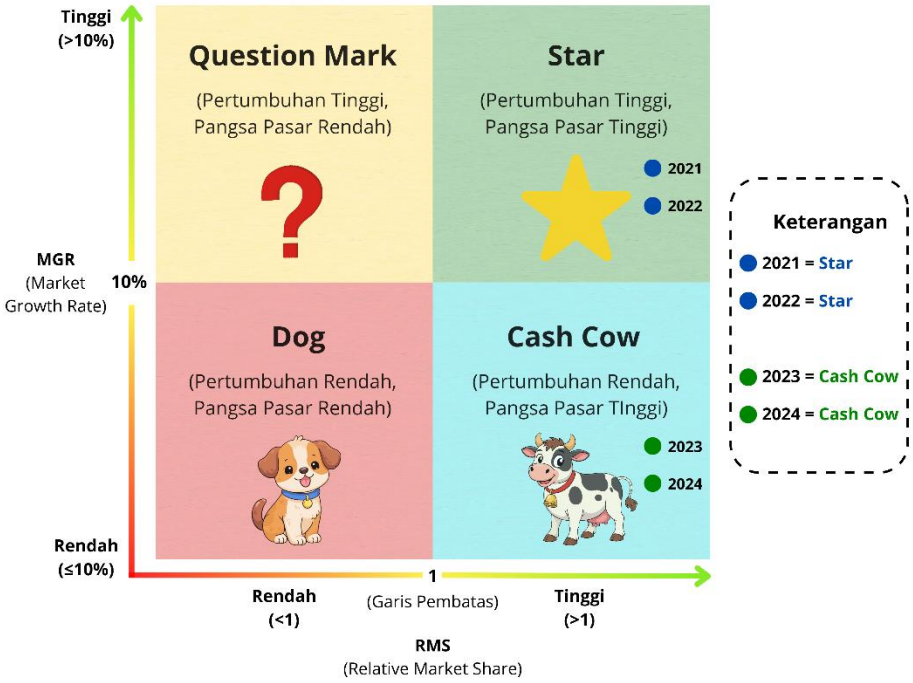


Figure 1. BCG Matrix Mapping of PT Astra International Tbk's Automotive Business Unit, 2021–2024

Source: Data processed (2026)

As shown in Table 7 and Figure 1, the automotive business unit's position shifted over the study period. In 2021 and 2022, the unit occupied the Star quadrant, reflecting high market growth combined with strong relative market share, indicating that Astra's automotive business operated in a growing market while maintaining a strong competitive position. In 2023 and 2024, the unit shifted to the Cash Cow quadrant as market growth turned negative while relative market share remained high, indicating that despite the market slowdown, Astra retained its dominance in the national automotive industry.

The substantial fluctuation in MGR may be associated with specific policy and macroeconomic developments. The surge to 67% in 2021 coincided with the government's Luxury Goods Sales Tax incentive for motor vehicles (PPnBM DTP), introduced in March 2021 through Ministry of Finance Regulation No. 20/PMK.010/2021 and subsequently extended and expanded (Direktorat Jenderal Pajak, 2021), which contributed to the recovery of automotive industry activity during the post-pandemic period (GAIKINDO, 2022). Conversely, the contraction in 2023 and 2024 reflected weakening purchasing power and rising vehicle financing interest rates (Kompas.com, 2025), compounded by tighter consumer credit conditions given that most vehicle purchases in Indonesia are financed (GAIKINDO, 2024; Kompas.com, 2024), which triggered a sharp decline in national car sales in early 2024 (CNBC Indonesia, 2024). The 2023–2024 MGR decline therefore reflects consumer financing conditions and macroeconomic pressure rather than natural market saturation alone.

Notably, RMS increased even as MGR declined, rising from 3.44 in 2021 to 4.67 in 2024. This occurred because the largest competitor's market share fell more sharply than Astra's during the market contraction, from 16% in 2021 to 12% in 2024, while Astra's share remained stable at 55%–56% (see

Table 3). This pattern may reflect the continued competitive strength of Astra Group brands, potentially supported by factors such as an extensive after-sales network, spare parts availability, and a diverse product portfolio across price segments. Thus, the increase in RMS reflects a stronger relative competitive position for Astra despite the contraction of the overall market.

The shift from Star to Cash Cow is consistent with the BCG Matrix framework proposed by David and David (2017), in which business units combining high relative market share with high market growth are classified as Stars, while those combining high relative market share with low market growth are classified as Cash Cows. This shift indicates a movement in Astra's automotive business from a high-growth position toward a more mature market position. These findings reinforce those of Suwito et al. (2023), who similarly found the BCG Matrix effective in classifying business positions according to market growth and relative market share as a basis for portfolio management and strategic decision-making.

As supplementary evidence beyond the study period, GAIKINDO data indicate that national four-wheel vehicle sales declined by a further 7.2% in 2025 to 803,687 units, while Astra Group brands, Toyota and Daihatsu, continued to dominate national sales. This development is broadly consistent with the Cash Cow position identified in this study. Nevertheless, the BCG Matrix has notable limitations: it does not account for actual profitability per business unit, cost structure, or non-market dynamics such as fiscal policy and consumer financing conditions, factors shown in this study to materially affect MGR, nor does it capture the emerging shift toward electric vehicles, which may reshape competitive dynamics going forward. The BCG mapping results should therefore be understood as a historical snapshot of competitive position rather than a definitive prediction of future strategic direction.

The shift in BCG position carries direct implications for capital allocation. During the Star phase in 2021–2022, a Build strategy was considered appropriate, involving investment in production capacity, technology development, product innovation, and distribution network strengthening to support growth and maintain market share consistent with Winatasari et al. (2024), who found that investment through rebranding effectively strengthened competitiveness for a Star-quadrant tourism business. As the unit shifted to the Cash Cow position in 2023–2024, a Hold strategy was considered appropriate, prioritizing operational efficiency and market share retention over aggressive expansion, consistent with Marsetyorini and Solihati (2024), who recommended that a Cash Cow-positioned poultry company maintain operational efficiency and marketing strategy to sustain competitiveness. The cash flow generated by a Cash Cow unit may, in turn, be allocated to other business units within the conglomerate that offer higher growth potential, consistent with the corporate portfolio management principles described by Wheelen et al. (2018).

From a managerial perspective, PT Astra International Tbk may consider sustaining its automotive market position through continued operational efficiency, product innovation, particularly in environmentally friendly and technology-based vehicles, and strengthened after-sales services, while allocating cash flow generated by the automotive unit to other business units with stronger growth prospects, in line with conglomerate portfolio management practices.

CONCLUSION

Based on the BCG Matrix analysis, the automotive business unit of PT Astra International Tbk shifted from the Star quadrant in 2021–2022 to the Cash Cow quadrant in 2023–2024. The Star position reflected high market growth combined with strong relative market share, while the Cash Cow position indicated that Astra maintained a strong relative market position despite the market slowdown.

Market Growth Rate declined over the study period, from above the 10% high-growth threshold in 2021–2022 to negative values in 2023–2024 amid the national market slowdown. Relative Market Share, by contrast, remained above one throughout the study period, supporting Astra's position as a market leader relative to its largest competitor.

Based on these findings, a Build strategy is recommended for the Star position, emphasizing investment to support business growth. For the Cash Cow position, a Hold strategy is recommended, emphasizing market share retention, operational efficiency, and cash flow optimization to support other business units with higher growth potential. PT Astra International Tbk may therefore consider selectively allocating capital to maintain market share and operational efficiency, while continuing to develop environmentally friendly and technology-based vehicles and strengthen after-sales services. Future research is encouraged to extend the observation period, examine additional strategic business

units within Astra Group or compare them with other automotive companies, and combine the BCG Matrix with complementary strategic tools such as the GE-McKinsey Matrix or SPACE Matrix to generate more comprehensive strategic recommendations.

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