



PAPER – OPEN ACCESS

Performance Measurement Using Balanced Scorecard (Study at PT Agro Sinergi Nusantara)

Author : Nabila Atsari Arshimny, et al
DOI : 10.32734/lwsa.v9i2.2781
Electronic ISSN : 2654-7066
Print ISSN : 2654-7058

Volume 9 Issue 2 – 2026 TALENTA Conference Series: Local Wisdom, Social, and Arts (LWSA)



This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/).

Published under licence by TALENTA Publisher, Universitas Sumatera Utara



Performance Measurement Using Balanced Scorecard (Study at PT Agro Sinergi Nusantara)

Nabila Atsari Arshimny^a, Nazaruddin Matondang^b, Chairul Muluk^c

^aMaster of Management Study Program, Postgraduate School, Universitas Sumatera Utara, Medan, 20155, Indonesia

^bIndustrial Engineering, Faculty of Engineering, Universitas Sumatera Utara, Medan, 20155, Indonesia

^cMaster of Management Study Program, Postgraduate School, Universitas Sumatera Utara, Medan, 20155, Indonesia

nabila.arshimny@gmail.com, nazarmtd60@gmail.com, cmuluk.mwa@gmail.com

Abstrak

Penelitian ini mengevaluasi kinerja PT Agro Sinergi Nusantara (ASN), anak perusahaan BUMN di sektor kelapa sawit, dengan menggunakan kerangka Balanced Scorecard (BSC). BSC mengintegrasikan empat perspektif utama—keuangan, pelanggan, proses bisnis internal, serta pembelajaran dan pertumbuhan—untuk memberikan penilaian kinerja yang komprehensif. Penelitian ini menggunakan pendekatan mixed-method, yaitu data kualitatif melalui wawancara dan kuesioner, serta data kuantitatif dari laporan keuangan audited periode 2021–2023. Hasil penelitian menunjukkan bahwa ASN mencapai kinerja terbaik pada tahun 2022 di seluruh perspektif BSC, yang didukung oleh indikator profitabilitas dan efisiensi operasional yang meningkat. Namun, pada tahun 2023 terjadi penurunan signifikan, terutama pada indikator keuangan seperti margin laba bersih, return on investment (ROI), dan return on assets (ROA), yang mencerminkan lemahnya ekuitas dan meningkatnya liabilitas. Analisis dengan Analytical Hierarchy Process (AHP) menegaskan bahwa perspektif keuangan menjadi prioritas strategis utama, diikuti oleh pelanggan, proses bisnis internal, serta pembelajaran dan pertumbuhan. Implikasi manajerial penelitian ini menekankan pentingnya efisiensi biaya, peningkatan kompetensi sumber daya manusia, sistem umpan balik pelanggan yang lebih baik, serta penguatan praktik keberlanjutan. Penelitian ini memberikan kontribusi pada literatur dengan menghadirkan bukti empiris penerapan BSC pada perusahaan sawit di bawah holding BUMN, serta menawarkan wawasan praktis bagi pembuat kebijakan dan manajemen dalam merancang strategi peningkatan kinerja yang seimbang dan berkelanjutan.

Kata kunci: Balanced Scorecard; Pengukuran Kinerja; Industri Kelapa Sawit; Analytical Hierarchy Process; BUMN

Abstract

This study evaluates the overall performance of PT Agro Sinergi Nusantara (ASN), a state-owned enterprise subsidiary in the palm oil sector, using the Balanced Scorecard (BSC) framework. The BSC integrates four perspectives—financial, customer, internal business processes, and learning and growth—to provide a holistic assessment of organizational performance. A mixed-methods approach was employed, combining qualitative data from interviews and questionnaires with quantitative analysis of audited financial statements from 2021 to 2023. The findings reveal that ASN achieved its highest performance in 2022 across all BSC perspectives, supported by improved profitability indicators and operational efficiency. However, a significant decline occurred in 2023, particularly in financial metrics such as net profit margin, return on investment (ROI), and return on assets (ROA), reflecting weakened equity and rising liabilities. Analytical Hierarchy Process (AHP) results indicate that the financial perspective holds the highest strategic priority, followed by customer, internal process, and learning-growth dimensions. Managerial implications emphasize the urgent need for cost efficiency, enhanced human resource competence, improved customer feedback mechanisms, and strengthened sustainability practices. This study contributes to the literature by providing empirical evidence on the application of BSC in a palm oil company under a state-owned enterprise holding structure, offering practical insights for policymakers and managers in designing balanced and sustainable performance improvement strategies.

Keywords: Balanced Scorecard; Performance Measurement; Palm Oil Industry; Analytical Hierarchy Process; State-Owned Enterprise

1. Introduction

Performance measurement has become increasingly important in management practice and academic research due to global competition, technological disruption, and sustainability pressures. Organizational performance is no longer evaluated solely through financial indicators such as profitability or return on investment, but through a multidimensional approach that also considers non-financial aspects, including customer satisfaction, internal processes, innovation, human resource development, and environmental responsibility (Kaplan & Norton, 1992; Neely, 2005).

In Indonesia, state-owned enterprises (SOEs) play a strategic role in economic development and public welfare, particularly in key sectors such as agribusiness. The Ministry of State-Owned Enterprises has emphasized sustainable growth as a central mandate for SOEs, making performance measurement a critical tool for aligning corporate strategies with stakeholder expectations and ensuring accountability (Kementerian BUMN, 2019). This is especially relevant in the palm oil sector, which remains a major contributor to national income and employment, while facing challenges related to price volatility, environmental scrutiny, and global sustainability demands (USDA, 2023; Schouten & Glasbergen, 2011).

The Balanced Scorecard (BSC) offers a comprehensive performance measurement framework by integrating four perspectives: financial, customer, internal business processes, and learning and growth. By linking strategic objectives with measurable indicators, the BSC supports strategic alignment and continuous improvement, and has been widely adopted across industries and countries, including emerging economies (Kaplan & Norton, 1996; Hoque, 2014). However, prior studies indicate that BSC implementation is often incomplete, with organizations emphasizing financial outcomes and overlooking contextual factors such as organizational culture, leadership commitment, and data availability, particularly in agribusiness firms in emerging markets (Lawrie & Cobbold, 2004; Marr & Schiuma, 2003; Ahn, 2001).

This study contributes to addressing these gaps by applying the BSC to PT Agro Sinergi Nusantara (PT ASN), a subsidiary of PT Perkebunan Nusantara IV, which is a state-owned enterprise operating in the palm oil sector. Established in 2011, PT ASN manages oil palm plantations and a palm oil mill across multiple regions in Aceh Province. Despite its strategic importance, the company has experienced declining financial performance in recent years, raising concerns about its long-term competitiveness and sustainability. Preliminary data from audited financial reports indicate consistent losses between 2021 and 2023, with worsening profitability ratios such as net profit margin (NPM), return on investment (ROI), and return on assets (ROA). These trends underscore the urgent need for a comprehensive performance evaluation that goes beyond financial metrics.

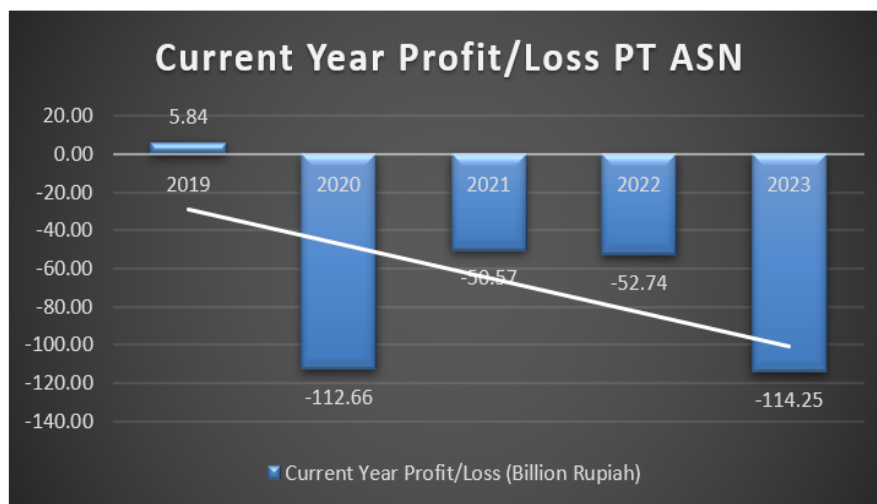


Figure 1. Current Year Profit/Loss PT ASN (Billion Rupiah)

The research problem can therefore be formulated as follows: how can the Balanced Scorecard be applied to assess and improve the performance of PT Agro Sinergi Nusantara? Specifically, the study addresses four research questions:

1. How does PT ASN perform from the financial perspective, based on profitability and efficiency indicators?
2. How does PT ASN perform from the customer perspective, in terms of satisfaction, loyalty, and market responsiveness?
3. How does PT ASN perform from the internal business process perspective, particularly in efficiency, productivity, and sustainability practices?
4. How does PT ASN perform from the learning and growth perspective, with respect to human resource development, innovation, and organizational culture?

The objectives of this study are twofold. First, it aims to evaluate PT ASN's performance comprehensively by integrating financial and non-financial indicators through the BSC framework. Second, it seeks to provide managerial recommendations that can guide the company toward sustainable improvement in line with its vision of becoming a competitive and sustainable palm oil enterprise in Indonesia.

2. Literature Review and Hypothesis Development

2.1. Performance Measurement and the Balanced Scorecard

Traditional performance measurement systems have predominantly emphasized financial outcomes, which provide a limited and lagging view of organizational performance (Kaplan & Norton, 1996). To address this limitation, the Balanced Scorecard (BSC) integrates financial and non-financial measures across four perspectives: financial, customer, internal business processes, and learning and growth. This framework enables organizations to link short-term results with long-term performance drivers such

as innovation and human capital (Hoque, 2014). Recent studies show that the BSC continues to evolve, incorporating digital transformation and sustainability indicators to remain relevant in dynamic environments (Alhyari & Alazab, 2022; Möller & Schaltegger, 2021).

2.2. BSC in Agribusiness and Emerging Markets

Despite its widespread application, BSC research in agribusiness and emerging markets remains limited. Agribusiness firms face challenges related to commodity price volatility, supply chain complexity, and sustainability pressures (Rahman & Abdullah, 2020). In Indonesia, palm oil companies operate under increasing environmental and social scrutiny, making non-financial performance increasingly critical for market access and legitimacy (Putri & Sari, 2021). While constraints such as limited resources and weak data systems hinder BSC adoption (Wibowo et al., 2023), prior studies indicate that integrating sustainability indicators into the BSC improves strategic alignment and performance monitoring in palm oil firms (Othman et al., 2019).

2.3. BSC in State-Owned Enterprises (SOEs)

State-owned enterprises (SOEs) face unique performance measurement challenges due to their dual mandate of achieving financial performance while fulfilling public objectives (Megginson, 2017). In Indonesia, SOEs are encouraged to modernize management practices and strengthen sustainability and competitiveness (Kementerian BUMN, 2019). Empirical evidence suggests that BSC implementation in SOEs enhances transparency and customer satisfaction, although excessive focus on financial metrics remains a key limitation (Wibowo et al., 2023). To address this issue, integrating the BSC with the Analytical Hierarchy Process (AHP) allows organizations to prioritize performance perspectives and strategies more effectively under resource constraints (Saaty, 1980).

3. Research Methodology

3.1. Research Design

This study adopts a mixed-methods design, combining qualitative and quantitative approaches to provide a holistic understanding of organizational performance at PT Agro Sinergi Nusantara (PT ASN). A mixed-methods approach is particularly suitable when examining complex managerial phenomena such as the Balanced Scorecard (BSC), where financial ratios alone cannot capture the underlying drivers of organizational outcomes (Creswell & Plano Clark, 2018).

The qualitative component involved semi-structured interviews with managers and staff across multiple departments, including finance, operations, human resources, and customer relations. These interviews explored perceptions of organizational performance, challenges in achieving strategic goals, and expectations regarding improvement initiatives. Additionally, questionnaires were distributed to capture expert judgments on the relative importance of different performance perspectives.

The quantitative component focused on analyzing audited financial reports for the years 2021, 2022, and 2023. Key performance indicators (KPIs) such as Net Profit Margin (NPM), Return on Assets (ROA), and Return on Investment (ROI) were calculated to assess financial health. These measures were complemented by non-financial indicators, including customer cash receipts, operating profit, and productivity per employee, which were extracted from available annual reports and managerial records.

3.2. Data Sources

The study relied on two main sources of data:

1. Primary Data – Collected through interviews, questionnaires, and expert judgments. These data were essential for translating the company's vision and mission into strategic objectives, which were then classified under the four BSC perspectives. The

questionnaire also elicited pairwise comparisons of perspectives, which served as inputs for the Analytical Hierarchy Process (AHP).

2. Secondary Data – Derived from audited financial statements of PT ASN (2021–2023), corporate reports, and relevant documents obtained from the company. Additional secondary sources included academic journals, books, and policy documents on performance measurement, Balanced Scorecard, and agribusiness.

3.3. Ethical Considerations

The research adhered to ethical principles of academic research. Participation in interviews and surveys was voluntary, and informed consent was obtained from all respondents. Confidentiality was maintained by anonymizing individual responses, and data was used solely for academic purposes.

3.4. Research Framework

The conceptual framework guiding this study is depicted in Figure 1. The framework illustrates the translation of PT ASN's vision and mission into strategic objectives, which were then mapped onto the four BSC perspectives. These objectives were operationalized into indicators, measured using both financial and non-financial data, and weighted through AHP analysis.

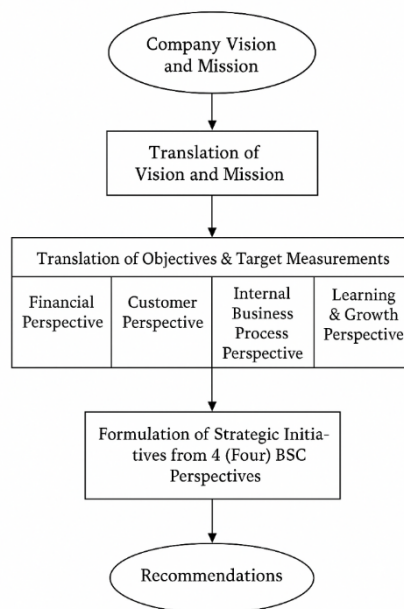


Figure 2. Research Framework of Performance Measurement Using BSC at PT ASN

4. Results and Discussion

4.1. Overview of Company Performance

PT Agro Sinergi Nusantara (PT ASN) is a subsidiary of PT Perkebunan Nusantara IV (PTPN IV), operating in the palm oil agribusiness sector in Aceh Province, Indonesia. The company manages four plantation units and one palm oil mill, producing crude palm oil (CPO) and by-products such as palm kernel and palm shell. Despite its strategic role in the local economy, PT ASN has experienced a decline in performance in recent years, as reflected in its audited financial reports from 2021 to 2023.

The following sections present the results of performance evaluation using the Balanced Scorecard (BSC). Each of the four perspectives is analyzed in detail, supported by financial ratios, operational data, and expert assessments. The Analytical Hierarchy Process (AHP) results are then discussed to highlight the relative importance of each perspective.

4.2. Financial Perspective

Financial performance is traditionally the most visible measure of organizational success, especially for state-owned enterprises that are expected to deliver profitability and contribute to national revenues. For PT ASN, the financial perspective revealed concerning trends between 2021 and 2023.

Table 1. Financial Performance Indicators (2021–2023)

Measured Indicator	2023	2022	2021	Remarks
Net Profit Margin (NPM)	-44.31%	-14.50%	-22.32%	Declined sharply in 2023
Cost of Goods Sold (Rp billion)	248.09	308.38	243.42	COGS temporarily increased significantly in 2022
Administrative Expenses (Rp billion)	31.82	27.16	30.04	Administrative expenses decreased in 2022 but increased again in 2023
ROI (Return on Investment)	-21.00%	-12.69%	-18.47%	Equity deficiency
ROA (Return on Assets)	-12.29%	-5.95%	-7.90%	Worsening performance, losses increasing
Sales Volume	Not available	Not available	Not available	Not disclosed in the financial statements

Source: Processed Data

The results show that the company experienced its best year in 2022, when losses were reduced and profitability indicators improved. However, 2023 marked a significant deterioration, with negative values in all major ratios. The decline in net profit margin (from -14.50% in 2022 to -44.31% in 2023) indicates severe challenges in managing costs relative to revenues. Similarly, ROI and ROA worsened, reflecting weakened asset utilization and investment efficiency.

This finding aligns with prior research suggesting that financial performance in agribusiness firms is highly sensitive to commodity price fluctuations and operational inefficiencies (Rahman & Abdullah, 2020). For PT ASN, external factors such as volatile palm oil prices likely contributed to the downturn, but internal inefficiencies, particularly in cost management, also played a major role.

4.3. Customer Perspective

The customer perspective evaluates how well the organization satisfies its clients and sustains long-term relationships. For agribusiness firms, customer satisfaction is typically reflected in sales revenues, repeat orders, and market share.

Table 2. Customer Performance Indicators (2021–2023)

Measured Indicator	2023	2022	2021	Remarks
Cash Receipts from Customers (Rp billion)	254.27	374.31	303.90	Sharp decline in 2023
Customer Satisfaction Index	Not available	Not available	Not available	Not disclosed in the financial statements
Customer Complaint Percentage	Not available	Not available	Not available	Not reported
Number of Orders	Not available	Not available	Not available	Not reported

Source: Processed Data

The data reveals a sharp decline in customer-related financial inflows in 2023, dropping by nearly 32% compared to 2022. Unfortunately, non-financial indicators such as customer satisfaction surveys, complaint records, or loyalty measures were not systematically documented by PT ASN. This represents a major limitation in the company's performance monitoring system.

From a strategic perspective, the lack of customer-related data indicates a gap in the company's market orientation. Without proper systems to track and respond to customer feedback, PT ASN risks losing competitiveness in both domestic and international markets. Prior studies emphasize that customer-centric performance indicators are critical for agribusiness firms, particularly in industries facing sustainability scrutiny (Putri & Sari, 2021).

4.4. Internal Business Process Perspective

The internal process perspective focuses on the efficiency and effectiveness of operational activities that create value for customers and shareholders. For PT ASN, operating profit was used as a proxy, alongside qualitative assessments of production efficiency.

Table 3. Internal Process Indicators (2021–2023)

Measured Indicator	2023	2022	2021	Remarks
Operating Profit (Rp billion)	-33.15	25.46	17.27	Declined drastically in 2023
Production Downtime (hours)	Not available	Not available	Not available	Not disclosed in the financial statements
Utilization Rate (%)	Not available	Not available	Not available	Requires technical plant data
Loss Percentage (Yield Loss / Output Loss)	Not available	Not available	Not available	No process efficiency reporting

The data show that operating profit improved in 2022, suggesting higher production efficiency or cost control during that year. However, in 2023 the company reported a significant operating loss, indicating inefficiencies and possibly reduced production volume.

Qualitative interviews revealed frequent equipment breakdowns, limited preventive maintenance, and supply chain disruptions as contributing factors. The absence of systematic reporting on machine utilization and production downtime makes it difficult to monitor and improve efficiency. This aligns with the findings of Hammer and Champy (2001), who argued that firms lacking robust internal process data are less able to implement process reengineering and efficiency improvements.

4.5. Learning and Growth Perspective

The learning and growth perspective emphasizes the organization's capacity to innovate, improve, and adapt by developing human capital, information systems, and organizational culture.

Table 4. Learning and Growth Indicators (2021–2023)

Indicator	2021	2022	2023	Trend
Productivity (Revenue / Employee, Rp million)	423	511	359	Decline in 2023
Number of Training Programs	Not available	Not available	Not available	No data
Number of Innovations Implemented	Not available	Not available	Not available	No data

The only available quantitative indicator (productivity per employee) shows a downward trend in 2023. This decline may reflect lower revenues combined with relatively stable workforce size. However, the lack of data on training, innovation, and employee engagement highlights a weakness in HR and knowledge management systems.

Research consistently shows that investment in employee skills and organizational learning is a critical driver of long-term competitiveness (Hsieh et al., 2010). The absence of such investments at PT ASN could explain the company's inability to sustain improvements beyond short-term financial gains in 2022.

4.6. Analysis and Evaluation

This study utilizes audited annual report data of PT Agro Sinergi Nusantara (PT ASN) for the period 2021–2023. Company performance was evaluated using financial ratio analysis by comparing year-to-year achievement changes. Performance range was calculated as follows:

$$\text{Performance Range} = \frac{\text{Achievement}_n - \text{Achievement}_{n-1}}{\text{Achievement}_{n-1}} \times 100\%$$

To standardize performance assessment, a scoring system based on performance ranges was applied, assigning scores from 1 (poor) to 4 (excellent), following Fauzan et al. (2023).

4.7. Balanced Scorecard Performance Results

Performance evaluation was conducted using the four perspectives of the Balanced Scorecard (BSC): financial, customer, internal business processes, and learning and growth. The results indicate a consistent decline in performance in 2023 compared to 2022 across all perspectives.

Table 5. Performance Score Based on Performance Measurement Range

Performance Range	Rating	Score	Criteria
>100%	A	4	Excellent
51–100%	B	3	Good
0–50%	C	2	Fair
<0%	D	1	Poor

From the financial perspective, indicators including net profit margin (NPM), cost of goods sold (COGS), administrative expenses, return on investment (ROI), and return on assets (ROA) show a significant deterioration in 2023. The total financial score decreased from 9 in the 2022–2021 period to 6 in the 2023–2022 period. Notably, NPM declined sharply by –205.59% in 2023, while ROI and ROA dropped by –65.87% and –106.30%, respectively, indicating worsening profitability and asset utilization.

The customer perspective, measured by cash receipts from customers, recorded a 23.17% increase in 2022 but declined by –32.07% in 2023, reflecting reduced demand and weaker market performance. Consequently, the customer score fell from 2 to 1.

For the internal business process perspective, operating profit was used as a proxy for operational efficiency. While operating profit increased by 47.44% in 2022, it declined sharply by –230.19% in 2023, indicating substantial inefficiencies in core operational activities.

In the learning and growth perspective, employee productivity (revenue per employee) improved by 20.80% in 2022 but decreased by –29.75% in 2023, suggesting declining workforce effectiveness and limited investment in human capital development.

Overall, the total BSC score declined from 15 (2022–2021) to 9 (2023–2022), confirming a comprehensive deterioration in organizational performance.

Table 6. Total Balanced Scorecard Score

Description	2023 vs 2022	2022 vs 2021
Financial Perspective	6	9
Customer Perspective	1	2
Internal Business Process Perspective	1	2
Learning and Growth Perspective	1	2
Total Balanced Scorecard Score PT Agro Sinergi Nusantara	9	15

4.8. Analytical Hierarchy Process (AHP) Results

To validate strategic priorities, the Analytical Hierarchy Process (AHP) was applied using questionnaire data completed by PT ASN management. The results show that the financial perspective holds the highest priority weight (0.53520), followed by customer (0.19254), internal business processes (0.17025), and learning and growth (0.10201). This indicates a strong financial orientation, with relatively less emphasis on long-term capability development.

The consistency ratio (CR) of 0.07875 confirms acceptable consistency ($CR \leq 0.1$), in line with Marimin and Maghfiroh (2011). Adjustments to pairwise comparisons were made following Saaty (1980) to improve logical consistency.

Further AHP analysis within each perspective reveals that net profit margin is the most critical financial indicator, number of orders is the key customer criterion, utility rate dominates internal process evaluation, and innovation/improvement is the most important factor in the learning and growth perspective. All AHP models demonstrated acceptable consistency, reinforcing the robustness of the findings.

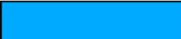



Inconsistency: 0.07875		
1Keuangan		0.53520
2Pelanggan		0.19254
3Proses B~		0.17025
4Pembelaj~		0.10201

Figure 3. Priority Weights of Balanced Scorecard (BSC) Perspectives

5. Conclusion and Managerial Implications

This study applied the Balanced Scorecard (BSC) framework to evaluate the performance of PT Agro Sinergi Nusantara (PT ASN), a state-owned enterprise operating in the palm oil agribusiness sector. By integrating financial and non-financial perspectives—financial, customer, internal business processes, and learning & growth—this research provides a holistic view of organizational performance, supported by both audited financial data and expert judgment through the Analytical Hierarchy Process (AHP).

The findings demonstrate that PT ASN experienced its strongest performance in 2022, with improvements in profitability and operating efficiency. However, these gains proved unsustainable, as 2023 recorded a drastic decline across all major financial indicators, including net profit margin, ROI, and ROA. This confirms that financial improvements were not underpinned by structural changes in customer management, process efficiency, or human resource development.

The customer perspective revealed significant weaknesses. Although financial inflows from customers increased in 2022, they declined sharply in 2023. More importantly, the company lacked systematic data on customer satisfaction, loyalty, or complaints, reflecting limited market orientation and an underdeveloped feedback system. Without reliable customer metrics, PT ASN faces challenges in maintaining competitiveness in both domestic and international markets, especially under growing sustainability scrutiny.

Internal process evaluation further highlighted inefficiencies, with operating profit collapsing in 2023 and little data available on production downtime, machine utilization, or process losses. These gaps suggest the absence of comprehensive performance monitoring systems that are essential for operational excellence. Similarly, the learning and growth perspective showed declining productivity per employee and no evidence of systematic investment in training, innovation, or knowledge management. This weakness undermines the company's capacity to adapt and innovate in the face of dynamic market challenges.

The AHP analysis confirmed that the financial perspective is prioritized by PT ASN, followed by customer, internal processes, and learning & growth. While this prioritization reflects the urgent need to restore financial health, it also reveals an imbalance that risks jeopardizing long-term sustainability. Overemphasis on financial results can lead to neglect of non-financial drivers, such as customer satisfaction, process efficiency, and employee development, which are critical for sustainable performance.

From a managerial standpoint, several implications arise:

1. Strengthening financial discipline – PT ASN must continue to focus on cost control, asset utilization, and profitability. However, financial recovery should be supported by structural improvements rather than short-term adjustments.
2. Building customer-centric systems – The absence of customer-related data highlights the urgent need for systematic surveys, complaint tracking, and customer relationship management systems. Strengthening customer orientation will help the company secure market share and respond to changing consumer preferences.
3. Improving operational efficiency – Investment in preventive maintenance, supply chain reliability, and process monitoring is necessary to prevent further operational losses. Introducing lean manufacturing practices could enhance productivity and reduce waste.
4. Investing in human capital and innovation – Training programs, competency development, and innovation initiatives should be institutionalized to foster organizational learning. This investment will enhance employee engagement and support long-term competitiveness.
5. Integrating sustainability metrics – As the palm oil industry faces global scrutiny, PT ASN should expand the BSC to incorporate environmental and social indicators. Metrics such as carbon emissions, waste reduction, and community development initiatives could enhance legitimacy and align with international sustainability standards.

In conclusion, while the financial perspective remains central for PT ASN, this study underscores the importance of adopting a balanced approach that incorporates customer, process, and learning perspectives. By institutionalizing comprehensive performance measures, the company can move beyond reactive cost-cutting and toward strategic growth. For state-owned enterprises more broadly, the case of PT ASN illustrates both the potential and the challenges of applying for the Balanced Scorecard in agribusiness. A holistic and sustainability-oriented BSC implementation can strengthen accountability, competitiveness, and resilience in an increasingly demanding global environment.

References

- [1] Ahn, H. (2001). Applying the Balanced Scorecard concept: An experience report. *Long Range Planning*, 34(4), 441–461.
- [2] Alhyari, S., & Alazab, M. (2022). Balanced scorecard in the era of digital transformation: A systematic review. *Journal of Business Research*, 150, 245–260.
- [3] Bulusu, N., & Guérin, P. (2019). What drives interbank loans? Evidence from Canada. *Journal of Banking & Finance*, 106, 427–444.
- [4] Fauzan, A. W., Zulpahmi, & Sumardi (2023). *Performance measurement of PT Indofood CBP Sukses Makmur Tbk using the Balanced Scorecard*. *Widya Cipta: Jurnal Sekretari dan Manajemen*, 7(1).
- [5] Hansen, E. G., & Schaltegger, S. (2016). The sustainability balanced scorecard: A systematic review. *Journal of Business Ethics*, 133(2), 193–221.
- [6] Hoque, Z. (2014). 20 years of studies on the Balanced Scorecard: Trends, accomplishments, gaps and opportunities. *British Accounting Review*, 46(1), 33–59.
- [7] Hsieh, H., Lin, L., & Chuang, C. (2010). Balanced scorecard and performance improvement: A comparative study. *Service Industries Journal*, 30(4), 543–561.
- [8] Kaplan, R. S., & Norton, D. P. (1992). The Balanced Scorecard—measures that drive performance. *Harvard Business Review*, 70(1), 71–79.
- [9] Kaplan, R. S., & Norton, D. P. (1996). Using the Balanced Scorecard as a strategic management system. *Harvard Business Review*, 74(1), 75–85.
- [10] Kaplan, R. S., & Norton, D. P. (2004). *Strategy Maps: Converting Intangible Assets into Tangible Outcomes*. Harvard Business School Press.
- [11] Kementerian BUMN Republik Indonesia. (2019). *Laporan Transformasi BUMN*. Jakarta: Kementerian BUMN.
- [12] Lämsiluoto, A., & Järvenpää, M. (2010). Greening the Balanced Scorecard. *Business Strategy and the Environment*, 19(6), 420–435.
- [13] Lawrie, G., & Cobbold, I. (2004). Third-generation balanced scorecard: Evolution of an effective strategic control tool. *International Journal of Productivity and Performance Management*, 53(7), 611–623.
- [14] Marr, B., & Schiuma, G. (2003). Business performance measurement—past, present, and future. *Management Decision*, 41(8), 680–687.
- [15] Megginson, W. (2017). Privatization, state-owned enterprises, and performance. *Journal of Economic Literature*, 55(2), 301–377.
- [16] Möller, K., & Schaltegger, S. (2021). Performance measurement for sustainability: Extending the Balanced Scorecard. *Business Strategy and the Environment*, 30(1), 1–17.
- [17] Neely, A. (2005). The evolution of performance measurement research. *International Journal of Operations & Production Management*, 25(12), 1264–1277.
- [18] PT Perkebunan Nusantara IV. (2023). *Laporan Tahunan dan Laporan Keuangan Audited 2021–2023*. Medan: PTPN IV.
- [19] Putri, R., & Sari, D. (2021). Measuring sustainability performance in palm oil plantations using a Balanced Scorecard approach. *Journal of Cleaner Production*, 316, 128–312.
- [20] Rahman, M. M., & Abdullah, A. (2020). Performance evaluation of agribusiness firms using Balanced Scorecard. *Sustainability*, 12(4), 1558.
- [21] Saaty, T. L. (1980). *The Analytic Hierarchy Process*. McGraw-Hill.
- [22] Wibowo, A., Santoso, S., & Prasetyo, R. (2023). Adoption of the Balanced Scorecard in Indonesian SOEs: Challenges and strategic opportunities. *International Journal of Productivity and Performance Management*, 72(4), 1012–1030.