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Evaluation of the Performance Measurement System at PT Sinergi Gula Nusantara (PT SGN) Using the Balanced Scorecard Approach to Support Alignment Between Individual and Unit Performance

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Abstrak

Penelitian ini mengkaji perancangan ulang sistem pengukuran kinerja di PT Sinergi Gula Nusantara (SGN) melalui penerapan kerangka *Balanced Scorecard* (BSC) yang diintegrasikan ke dalam *platform* digital bernama *Agro Performance Management System* (APMS). Sebelum tahun 2024, SGN menggunakan sistem kinerja berbasis kompetensi yang terutama menilai perilaku individu dan pelaksanaan tugas. Meskipun sistem tersebut efektif dalam menilai akuntabilitas personal, sistem ini belum mampu merepresentasikan kinerja operasional pada tingkat unit secara memadai, sehingga menimbulkan kesenjangan antara penilaian kinerja individu dan capaian kinerja organisasi secara nyata. Dengan menggunakan pendekatan deskriptif dan evaluatif yang didukung oleh data kualitatif dan kuantitatif, penelitian ini menelaah dokumen internal, laporan kinerja, serta proses implementasi sistem selama masa transisi tahun 2023–2024. Hasil penelitian menunjukkan bahwa integrasi indikator kinerja tingkat unityaitu produktivitas, rendemen, dan biaya kas ke dalam penilaian kinerja individu mampu memperkuat keselarasan kinerja secara vertikal maupun horizontal. Selain itu, penerapan APMS berbasis BSC meningkatkan transparansi, konsistensi, dan integrasi strategis dalam evaluasi kinerja. Penelitian ini membuktikan bahwa sistem yang telah dirancang ulang tidak hanya berfungsi sebagai mekanisme penilaian kinerja, tetapi juga sebagai alat manajemen strategis yang mendukung transformasi organisasi dan peningkatan kinerja berkelanjutan.

Kata kunci: Balanced Scorecard; manajemen kinerja; keselarasan kinerja; APMS; industri gula

Abstract

This paper examines the redesign of the performance measurement system at PT Sinergi Gula Nusantara (SGN) through the implementation of a Balanced Scorecard (BSC) framework embedded in a digital platform known as the Agro Performance Management System (APMS). Before 2024, SGN relied on a competency-oriented performance system that primarily assessed individual behavior and task execution. Although suitable for evaluating personal accountability, the system did not adequately represent operational performance at the unit level, resulting in a gap between individual performance ratings and actual organizational outcomes. Using a descriptive and evaluative approach supported by qualitative and quantitative data, this study reviews internal documents, performance reports, and system implementation during the 2023–2024 transition period. The results show that incorporating unit-level indicators productivity, yield (rendemen), and cash cost into individual performance assessments strengthens both vertical and horizontal performance alignment. In addition, the BSC-based APMS improves transparency, consistency, and strategic integration in performance evaluation. The study demonstrates that the revised system serves not only as an assessment mechanism but also as a strategic management tool that supports organizational transformation and sustainable performance improvement.

Keywords: Balanced Scorecard; performance management; performance alignment; APMS; sugar industry.

1. Introduction

The Indonesian sugar industry continues to face long-standing structural challenges, including low agricultural productivity, inefficient production processes, and relatively high production costs. These issues have reduced the competitiveness of domestic sugar production and increased dependence on imports to satisfy national demand. In response to these conditions, the Government

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of Indonesia undertook a restructuring of state-owned plantation enterprises within the PTPN Group, resulting in the establishment of PT Sinergi Gula Nusantara (SGN) as a dedicated subholding responsible for managing and integrating the national sugar business.

As the primary entity overseeing sugar operations, SGN is expected to enhance productivity, improve cost efficiency, and ensure operational integration across plantations and sugar mills. Achieving these objectives requires more than technological upgrades and organizational restructuring; it also demands a performance measurement system that effectively links individual employee contributions with unit-level and organizational outcomes. Since commencing full operations in 2023, SGN has launched several improvement initiatives, including mechanization of cultivation activities, modernization of processing facilities, and refinement of organizational structures. However, the effectiveness of these initiatives depends largely on how well employee performance is aligned with strategic objectives.

Prior to 2024, SGN applied a competency-based performance management system that emphasized behavioral indicators and completion of individual tasks. While this approach supported personal development, it did not sufficiently capture the collective performance of operational units. Consequently, high individual performance scores were not always accompanied by improvements in productivity, yield, or cost efficiency at the unit level. This situation highlighted the need for a more integrated and strategy-driven performance measurement framework.

The Balanced Scorecard, introduced by Kaplan and Norton, provides a multidimensional approach to performance measurement by combining financial and non-financial indicators within four interrelated perspectives: financial, customer, internal business processes, and learning and growth. By connecting strategic objectives with measurable outcomes, the BSC offers a mechanism for aligning individual actions with organizational goals. This study evaluates the application of a BSC-based performance measurement system through APMS at SGN and assesses its role in improving performance alignment.

2. Literature Review and Conceptual Framework

2.1 Performance Measurement and Strategic Alignment

Performance measurement systems are essential for translating organizational strategies into operational activities. Conventional systems that rely predominantly on financial metrics are often insufficient in complex and dynamic industries, as they tend to emphasize historical outcomes rather than future performance drivers. Kaplan and Norton argue that a comprehensive performance framework must integrate both financial and non-financial indicators to provide a balanced view of organizational performance.

The Balanced Scorecard addresses this limitation by organizing performance indicators into four complementary perspectives. The financial perspective focuses on profitability and cost control, the customer perspective emphasizes value delivery and service reliability, the internal process perspective evaluates the efficiency of key operational activities, and the learning and growth perspective highlights the role of human capital, organizational culture, and information systems in sustaining performance.

2.2 Balanced Scorecard Mapping at SGN

At SGN, the BSC is employed as a strategic alignment framework rather than a simple performance checklist. Strategic objectives and key indicators are mapped across the four perspectives to ensure coherence between organizational goals and operational execution. Table 1 summarizes the BSC mapping applied in this study.

Table 1. Balanced Scorecard Mapping at PT Sinergi Gula Nusantara

Perspective	Strategic Objective	Key Performance Indicator
Financial	Improve cost efficiency	Cash cost per ton of sugar
Customer	Maintain supply reliability	Sugar demand fulfillment rate
Internal Process	Enhance production efficiency	Productivity and yield (rendemen)
Learning & Growth	Build a performance-oriented culture	Individual performance score

This mapping provides the conceptual basis for cascading unit-level performance indicators into individual performance evaluations through APMS.

3. Research Methodology

This study adopts a descriptive and evaluative research design using a mixed-methods approach. Qualitative data were collected through analysis of internal policy documents and structured interviews with managers and personnel involved in performance management. Quantitative data were obtained from individual performance appraisal records and unit-level operational reports for the periods before and after system implementation.

The research focuses on PT Sinergi Gula Nusantara, particularly its production units and operational departments. The observation period covers 2023 as the final year of the competency-based system and 2024 as the initial year of the BSC-based APMS implementation. Data analysis was conducted using descriptive qualitative techniques, supported by basic quantitative comparisons to examine changes in performance alignment.

4. Results and Discussion

4.1 Changes in Performance Measurement Structure

Before 2024, individual performance evaluation at SGN was largely driven by personal targets and behavioral indicators, accounting for approximately 70% of the total performance score. Unit-level operational outcomes were not directly incorporated into individual appraisals, resulting in weak alignment between individual scores and operational performance.

Following the introduction of the BSC-based APMS in 2024, unit performance indicators were formally integrated into individual performance assessments with a combined weighting of 21%. These indicators include productivity, yield, and cash cost efficiency. Table 2 presents a comparison of the performance measurement structure before and after the implementation of the revised system.

Table 2. Comparison of Performance Measurement Structure

Aspect	2023 System	2024 BSC-Based System
Orientation	Individual competency	Strategic and integrated
Individual indicators	70%	79%
Unit performance indicators	Not included	21%
Evaluation method	Manual/semi-digital	Digital (APMS)
Alignment level	Limited	Improved

4.1.1 Measurement of Unit Performance Indicators. Unit performance indicators are calculated using standardized formulas to ensure objectivity and comparability. Table 3 outlines the indicators and their corresponding measurement formulas.

Table 3. Unit Performance Indicators and Calculation Methods

Indicator	Formula	Purpose
Productivity	Total sugar output / cultivated area	Measures production efficiency
Yield (Rendemen)	Sugar output / cane input × 100%	Measures extraction efficiency
Cash cost	Total cash cost / sugar output	Measures cost efficiency

The measurement of unit performance indicators is designed to ensure objectivity, consistency, and comparability across operational units at PT Sinergi Gula Nusantara. Three key indicators productivity, yield (rendemen), and cash cost were selected because they directly reflect the core operational performance of sugar production units and are closely aligned with the company's strategic objectives. These indicators represent critical success factors in the sugar industry, where efficiency of land use, extraction effectiveness, and cost control determine overall competitiveness.

Productivity is measured as the ratio of total sugar output to the cultivated area, capturing the effectiveness of production activities at the unit level. This indicator reflects how efficiently land and operational resources are utilized and serves as a key benchmark for comparing performance among units with similar characteristics. Yield (rendemen) measures the percentage of sugar extracted from sugarcane input and represents the technical efficiency of the milling and processing stages. Improvements in yield indicate better coordination between agricultural practices and factory operations, as well as more effective process control.

Cash cost is calculated as the total cash-based operational expenditure divided by total sugar output. This indicator focuses on cost efficiency and highlights the ability of each unit to control variable costs throughout the production cycle. By emphasizing cash cost rather than total cost, the measurement framework provides management with a clearer view of controllable expenses that can be directly influenced by operational decisions.

To maintain consistency, all indicators are calculated using standardized formulas and data sources embedded within the APMS platform. This standardization reduces discrepancies in measurement practices across units and minimizes subjectivity in performance evaluation. By integrating these unit-level indicators into individual performance assessments, the system ensures that employee performance ratings are more closely aligned with actual operational outcomes, thereby strengthening both vertical and horizontal performance alignment within the organization.

4.3 Performance Score Calculation

The integration of unit performance into individual appraisal is illustrated in Table 4, which presents a simplified example of performance score calculation.

Table 4. Example of Individual Performance Score Calculation

Component	Weight	Score	Weighted result
Individual KPIs	79%	85	67.15
Unit productivity	7%	80	5.60
Unit yield	7%	75	5.25
Unit cash cost	7%	90	6.30
Total score	**100%**	–	**84.30**

The total performance score is obtained by summing the weighted values of each component.

4.4 Discussion

The inclusion of unit-level indicators produces a more comprehensive and representative performance evaluation framework. Employees are assessed based not only on individual achievements but also on collective operational outcomes, thereby encouraging collaboration and shared responsibility. This approach addresses the limitations of the previous competency-based system, which tended to isolate individual performance from organizational results.

From a strategic perspective, the redesigned system operationalizes the cause-and-effect logic of the Balanced Scorecard. Improvements in employee capability and engagement (learning and growth) contribute to more efficient production processes (internal processes), which in turn support cost efficiency and financial performance. APMS functions as an enabling platform that ensures data accuracy, standardization, and timely performance monitoring.

Learning and Growth → Internal Process → Financial Performance → Strategic Outcomes

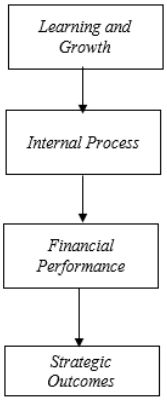

Figure 1. Conceptual Flow of APMS–BSC Performance Alignment

The integration of unit-level performance indicators into individual performance assessments provides a more holistic and representative evaluation framework compared to the previous competency-based system. Under the redesigned system, employees are no longer assessed solely on personal behavior and task completion, but also on the operational outcomes achieved by their respective units. This shift encourages collective accountability and reinforces the understanding that individual performance is intrinsically linked to unit and organizational success. As a result, the performance measurement system moves away from an individualistic orientation toward a more collaborative and results-driven approach.

From a strategic management perspective, the findings indicate that the Balanced Scorecard framework embedded in APMS effectively operationalizes the cause-and-effect relationships among the four BSC perspectives. Improvements in employee competence, discipline, and engagement within the learning and growth perspective contribute to more efficient internal processes, particularly in terms of productivity and yield. Enhanced internal process performance subsequently supports better financial outcomes through improved cost control, as reflected in lower cash cost indicators. This alignment confirms that the BSC functions not merely as a performance monitoring tool, but as a mechanism for translating strategy into measurable operational actions.

Furthermore, the implementation of APMS as a digital performance management platform strengthens the consistency and

objectivity of performance evaluation. Automated data processing and standardized calculation methods reduce subjectivity and discrepancies across units, while real-time performance visibility enables management to monitor progress continuously and respond more promptly to performance deviations. In this context, APMS serves as a strategic enabler that bridges the conceptual Balanced Scorecard framework with day-to-day performance management practices, supporting organizational transformation and sustained performance improvement at PT Sinergi Gula Nusantara.

5. Managerial Implications

The findings suggest several practical implications for management. Integrating unit-level indicators into individual performance assessments promotes collective accountability and aligns employee behavior with strategic priorities. The use of a digital performance management system enhances transparency and reduces subjectivity in evaluation processes. Moreover, the availability of real-time performance data supports more informed managerial decision-making and continuous performance improvement.

The findings of this study offer several important managerial implications for organizations undergoing performance management transformation, particularly within state-owned agribusiness enterprises. First, the integration of unit-level performance indicators into individual performance appraisal systems encourages shared responsibility and cross-functional collaboration. By linking individual performance outcomes with unit productivity, yield, and cost efficiency, management can reduce silo-oriented behavior and promote alignment between personal objectives and organizational priorities.

Second, the adoption of a Balanced Scorecard-based framework enables management to shift the role of performance measurement from a purely evaluative function to a strategic management instrument. The cascading of strategic objectives into measurable indicators across individual and unit levels provides clearer performance expectations and strengthens accountability. This approach allows managers to monitor strategic execution more effectively and to identify performance gaps that require corrective actions at an early stage.

Third, the use of a digital platform such as APMS enhances transparency, consistency, and credibility in performance evaluation. Standardized data processing and real-time performance monitoring reduce subjectivity and information asymmetry between employees and management. As a result, performance discussions can be conducted based on objective data rather than perceptions, improving trust in the appraisal process and supporting more constructive feedback mechanisms.

Finally, the redesigned performance measurement system supports continuous performance improvement by providing timely and actionable performance information. Managers can utilize performance data not only for appraisal purposes, but also for operational planning, resource allocation, and capability development. In the long term, this system can serve as a foundation for strengthening performance-oriented culture and supporting sustainable organizational transformation at PT Sinergi Gula Nusantara.

6. Conclusion and Future Research

This study demonstrates that the adoption of a Balanced Scorecard-based performance measurement system through APMS has improved the alignment between individual and unit performance at PT Sinergi Gula Nusantara. By embedding operational and financial indicators into individual appraisals, SGN has strengthened strategic alignment and performance accountability.

The study contributes by presenting a practical model for integrating BSC principles into digital performance management systems within state-owned agribusiness organizations. Future research may expand this analysis by examining long-term performance trends and exploring the relationship between performance alignment, employee motivation, and organizational sustainability.

This study concludes that the implementation of a Balanced Scorecard-based performance measurement system through the Agro Performance Management System (APMS) has significantly improved the alignment between individual performance and unit-level operational outcomes at PT Sinergi Gula Nusantara. By integrating key operational indicators productivity, yield, and cash cost into individual performance assessments, the redesigned system addresses the limitations of the previous competency-oriented approach, which tended to separate personal performance from organizational results. The findings demonstrate that the revised system functions not only as a performance evaluation mechanism but also as a strategic management tool that supports the execution of organizational objectives.

From a practical standpoint, the study highlights the importance of aligning performance measurement systems with strategic priorities, particularly in complex and operationally intensive industries such as agribusiness. The use of the Balanced Scorecard framework ensures that performance is evaluated from multiple perspectives, while the digitalization of the appraisal process through APMS enhances transparency, consistency, and data-driven decision-making. These elements collectively contribute to the development of a more integrated and performance-oriented organizational culture.

Despite its contributions, this study has several limitations that open avenues for future research. The analysis is primarily based on a single organizational context and a relatively short observation period following system implementation. Future studies may extend this research by examining the long-term impact of BSC-based performance systems on organizational productivity,

financial sustainability, and employee motivation. Additionally, comparative studies across different state-owned enterprises or agribusiness sectors could provide deeper insights into the adaptability and effectiveness of digital performance management systems in diverse organizational settings.

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