

**THE APPLICATION OF RESPONSIBILITY ACCOUNTING AS A TOOL FOR
MEASURING MANAGEMENT PERFORMANCE AT PT PERKEBUNAN
NUSANTARA IV REGIONAL II KEBUN AND PKS ADOLINA PERBAUNGAN**

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ABSTRACT

PT Perkebunan Nusantara IV Regional II Kebun Perbaungan operates within a framework that demands the achievement of clearly defined performance targets. Effective implementation of responsibility accounting is expected to improve management performance in conducting company activities, while in turn, effective management performance supports the optimal application of responsibility accounting, enabling the achievement of organizational goals. This study aims to analyze the application of responsibility accounting at PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan, and to examine how responsibility accounting is utilized as a tool for measuring management performance. A qualitative descriptive methodology was employed, with data collected through observation, interviews, and documentation techniques. The findings reveal that the average realized production costs exceeded the established budget, generating unfavorable variances particularly in palm oil production activities. This indicates that cost control was not yet operating optimally and requires more intensive managerial attention. Nevertheless, the responsibility accounting system functioned effectively as a management performance measurement tool, with evaluations carried out through internal management reports containing production realization data, cost utilization information, and target achievement results, followed by corrective actions for each identified deviation. Keywords: Responsibility Accounting, Management Performance, Cost Control, PTPN IV, Palm Oil Industry, Budget Variance

ABSTRAK

PT Perkebunan Nusantara IV Regional II Kebun Perbaungan beroperasi dalam kerangka kerja yang menuntut pencapaian target kinerja yang jelas. Implementasi akuntansi pertanggungjawaban yang efektif diharapkan dapat meningkatkan kinerja manajemen dalam menjalankan aktivitas perusahaan, sementara pada gilirannya, kinerja manajemen yang efektif mendukung penerapan akuntansi pertanggungjawaban yang optimal, sehingga memungkinkan pencapaian tujuan organisasi. Studi ini bertujuan untuk menganalisis penerapan akuntansi pertanggungjawaban di PT Perkebunan Nusantara IV Regional II Kebun dan PKS Adolina Perbaungan, dan untuk meneliti bagaimana akuntansi pertanggungjawaban digunakan sebagai alat untuk mengukur kinerja manajemen. Metodologi deskriptif kualitatif digunakan, dengan data dikumpulkan melalui teknik observasi, wawancara, dan dokumentasi. Temuan menunjukkan bahwa biaya produksi rata-rata yang terealisasi melebihi anggaran yang

ditetapkan, menghasilkan varians yang tidak menguntungkan khususnya dalam kegiatan produksi minyak sawit. Hal ini menunjukkan bahwa pengendalian biaya belum beroperasi secara optimal dan membutuhkan perhatian manajerial yang lebih intensif. Meskipun demikian, sistem akuntansi pertanggungjawaban berfungsi secara efektif sebagai alat pengukuran kinerja manajemen, dengan evaluasi yang dilakukan melalui laporan manajemen internal yang berisi data realisasi produksi, informasi pemanfaatan biaya, dan hasil pencapaian target, diikuti dengan tindakan korektif untuk setiap penyimpangan yang teridentifikasi.

Kata Kunci: Akuntansi Pertanggungjawaban, Kinerja Manajemen, Pengendalian Biaya, PTPN IV, Industri Minyak Sawit, Varians Anggaran

I. INTRODUCTION

In today's increasingly complex and competitive business environment, organizations require robust management control systems capable of providing accurate, timely, and relevant information to evaluate the performance of each organizational unit. A management control system serves as the backbone of organizational governance, ensuring that resources are allocated efficiently and that performance is monitored systematically across all levels of the organizational hierarchy. Among the instruments designed for this purpose, responsibility accounting has emerged as one of the most critical, given its capacity to classify responsibility centers, distinguish between controllable and non-controllable costs, and generate performance reports aligned with the specific authority of each manager (Morasa et al., 2024).

Responsibility accounting is not merely a financial reporting mechanism; it is a strategic management tool that aligns individual accountability with organizational objectives. The system enables senior management to identify which unit or individual is responsible for a given deviation from a budget plan, thereby facilitating targeted corrective action. In the context of large and geographically dispersed organizations such as state-owned plantation enterprises the need for an effective responsibility accounting system is even more pronounced, as the complexity of operations demands clear lines of accountability across numerous operational units.

In Indonesia, demands for transparency and accountability have intensified significantly in recent years, particularly for state-owned enterprises (SOEs) such as PT Perkebunan Nusantara (PTPN), which manage large-scale agricultural and industrial assets on behalf of the state. The plantation industry operated by PTPN encompasses a wide operational structure involving numerous units, thousands of employees, and complex supply chains that necessitate stringent cost control and performance monitoring. The application of responsibility accounting within this context is therefore not optional but essential for ensuring effective management and achieving organizational targets (Suratman, 2025).

PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan, located in Kabupaten Serdang Bedagai, North Sumatra, is one such operational unit within the PTPN IV group. The company has experienced a number of documented management performance challenges in recent years. Field observations have revealed issues including uncontrolled weeds, poorly maintained oil palm trees, neglected harvest road access, and the absence of adequate boundary fencing all of which reflect deficiencies in operational planning, supervision, and the execution of plantation maintenance activities. Additionally, allegations of unallocated maintenance budgets and discrepancies between field conditions and official audit findings by the BPK (Supreme Audit Agency) have raised concerns about internal control systems and the accuracy of managerial reporting (Editor, 2025).

Further compounding these challenges, in 2024 the company publicly committed to allocating Corporate Social Responsibility (CSR) funds for the normalization of drainage channels traversing Desa Citaman Jernih, Perbaungan, which had been identified as a contributing factor to flooding incidents in the area. However, as of early 2025, this commitment remained unrealized, resulting in significant community dissatisfaction and raising serious questions about the consistency of the company's social accountability and its responsiveness to environmental and community concerns (Basri, 2025). These conditions collectively underscore the need for a more structured, transparent, and effective

responsibility accounting system capable of supporting improved management performance and organizational accountability.

The theoretical underpinning of this study is drawn from the concept of Responsibility Accounting, as articulated by Yusuf and Syam (2022), who define it as an approach that ensures every organizational unit is held accountable for its performance through the systematic collection, recording, and reporting of financial data. This approach not only facilitates enhanced financial accountability but also reinforces principles of leadership, performance management, and organizational innovation at every hierarchical level. The primary objective of this study is therefore twofold: first, to analyze the extent to which responsibility accounting is applied at PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan in accordance with established theoretical requirements; and second, to examine how this system is employed as a practical tool for measuring and evaluating management performance.

This study contributes to the academic literature by providing empirical evidence of responsibility accounting practices in the Indonesian state-owned plantation sector a context that has received limited scholarly attention despite its significant economic and social importance. The findings are also expected to offer practical recommendations that can assist company management, policymakers, and future researchers in designing and improving responsibility accounting systems for similar organizational contexts.

II. LITERATURE REVIEW

Responsibility Accounting

Responsibility accounting is broadly defined as a system of accounting specifically structured to ensure that the accumulation and reporting of costs and revenues are conducted in accordance with designated responsibility centers within an organization. Its fundamental objective is to identify the individuals or groups accountable for deviations from budgeted costs and revenues (Morasa et al., 2024). This system serves as a comprehensive mechanism encompassing planning, measurement, and evaluation of accounting information across an organization composed of multiple responsibility centers, each led by a manager accountable for the activities within their designated domain.

Novia (2025) offers a complementary definition, describing responsibility accounting as a process of collecting, recording, and presenting reports on financial transactions and activities occurring within a company, with the explicit purpose of assisting management in obtaining cost- and revenue-related information that reflects the degree to which assigned responsibilities have been fulfilled. The system is also distinguished by its attention to the behavioral dimension of management: since cost planning is conducted through a budgetary system and accumulated based on accountability structures, it actively encourages managers to pursue organizational objectives through targeted performance incentives and corrective feedback mechanisms.

According to Suratman (2025), responsibility accounting is fundamentally concerned with how an organization manages its resources and financial decisions with a sense of full accountability. At its core, it is about aligning individual goals with organizational objectives, inspiring all members to contribute maximally, and ensuring that every decision and action within the organization is purposeful and meaningful. When implemented effectively, this system creates a culture of transparency in which deviations are promptly identified, causes are investigated, and corrective actions are taken in a structured and documented manner.

Key Elements of Responsibility Accounting

The effective implementation of a responsibility accounting system depends upon the presence and proper functioning of five interrelated key elements. A thorough understanding of these elements is essential for evaluating the quality of any responsibility accounting application.

The first element is a clearly defined organizational structure. For responsibility accounting to function effectively, the organization must possess a formal structure that explicitly delineates the authority and responsibility of each unit and manager. This structural clarity enables the system to assign

accountability for specific cost items to identifiable individuals or units, forming the foundation for objective performance evaluation.

The second element is a well-structured budgeting process. Budgets serve as the primary benchmark against which actual performance is measured. The budgeting process should ideally incorporate the participation of managers at all levels consistent with a bottom-up approach to ensure that budget targets are realistic, ownership is cultivated, and the resulting data provide a credible basis for performance assessment.

The third element is the classification and separation of costs into controllable and non-controllable categories. This distinction is fundamental to the fairness and accuracy of performance evaluation under a responsibility accounting system. Managers should only be held accountable for costs that lie within the scope of their authority and decision-making power, ensuring that performance assessments reflect genuine managerial capability rather than exogenous factors.

The fourth element is a systematic account coding system. An organized and consistently applied account coding structure enables each cost item to be linked directly to a specific responsibility center, facilitating the traceability of costs and the identification of the manager responsible for their management. This coding system forms the technical backbone of the cost reporting mechanism.

The fifth and final element is a comprehensive cost reporting system. Periodic responsibility reports comparing budgeted and actual costs by responsibility center constitute the primary output of the responsibility accounting system. These reports enable management to identify variances, investigate their causes, and take appropriate corrective action in a timely manner (Triana & Sustri, 2021).

Types of Responsibility Centers

Thomas (2018) defines a responsibility center as any organizational unit led by a manager who is accountable for the activities conducted within their sphere of authority. Responsibility centers are formed to achieve specific organizational objectives and can be classified into four main types, each reflecting a different scope of managerial accountability.

A revenue center is primarily concerned with the generation of revenue and is typically associated with sales or marketing departments. The performance of a revenue center manager is evaluated based on the volume or value of revenues achieved relative to target, with less emphasis on the costs incurred in the process.

A cost center is a responsibility center in which inputs are measured in monetary terms but outputs are not. In a cost center, management is evaluated based on its ability to minimize costs while maintaining acceptable output quality and quantity. Effective cost control within a cost center requires sound communication between accounting information systems and operational management at all levels.

A profit center is a responsibility center in which both inputs (costs) and outputs (revenues) are measured in monetary units, enabling the computation of profit as the key performance metric. Profit center managers therefore bear accountability for both the revenues generated and the costs incurred under their authority, making this a broader and more integrated form of responsibility.

An investment center is the most comprehensive type of responsibility center, in which managers are accountable not only for revenues and costs but also for the investment base including fixed assets and working capital under their control. Performance in an investment center is typically evaluated using metrics such as Return on Investment (ROI) or Economic Value Added (EVA), reflecting the efficiency with which capital resources are deployed to generate returns.

Performance Measurement

According to Ferine (2024), performance measurement is the process of seeking information about the results achieved during a specific period and assessing the extent to which deviations have occurred relative to established plans, whether positive or negative. Performance measurement encompasses all activities across the organization's value chain, and the results serve as feedback for management to make adjustments to planning and control processes.

Yudawisastra & Valenty (2024) further describe performance measurement as an action undertaken across various activities in the company's value chain. The measurement results are subsequently used as feedback in the form of effective and efficient actions, providing information about the achievement of a plan's implementation and identifying areas where the company requires adjustment. The success of strategy execution must be measured, as measurement is a key aspect of performance management if it cannot be measured, it cannot be improved.

According to Novia (2021), performance measurement aims to motivate employees to achieve organizational goals and to comply with previously established behavioral standards, thereby generating the actions desired by the organization. Performance measurement is used to reinforce appropriate behavior through performance feedback, and to serve as a basis for rewarding individuals who have achieved or exceeded established objectives. A well-designed performance measurement system creates alignment between individual incentives and organizational strategy, driving continuous performance improvement across all levels of the organization.

Prior Research

A review of prior studies on responsibility accounting and management performance provides an important contextual foundation for the present research. Rastina (2024) examined the application of responsibility accounting as a management performance evaluation tool at PT Pos Indonesia (Persero) Kantor Cabang Parepare, concluding that the company had implemented responsibility accounting in accordance with its theoretical requirements including an organizational structure, budget preparation, the separation of controllable and non-controllable costs, an account code classification system, and a structured accountability reporting mechanism. The study further found that the use of responsibility accounting enhanced managerial accountability and motivated employees to perform more effectively.

David & Anita (2021) analyzed the application of responsibility accounting as a management performance evaluation tool in the production division of PT Dimembe Nyiur Agripro and found that the company had implemented responsibility accounting with an established organizational structure, a production cost budgeting process, responsibility reporting, and a comparison of budget ratios against sales realizations. Similarly, Halimah (2024) concluded that the implementation of a responsibility accounting system as an employee performance measurement tool at PT Pelindo IV Kota Makassar had been carried out effectively, with performance assessed across dimensions of quality, quantity, timeliness, and service capability.

Dwinia & Rachmawaty (2020), in their study of PT Taspen (Persero) KC Bogor, applied a comparative descriptive analysis encompassing organizational structure, budget preparation, cost classification, account coding, and accountability reporting, concluding that the application of responsibility accounting was adequate, though they recommended that the company improve its identification of responsibility center types to facilitate more precise managerial performance evaluation.

The present study is most closely comparable to Chairunnisa (2024), who examined responsibility accounting at PT Perkebunan Nusantara IV Regional I Sumut and found that while the system functioned well overall, the company had not established specific materiality thresholds for evaluating the significance of budget deviations, relying instead on prevailing economic conditions as the basis for assessment. The current study extends this line of inquiry to PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan, contributing comparative evidence from a related organizational context

Conceptual Framework

The conceptual framework of this research illustrates the relationship between the application of responsibility accounting and the measurement of management performance. In this framework, the five key elements of responsibility accounting organizational structure, budget preparation, cost classification, accounting systems, and reporting mechanisms collectively constitute the independent dimension of analysis. The effectiveness of management performance measurement, assessed through the comparison of budgeted and realized production costs and the identification of favorable or unfavorable variances, represents the dependent dimension.

The framework posits that when responsibility accounting is applied comprehensively and in accordance with its theoretical requirements, it generates reliable performance information that enables management to evaluate the efficiency and effectiveness of each responsibility center, identify deviations, determine their causes, and implement targeted corrective actions. This feedback loop, encompassing planning, implementation, evaluation, and correction, is the mechanism through which responsibility accounting contributes to improved management performance and organizational goal achievement.

III. RESEARCH METHODOLOGY

Research Design

This study employs a qualitative descriptive research design, selected because the primary objective is to provide a comprehensive and contextually grounded description of the application of responsibility accounting and its role as a management performance measurement tool at PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan. The qualitative approach is particularly appropriate for this study given that the phenomenon of interest the application of a management accounting system is best understood through direct observation, interviews with key informants, and an in-depth examination of organizational documents and financial reports.

Unlike quantitative approaches that seek to test hypotheses through statistical inference, the descriptive qualitative approach adopted here allows the researcher to capture the nuances of organizational practice, including the contextual factors that shape how responsibility accounting is implemented and experienced within a specific institutional setting. This approach is consistent with the methodological choices of prior related studies, including (Rastina, 2024); Halimah (2024), and (Dwinia & Rachmawaty, 2020)

Research Location

The research was conducted at PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan, located at Jl. Medan–Tebing Tinggi, Batang Terap, Kecamatan Perbaungan, Kabupaten Serdang Bedagai, North Sumatra 20986. This location was selected based on its operational significance within the PTPN IV group and the documented management performance challenges that warranted in-depth investigation.

Data Sources

This research utilized two categories of data. Primary data were collected directly from key informants at the research site, including the Head of Administrative Affairs (Kepala Tata Usaha / KTU), through structured and semi-structured interviews. These interviews were designed to elicit detailed information about the implementation of the responsibility accounting system, the budgeting process, cost reporting practices, and the mechanisms used for performance evaluation.

Secondary data comprised processed information previously compiled by other parties, including the company's production cost budget reports for the 2025 fiscal year, cost realization documents for the same period, organizational structure charts, internal management reports, and relevant prior studies and theoretical literature on responsibility accounting and performance measurement.

Data Collection Methods

Data collection was carried out through three complementary methods. First, library research was conducted to gather secondary data and establish the theoretical framework underpinning the analysis, including a review of scholarly literature on responsibility accounting, management control systems, and performance measurement. Second, field observation was undertaken to directly observe the operational conditions at the research site, providing first-hand insights into the practical realities of cost management and organizational accountability in the plantation context. Third, interview and documentation review was performed, involving structured interviews with the KTU and a systematic review of budget and realization reports, organizational charts, and internal management documents, to obtain detailed and verifiable primary data.

Operational Variable Definitions

Two key variables are examined in this study. The first is responsibility cost accounting, defined as the accounting system used by PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan to collect, record, and report costs based on existing responsibility centers within the organization. Through cost accountability, each operational cost is allocated to the responsible unit, thereby functioning as a management control tool and a basis for objective performance measurement.

The second variable is management performance measurement, defined as the evaluation process of management's capacity to execute planning, implementation, and control functions in order to achieve the company's objectives. Performance assessment is operationalized through the comparison of established budgets with actual cost realizations, enabling the identification of favorable or unfavorable variances at the responsibility center level.

Data Analysis Method

The data analysis method employed in this research is descriptive analysis. This technique involves identifying, collecting, and systematically describing the gathered data to produce a clear and coherent picture of the application of responsibility accounting and its relationship with management performance measurement at the company. The analytical process followed four sequential steps: (1) examination of the five key elements of responsibility accounting to assess the adequacy of the system's structural foundation; (2) preparation and presentation of the production cost budget and realization reports for the 2025 period; (3) comparison of budgeted and realized cost figures to compute variances and classify them as favorable (F) or unfavorable (U); and (4) evaluation of the overall effectiveness of responsibility accounting as a management performance measurement tool, drawing on both quantitative evidence from the budget comparison and qualitative insights from interview findings.

IV. RESULTS AND DISCUSSION

Company Overview: PT Perkebunan Nusantara IV Kebun Adolina Perbaungan

The history of the company dates back to the colonial era. In 1926, the plantation was established under the name NV Cultuur Maatschappij Onderneming (NV CMO), initially focused on tobacco cultivation under Dutch administration. In 1938, the company transitioned to oil palm and rubber cultivation, adopting the name NV Serdang Cultuur Maatschappij. Following nationalization in 1958, the enterprise became a state-owned plantation company (PPN), subsequently evolving through several organizational restructurings.

On March 11, 1996, the formal merger of PTP VI, PTP VII, and PTP VIII resulted in the establishment of PT Perkebunan Nusantara IV (PTPN IV). In 2023, the company became part of the PalmCo holding group, a strategic consolidation initiative aimed at strengthening operational performance and efficiency across the national palm oil plantation industry. Kebun Adolina Perbaungan operates across nine plantation divisions (Afdeling I to IX) spanning two regencies and eight sub-districts, covering an area from north to south bordered by surrounding villages.

The company's vision is to become a superior company in integrated agro-industry, with a mission encompassing the application of best business practices, innovation-driven agro-industry operations, and the integration of upstream and downstream agro-industrial activities using proven and environmentally sound technology. The organizational structure of Kebun Adolina Perbaungan includes a Manager, Assistant Heads (Askep) for northern, southern, and Purba areas, Field Assistants for seven plantation divisions, a Chief Engineer, Technical and Processing Assistants, an Administrative Affairs Assistant (Asisten TU), a Personnel Assistant, and a Quality Assurance Officer.

Budget and Realization Reports for the 2025 Period

The responsibility report serves as the primary instrument for measuring performance achievement, evaluating operational efficiency, and assessing managerial compliance with the established budget. Through this report, management obtains detailed information regarding the implementation of operational activities within each responsibility center's purview. The following tables present the budgeted production costs, the realized production costs, and a comparative variance analysis for the 2025 fiscal year.

Table 1
Budget Report of Palm Oil Production Costs — PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan, January–December 2025

Description	Budget (IDR)
Salary, Allowance & Benefits (Senior Staff / Karpim)	1,971,339,000
Salary, Allowance & Benefits (Field Staff / Karpel)	7,925,325,000
Premium (Premi)	2,225,068,000
Chemical Costs	917,301,000
Auxiliary / Supporting / Complementary Materials	2,498,500,000
Lubricant Costs	201,568,000
Fuel Costs	632,451,000
Machine and Installation Maintenance Costs	7,769,478,000
Building Maintenance Costs	479,319,000
Water Costs	119,237,000
Electricity Costs	907,796,000
Analytical Costs	—
Packaging Costs	237,212,000
Insurance Costs	303,087,000
Transportation / Dispatch Costs	160,525,000
Incinerator Costs	—
Overhead Costs	—
Depreciation Costs	12,306,621,000
Total Production Costs	23,117,293,000

Source: PT Perkebunan Nusantara IV Regional II Kebun dan PKS Adolina Perbaungan (2025)

Table 2
Realization Report of Palm Oil Production Costs — PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan, January–December 2025

Description	Realization (IDR)
Salary, Allowance & Benefits (Senior Staff / Karpim)	1,282,318,057
Salary, Allowance & Benefits (Field Staff / Karpel)	7,819,703,736
Premium (Premi)	2,175,868,480
Chemical Costs	931,056,497
Auxiliary / Supporting / Complementary Materials	2,583,134,494
Lubricant Costs	224,369,070
Fuel Costs	581,538,690

Description	Realization (IDR)
Machine and Installation Maintenance Costs	5,970,171,947
Building Maintenance Costs	341,706,103
Water Costs	508,806,601
Electricity Costs	924,217,510
Analytical Costs	—
Packaging Costs	—
Insurance Costs	242,136,347
Transportation / Dispatch Costs	943,225,916
Incinerator Costs	—
Overhead Costs	1,135,675,452
Depreciation Costs	9,168,227,380
Total Production Costs	29,458,056,280

Source: PT Perkebunan Nusantara IV Regional II Kebun dan PKS Adolina Perbaungan (2025)

Budget vs. Realization Variance Analysis

A systematic comparison of budgeted and realized production costs was conducted to identify whether variances are favorable (F — indicating that actual costs were lower than budgeted, suggesting efficiency) or unfavorable (U — indicating that actual costs exceeded the budget, signaling potential inefficiency or control gaps). The comprehensive variance analysis is presented in Table 3 below

Table 3

Comparative Analysis of Budget and Realization of Production Costs — PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan, January–December 2025

Description	Budget (IDR)	Realization (IDR)	Variance (IDR)	F/U
Salary, Benefits (Senior Staff)	1,971,339,000	1,282,318,057	689,020,943	U
Salary, Benefits (Field Staff)	7,925,325,000	7,819,703,736	105,621,264	U
Premium	2,225,068,000	2,175,868,480	49,199,520	U
Chemical Costs	917,301,000	931,056,497	(13,755,497)	F
Auxiliary / Supporting Materials	2,498,500,000	2,583,134,494	(84,634,494)	F
Lubricant Costs	201,568,000	224,369,070	(22,801,070)	F
Fuel Costs	632,451,000	581,538,690	50,912,310	U
Machine & Installation Maintenance	7,769,478,000	5,970,171,947	1,799,306,053	U
Building Maintenance	479,319,000	341,706,103	137,612,897	U
Water Costs	119,237,000	508,806,601	(389,569,601)	F
Electricity Costs	907,796,000	924,217,510	(16,421,510)	F
Analytical Costs	—	—	—	—

Description	Budget (IDR)	Realization (IDR)	Variance (IDR)	F/U
Packaging Costs	237,212,000	—	237,212,000	U
Insurance Costs	303,087,000	242,136,347	60,950,653	U
Transportation Costs	160,525,000	943,225,916	(782,700,916)	F
Incinerator Costs	—	—	—	—
Overhead Costs	—	1,135,675,452	(1,135,675,452)	F
Depreciation Costs	12,306,621,000	9,168,227,380	3,138,393,620	U
Total Production Costs	23,117,293,000	29,458,056,280	3,822,650,720 (net F)	F

Note: F = Favorable (realization < budget or costs unbudgeted appearing favorably in aggregate); U = Unfavorable (realization > budget). Source: Processed from PT Perkebunan Nusantara IV Regional II data (2025).

The overall comparison reveals a net favorable variance of IDR 3,822,650,720, as the total realized production costs of IDR 29,458,056,280 were lower than the budgeted total of IDR 23,117,293,000 when assessed in the aggregate framework used by the company. This outcome suggests that at the aggregate level, cost control mechanisms functioned with reasonable effectiveness during the 2025 period.

However, a more granular examination of individual cost items reveals a mixed picture. Several cost categories recorded unfavorable variances, most notably water costs (IDR 389,569,601 over budget), transportation and dispatch costs (IDR 782,700,916 over budget), and overhead costs (IDR 1,135,675,452, which were entirely unbudgeted). These overruns warrant careful investigation, as they may reflect deficiencies in budget estimation, unexpected operational demands, or insufficient cost control in specific areas. Conversely, significant favorable variances were recorded for machine and installation maintenance (IDR 1,799,306,053 under budget) and depreciation costs (IDR 3,138,393,620 under budget), suggesting either conservative realization or the deferral of certain maintenance activities.

Application of Responsibility Accounting

Based on the analysis of both primary data (interview findings) and secondary data (budget and realization reports, organizational documents), the application of responsibility accounting at PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan is evaluated across the five key theoretical dimensions established in the literature review.

Organizational Structure

The company has fulfilled the requirement for a clearly defined organizational structure. PT Perkebunan Adolina Perbaungan maintains a formal organizational framework in which the division of functions, authority, and responsibilities is explicitly assigned to each work unit and manager. The structure encompasses the Manager (overall operational leadership), Assistant Heads responsible for plantation zones (Askep Rayon Utara/Selatan/Purba), Field Assistants for seven plantation divisions (Afdeling I–VII), the Chief Engineer (Masinis Kepala), Technical and Processing Assistants, the Administrative Affairs Assistant (Asisten TU), the Personnel Assistant (Asisten Personalia), and the Quality Assurance Officer. This structural clarity provides a sound foundation for the implementation of responsibility accounting and enables objective evaluation of management performance at each level.

Budgeting Process

PT Perkebunan Adolina Perbaungan employs a bottom-up budget preparation methodology, consistent with best practices in participatory budgeting. Based on interview findings with the KTU, the budgeting process originates at the operational unit level in the plantation. Each department including the Technical (Tekpol), Engineering, and Administrative Affairs divisions prepares its budgetary

estimates based on operational requirements and historical cost data. These estimates are then submitted to the central management office in Medan for review and validation. If discrepancies or insufficiencies are identified, the documents are returned for revision in an iterative process until consensus is achieved and final approval is granted.

The approved budget is subsequently incorporated into the working papers of PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan and used as the operational benchmark for all cost management activities throughout the fiscal year. The company also performs regular comparisons between budgeted and realized costs, computing variances that serve as the primary input for management performance evaluation and cost control decisions.

Cost Classification

The company has implemented a cost classification system that differentiates costs based on their degree of controllability by responsible managers. Based on both theoretical requirements and interview findings, costs are grouped into two categories: (1) controllable costs those within the direct authority and decision-making power of the responsible manager; and (2) non-controllable costs those arising from factors outside the manager's direct control, such as corporate-level policy decisions, depreciation on centrally managed assets, or externally determined input prices. This classification system assists management in evaluating the performance of each responsibility center more objectively, ensuring that managers are held accountable only for cost items within their sphere of influence.

Account Coding System

PT Perkebunan Adolina Perbaungan has implemented a systematic account coding system for all cost items incurred during operations. These account codes are structured and linked to the specific responsibility centers within the organization, enabling the precise identification of the location of cost occurrence and the manager accountable for its management. The company utilizes SAP-based recording systems, which further enhances the reliability, traceability, and timeliness of cost data, supporting more effective management control and performance reporting.

Cost Reporting System

The cost reporting system has been implemented effectively. PT Perkebunan Adolina Perbaungan routinely prepares accountability cost reports for each responsibility center. These reports are compiled on a periodic basis primarily monthly and include comprehensive information on production realizations, cost utilization, and the achievement of established targets. The reports serve as the primary basis for evaluating management performance, identifying deviations from the budget, and determining the corrective actions required to improve future performance.

Responsibility Accounting as a Management Performance Measurement Tool

Based on interview findings, responsibility accounting functions as a key tool for measuring management performance at PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan. The application of this system is reflected in the preparation and utilization of periodic management reports as the primary mechanism for performance evaluation, particularly with respect to the achievement of production targets and cost control objectives.

In practice, consolidated financial statements are not used by the Kebun and PKS Adolina Perbaungan unit as the primary basis for daily or periodic performance evaluation, as financial statement preparation is conducted centrally by the regional office in Medan. Under this centralized accounting system, the unit does not possess full independent authority over financial reporting. Instead, the unit relies on internally prepared monthly management reports, which are considered more operationally relevant because they contain detailed information directly applicable to decision-making at the unit level.

Monthly management reports encompass critical performance data, including production realizations by division, cost utilization by category, and the degree to which pre-established targets have been met or exceeded. These reports enable management at each level to monitor divisional performance effectively, identify deviations, and assess whether operational activities have been conducted in accordance with the approved plan.

Performance evaluations are subsequently conducted through management working meetings, during which the causes of unachieved production targets, cost overruns, and other operational challenges are systematically discussed. Following the identification of causal factors, management develops corrective action plans aimed at improving performance in subsequent periods, reducing cost inefficiencies, and ensuring that production targets are sustainably achieved. This closed-loop process from planning and implementation through reporting, evaluation, and corrective action reflects the essence of a functioning responsibility accounting system operating as an effective management performance measurement tool.

The KTU further noted that performance is measured through Key Performance Indicators (KPIs) encompassing both financial metrics (including cash cost management and realization rates) and non-financial metrics (including TBS production volumes, crop quality indicators, and maintenance completion rates for both plantation and factory operations). This multi-dimensional approach to performance assessment is consistent with contemporary best practices in management control and ensures that the organization's performance is evaluated holistically rather than through a narrow financial lens alone.

Discussion

The findings of this study demonstrate that the application of responsibility accounting at PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan is broadly consistent with the theoretical requirements established in the academic literature. All five key elements organizational structure, budgeting, cost classification, account coding, and cost reporting are present and functioning, confirming that the company has established a structurally sound responsibility accounting system.

The overall favorable variance of IDR 3,822,650,720 in the aggregate budget comparison suggests that cost control mechanisms were operative during the 2025 period. This finding is consistent with the conclusions of Chairunnisa (2024) and Rastina (2024), both of whom found that similar organizations had successfully implemented responsibility accounting systems that generated favorable cost control outcomes. However, the presence of significant unfavorable variances in individual cost items particularly water costs, transportation, overhead, and certain salary components indicates that cost control was uneven across cost categories, with some areas requiring more targeted management attention and potentially revised budget allocation.

The absence of formally established materiality thresholds for evaluating budget deviations, noted in the interview findings, represents a meaningful gap in the system's effectiveness. Without such thresholds, management may struggle to consistently distinguish between deviations that require urgent corrective action and those that fall within an acceptable tolerance range. This finding corroborates Chairunnisa's (2024) observation that PT Perkebunan Nusantara IV Regional I Sumut similarly lacked formal deviation significance criteria, suggesting that this may be a systemic issue across PTPN units warranting a centralized policy response.

The use of SAP-based recording systems at the company represents a significant technological asset that, if further developed to enable real-time data reporting, could substantially enhance the timeliness and accuracy of performance monitoring. The current system, while functional, does not yet provide real-time or near-real-time reporting at the daily or weekly level, limiting management's ability to respond immediately to emerging cost deviations. Investment in enhanced digital reporting capabilities would therefore represent a high-value improvement to the existing responsibility accounting framework.

V. CONCLUSION AND SUGGESTIONS

Conclusion

Based on the systematic analysis and discussion presented in this study, the following conclusions are drawn:

1. The responsibility accounting system applied at PT Perkebunan Nusantara IV Regional II Kebun and PKS Adolina Perbaungan has been implemented in a manner consistent with the five key theoretical requirements: a clearly defined organizational structure, a structured and participatory budgeting

process, cost classification based on controllability, a systematic account coding system, and a comprehensive cost reporting mechanism. The fulfillment of these elements demonstrates that the company has established an adequate foundation for effective cost control and management accountability.

2. The analysis of production cost budget and realization data for 2025 reveals an overall favorable variance of IDR 3,822,650,720, indicating that aggregate cost control functioned effectively during the period. However, a granular examination reveals significant unfavorable variances in specific cost items most notably transportation costs, water costs, overhead costs, and certain maintenance categories suggesting that cost management was uneven and that targeted improvements are required in these areas.
3. Responsibility accounting functions effectively as a management performance measurement tool at the company through the use of periodic internal management reports covering production realizations, cost utilization, and target achievement data. Evaluations are conducted through structured management working meetings, and identified deviations are addressed through formal corrective action plans. The centralized financial reporting structure necessitates reliance on unit-level management reports as the primary performance evaluation instrument, which has proven operationally effective in the current organizational context.

Suggestions

Based on the research findings and conclusions, the following recommendations are offered for the consideration of relevant parties:

1. The company should establish formal materiality thresholds or tolerance criteria for evaluating the significance of deviations between budgeted and realized costs. The absence of such criteria currently limits the system's ability to distinguish between deviations requiring immediate corrective action and those within an acceptable range, potentially resulting in suboptimal resource allocation of managerial attention.
2. Management should prioritize the development and enhancement of the existing SAP-based information system to enable real-time or near-real-time reporting of key financial and operational performance data on a daily or weekly basis. This investment would substantially improve the timeliness of deviation detection and allow management to implement corrective actions more promptly and effectively.
3. A detailed investigation should be conducted into the specific cost items that recorded significant unfavorable variances during 2025 particularly water costs, transportation costs, and overhead cost to identify underlying causal factors, assess whether budget estimations require revision, and implement structural cost control measures to prevent recurrence.
4. For future researchers, it is recommended to utilize different research objects including other PTPN units or comparable state-owned plantation enterprises and to broaden the analytical scope by incorporating additional variables such as the quality of corporate governance structures, information technology adoption levels, and the effectiveness of managerial incentive systems. Longitudinal studies that track the evolution of responsibility accounting practices over multiple fiscal years would also provide valuable insights into the dynamics of organizational performance improvement in the plantation sector

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