Analysis of the Role of Standard Costs in Increasing Production Cost Efficiency: A Case Study of PT. XYZ

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ABSTRACT

This study aims to determine the role of standard costs in increasing the efficiency of production cost control at PT.XYZ. The study investigates the effectiveness of standard costs in enhancing the efficiency of production cost control, with a focus on determining standard costs for raw materials in the year 2021. The data analysis technique used in this study is descriptive quantitative. Based on the results, it can be concluded that standard costs play a significant role in improving the effectiveness of efficient production cost control. The existence of standard costs facilitates companies in determining buying and selling prices for materials. Despite facing unfavorable differences in labor costs, especially in the aggregate processing department's salaries, the application of standard costs resulted in significant cost efficiency in raw material expenses. The overall profitability of the enterprise remained favorable, with the margin between profitable and unprofitable costs supporting the strategic advantage of employing standard costs as a control mechanism. The findings contribute to the theoretical understanding of the practical utility of standard costs in the context of production cost management. This research provides valuable insights for both researchers and practitioners, emphasizing the importance of incorporating standard cost methodologies into managerial decision-making processes to enhance cost control strategies within organizations.

Keywords*: Standard cost, Efficiency, Production cost, Cost control*

ABSTRAK

Penelitian ini bertujuan untuk menentukan peran biaya standar dalam meningkatkan efisiensi pengendalian biaya produksi di PT.XYZ. Penelitian ini menyelidiki efektivitas biaya standar dalam meningkatkan efisiensi pengendalian biaya produksi, dengan fokus pada penentuan biaya standar untuk bahan baku pada tahun 2021. Teknik analisis data yang digunakan dalam

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penelitian ini adalah kuantitatif deskriptif. Berdasarkan hasil penelitian, dapat disimpulkan bahwa biaya standar memainkan peran penting dalam meningkatkan efektivitas pengendalian biaya produksi yang efisien. Keberadaan biaya standar memudahkan perusahaan dalam menentukan harga beli dan jual untuk bahan baku. Meskipun menghadapi perbedaan biaya tenaga kerja yang tidak menguntungkan, terutama dalam gaji departemen pengolahan agregat, penerapan biaya standar menghasilkan efisiensi biaya yang signifikan dalam pengeluaran bahan baku. Profitabilitas keseluruhan perusahaan tetap menguntungkan, dengan selisih antara biaya yang menguntungkan dan tidak menguntungkan mendukung keunggulan strategis penerapan biaya standar sebagai mekanisme pengendalian. Temuan ini berkontribusi pada pemahaman teoretis tentang kegunaan praktis biaya standar dalam konteks manajemen biaya produksi. Penelitian ini memberikan wawasan berharga baik bagi peneliti maupun praktisi, menekankan pentingnya menggabungkan metodologi biaya standar dalam proses pengambilan keputusan manajerial untuk meningkatkan strategi pengendalian biaya di dalam organisasi.

***Kata kunci**: Biaya standar, Efisiensi, Biaya produksi, Kontrol biaya*

INTRODUCTION

The current rapid development of the business world demands companies to produce high-quality products at affordable prices in the market, enabling them to compete effectively with other enterprises. Determining the cost of production is crucial to avoid pricing errors that could significantly impact the sustainability of the business. In manufacturing companies, production activities play a pivotal role, necessitating cost control to ensure that the incurred expenses truly contribute to the formation of product costs.

Various management functions are required to ensure that the production process aligns with expectations, particularly in the areas of planning and control. Planning involves preparing for all activities the company will undertake in the future, while control is necessary to prevent deviations from the predetermined plans. Effective cost control in this context involves the use of standard costs. By employing standard costs, the determination of product costs becomes more straightforward and simplified (Wahyuni et al., 2023). The establishment of standard costs serves as a guide in actual cost expenditures. Implementing a standard cost system is beneficial for refining planning and control processes and facilitating product cost calculations. The standard costs used by companies encompass standard costs for raw materials, direct labor, and factory overhead. These standards must be established at the beginning of the year to serve as a foundation in the crucial production process for the company.

Standard costs are a crucial tool in evaluating the implementation of previously established policies (Elliza, 2013). If standard costs are set realistically, it stimulates effective work execution because the implementers understand how the work should be carried out and at what cost level the tasks should be performed. The standard cost system also provides guidance to management on the expected costs for specific activities, enabling them to reduce costs through production improvement methods, workforce selection, and other activities.

In facing the fast-paced dynamics of the market, companies, including PT XYZ, need to optimize production to deliver quality products with controlled costs. Determining the cost of production is critical because pricing errors can have significant impacts on business sustainability. Focus on production activities is essential in this context, requiring effective cost control to ensure that every expense contributes genuinely to the formation of product costs.

Management in manufacturing companies must perform various functions, particularly planning and control, to ensure the efficiency and effectiveness of production processes. Planning involves preparing for all activities the company will undertake within a specific timeframe, while control is necessary to ensure that activities align with the initial plans, with the ability to make quick corrections in case of deviations. In this

context, the use of standard costs becomes an effective method for cost control. Standard costs for raw materials, direct labor, and factory overhead, established at the beginning of the year, provide guidance for the company to plan and control product costs.

This study focuses on PT XYZ as a case study, where the implementation of standard costs is expected to positively contribute to the efficiency of production costs. The successful implementation of standard costs will offer a realistic perspective on the execution of company policies, stimulate effectiveness in task execution, and provide guidance to management in cost management. Thus, this article aims to explore the key role of standard costs in improving the efficiency of production costs.

LITERATURE REVIEW

Cost Accounting and Resource Utilization

Accounting, at its core, is a systematic process of identifying, measuring, and communicating economic information that serves as a crucial tool for making informed policies and decisions (Salamun, 2006). This definition emphasizes the role of accounting in generating information that is not only accurate but also strategically valuable. The purpose of accounting extends beyond mere record-keeping; it aims to present economic information from a given entity to various stakeholders, both internal and external (Dai & Vasarhelyi, 2017; Dillard & Vinnari, 2019; Warren et al., 2015).

The primary function of accounting is to offer financial information vital for the effective functioning of a company or organization (Bhimani & Willcocks, 2014; Hopwood, 2019). This financial information becomes the cornerstone for decision-making processes within the organization and is equally crucial for external parties, such as investors, regulators, and other stakeholders.

Moreover, management accounting emerges as a distinct branch designed to cater to the informational needs of managers across businesses of all sizes (Aditya & BZ, 2018). It serves as a practical application of management techniques, focusing on the control and reporting of financial resources within a business entity. The realm of management accounting encompasses analysis, planning, implementation, and control of programs geared towards providing financial reports specifically tailored for managerial decision-making processes (Pratiwi, 2013). Wahyuni et al. (2023) define cost accounting as a systematic process that includes recording, classifying, summarizing, and presenting costs associated with the production and sale of products or provision of services. This meticulous approach allows for the interpretation of results in a manner that directly contributes to the overarching objective of cost accounting: furnishing management with relevant cost information. Such information becomes instrumental in the effective management of the company and its various components. This shows that the field of accountancy encompasses the broader scope of accounting, management accounting, and cost accounting. Each of these facets plays a pivotal role in providing the necessary information for decision-making, resource management, and overall organizational success. The structured framework and the integration of relevant citations serve to fortify the understanding of the multifaceted nature of accountancy in contemporary business environments.

Production Costs and Standard Benchmarks

Production costs, as outlined by Iryanie & Handayani (2019), encompass the entirety of expenses associated with the transformation from raw materials to finished products ready for market. This comprehensive category includes direct material costs, involving expenses tied to materials used in production, and direct labor costs, encapsulating financial aspects linked to the labor force directly engaged in manufacturing. Additionally, factory overhead, the third component, comprises indirect costs within the factory setting, such as utilities and rent. The categorization recognizes both direct and indirect financial outlays in the holistic nature of production costs.

Standard costs, according to Wahyuni et al. (2023), serve as predetermined benchmarks representing expected costs required to produce a single unit of a product or

finance specific activities. The adoption of standard costs acts as a catalyst, motivating executives and stakeholders to enhance production efficiency and align with these benchmarks. Determining standard costs is a collective responsibility, emphasizing the crucial role of all employees directly involved in the production process. Success or failure hinges on the collective ability and knowledge of employees to compile and apply these costs effectively, underscoring the collaborative nature of achieving efficiency in production.

Saputri et al. (2023) introduce the concept of ideal standards, representing the pinnacle of efficiency achievable under optimal conditions. This aspirational benchmark offers a theoretical outlook of what can be attained without constraints, providing a directional goal for companies. In contrast, currently attainable standards reflect realistic benchmarks achievable under existing efficient operating conditions, offering a pragmatic assessment of performance and enabling companies to evaluate achievements and identify areas for improvement. The duality of ideal and currently attainable standards underscores the nuanced approach companies take in their pursuit of operational excellence.

The integration of production costs and standard fees creates a symbiotic relationship within the realm of cost management. Production costs provide a real-world understanding of the financial implications associated with the manufacturing process, serving as a foundation for financial decision-making. Meanwhile, standard costs offer a strategic framework, guiding companies towards enhanced efficiency and effectiveness in their production endeavors. The interplay of these elements is crucial for companies navigating the intricate landscape of cost management. The types of standards, whether ideal or currently attainable, reflect the dynamic nature of operational goals, emphasizing the continuous pursuit of efficiency and excellence in the ever-evolving business environment. This integrated approach not only fosters informed decision-making but also propels organizations towards sustained success in the competitive marketplace.

The Role of Control Mechanisms in Organizational Efficiency

Control is a critical organizational process designed to safeguard the effective implementation of work activities in alignment with the company's predefined objectives (Ridzal, 2019). It serves as a multifaceted mechanism encompassing both preventive and evaluative measures to preemptively address or detect lapses in quality. Prevention activities within the control framework are geared towards averting potential issues, while assessment activities focus on gauging the performance and outcomes of ongoing processes. At its core, the primary purpose of control is to ascertain that the company attains the goals and targets it has set for itself. The facets of company control span various perspectives, including direct observation, verbal articulation, procedural adherence, and comprehensive reports detailing the outcomes of implemented strategies.

The overarching goal of control activities remains the assurance of goal attainment within the company. By employing diverse viewpoints such as direct observation, communication exchanges, adherence to established procedures, and the analysis of implementation results through reports, companies can foster a comprehensive understanding of their operational landscape. Through direct observation, potential deviations from established protocols can be identified and rectified promptly. Verbal expressions serve as a means to capture qualitative aspects of performance, enabling a nuanced assessment. Procedural adherence ensures that the planned activities align with the company's standards. Finally, comprehensive reports on implementation outcomes offer a systematic overview, aiding in informed decision-making to further enhance the efficiency and effectiveness of organizational processes.

Previous Research

Hadinata (2015) conducted a study investigating the efficacy of production cost budgeting in enhancing overall production performance. The research entailed a thorough examination of the effectiveness of the production cost budget through a comparative analysis of budgeted production costs against the actual production performance spanning the years 2010 to 2012. The creation of the production budget aimed to realize specific production performance targets, elucidating detailed objectives and programs intended

for implementation across various annual production activities. Despite confronting challenging conditions within the timber industry in natural forests, the company successfully augmented its production volume. However, data analysis indicated a diminishing trend in the effectiveness of the production cost budget to improve production performance during the period from 2010 to 2012. This suggests a substantial increase in the production cost budget without a commensurate rise in production, thereby raising questions regarding the justification for the escalating costs.

Pratiwi (2013) conducted research focusing on the application of standard costs as a control mechanism for production costs. The study presented the comprehensive set of standard costs for the year 2011, encompassing both direct and indirect costs. Direct costs were quantified at IDR 5,133,206,100, and indirect costs amounted to IDR 1,436,565,700, resulting in a total standard cost of IDR 6,569,771,800. This calculation was derived by multiplying the standard cost per kilogram by the total production during the year. The study revealed that direct production costs were IDR 4,847,156,500, with indirect production costs totaling IDR 716,289,250. The overall production cost in 2011 was IDR 5,563,445,750, determined by multiplying the production cost per kilogram by the production quantity throughout the year. The research underscored a cost efficiency of IDR 1,030 per kilogram or 14.35% concerning the standard cost for the cigelis seed variety.

Salmon & Runtu (2016) investigated the implementation of standard costs as a strategic tool for controlling production costs in North Sulawesi. The study unveiled instances of unfavorable material usage in May and November. Analysis of direct labor cost differences in 2015 revealed favorable outcomes, with the highest difference occurring in May at IDR 1,398,000 and the lowest in December at IDR 750,000. The most significant disparity in overhead costs was observed in December at IDR 1,200,000, while the smallest was in April at IDR 22,000. However, May exhibited inefficiencies in overhead costs amounting to IDR 835,000, and June recorded inefficiencies totaling IDR 200,000, shedding light on specific months with challenges in cost management within the production process.

METHODS

This research was conducted at PT. XYZ, located at Jl. Letda Nastsir, Cikeas, Gunung Putri, Bogor, for a period of two months, specifically in November–December 2022. The applied research method was field research, involving direct observation at the company to collect data related to the discussed issue. Data were obtained through interviews with relevant parties, using both structured and unstructured questions, and through documentary studies utilizing archives and documents from the company.

The collected data encompassed quantitative information, measured on a numerical scale, as well as qualitative data providing in-depth insights into the research object, such as the company's history, vision and mission, and organizational structure. The data analysis method employed was the Quantitative Descriptive method using variance analysis tools. The quantitative descriptive approach was utilized to elucidate existing phenomena by detailing the characteristics of individuals or groups using numerical representations. This approach will offer profound insights into the implementation of standard costs at PT. XYZ and its impact on the efficiency of production costs.

RESULTS AND DISCUSSION

PT. XYZ is headquartered in Cikeas and was established on October 1, 2010. It operates as a contractor, specializing in road asphalt paving. PT. XYZ produces AMP (Asphalt Mixing Plant) for road construction, using crushed stone/aggregates as the raw material. Aggregates are the primary materials used for the surface layer of road pavement or concrete. These aggregates are obtained from the mining of rocks in rivers, and then processed through a stone crusher machine that produces various types of aggregates as

needed. In construction work, according to the Indonesian National Standard (SNI) on the use of aggregates, the produced aggregates typically have sizes of 1, ½, ¾ inch.

Stone dust is a synthetic material processed from crushed stones, having a size similar to fine aggregates. Asphalt raw material is the substance used to bind the aggregates together or serve as a catalyst to ensure the aggregates become cohesive, strong, hard, and resistant to weather changes. It is considered favorable if the actual raw material costs are lower than the standard costs and unfavorable if the actual costs exceed the standard costs.

Raw Material Cost Analysis

From the table below it can be seen that the raw materials for aggregate, stone ash and asphalt do not exceed the standard costs set by the company. The difference in aggregate raw material costs is IDR 12,500,000, stone ash is IDR 18,000,000, and asphalt is IDR 9,600,000. Meanwhile, the actual cost of water raw materials is in accordance with the standard costs set by the company. This means that the standard costs applied by the company for raw material costs can be said to be Favorable.

Table 1. Calculation of the Difference in Standard Raw Material Costs and Actual Raw Material Costs 2021

Raw material	Standard fee (IDR)	Actual Cost (IDR)	Difference (IDR)	Description
Aggregate (Gravel)	118,000,000	105,500,000	12,500,000	F
Rock ash	171,000,000	153,000,000	18,000,000	F
Asphalt	120,000,000	110,400,000	9,600,000	F
Water	12,000,000	12,000,000	-	-
Amount	421,000,000	380,900,000	40,100,000	F

Source: PT. XYZ

Direct Labor Cost Analysis

In the table below it can be seen that the salary for the aggregate processing department exceeds the standard costs set by the company, which means that the standard labor costs for the aggregate processing department that have been set by the company can be said to be Unfavorable. Meanwhile, the salary for stone crusher machine operators is in accordance with the standard costs set by the company.

Table 2. Calculation of the Difference between Standard Direct Labor Costs and Actual Direct Labor Costs 2021

Labor	Standard fee (IDR)	Actual Cost (IDR)	Difference (IDR)	Description
Aggregate Processing Department Salaries	624,960,000	651,000,000	(26,040,000)	UF
Machine Operator Salary	216,000,000	216,000,000	-	-
Amount	840,960,000	867,000,000	(26,040,000)	UF

Source: *PT. XYZ*

Factory Overhead Cost Analysis

From the table below it can be seen that the actual factory overhead costs used by the company are in accordance with the standard costs set by the company. There is no cost difference that occurs in factory overhead costs.

Table 3. Calculation of the Difference in Standard Factory Overhead Costs and Actual Factory Overhead Costs

Factory Overhead Costs	Standard fee (IDR)	Actual Cost (IDR)	Difference (IDR)	Description
Machine Depreciation	40,000,000	40,000,000	-	-
Filler (Auxiliary Material)	50,000,000	50,000,000	-	-
Bin (Container) Shrinkage	50,000,000	50,000,000	-	-
Dryer Shrinkage	30,500,000	30,500,000	-	-
Field Supervisor Salary	84,000,000	84,000,000	-	-
Amount	254,500,000	254,500,000	-	-

Source: *PT. XYZ*

Overall, this study underscores the pivotal role of standard costs as a valuable tool for management in enhancing the efficiency of controlling production costs. The determination of standard costs for raw materials in the year 2021 exemplifies the effectiveness of this approach, showcasing notable cost efficiency despite encountering unfavorable differences in labor costs, particularly in the salaries of the aggregate processing department. Importantly, the overall profitability of the enterprise remains favorable, given that the margin between profitable and unprofitable costs leans decisively in favor of the former.

CONCLUSION

The primary findings of this research highlight the substantial benefits derived from the application of standard costs, particularly evident in the cost efficiency achieved in raw material expenses during the year 2021. Despite challenges in labor cost management, the net effect on profitability is positive, emphasizing the strategic advantage of employing standard costs as a control mechanism for production expenditures. The theoretical significance of this study lies in its contribution to the understanding of the practical utility of standard costs in the realm of production cost control. By demonstrating how standard costs can lead to cost efficiencies and overall profitability, the study provides valuable insights for researchers and practitioners alike. From a practical standpoint, the findings emphasize the importance of incorporating standard cost methodologies into managerial decision-making processes, offering a practical framework for organizations seeking to enhance their cost control strategies.

Despite its contributions, this study is not without limitations. The focus on a specific department, such as the aggregate processing department, may limit the generalizability of the findings to other organizational units. Additionally, the study primarily concentrates on labor costs, and other factors influencing production costs may need further exploration. The results should be interpreted within the specific context of the study, and caution should be exercised when extrapolating them to diverse organizational settings. Future research endeavors could expand upon this study by investigating the applicability of standard costs across different departments within an organization. Exploring the nuances of labor cost management in various operational units and industries would offer a more comprehensive understanding of the broader implications of standard cost implementation. Additionally, delving into the long-term effects and adaptability of standard costs in dynamic economic environments could provide valuable insights for sustained cost control strategies.

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