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# Joint Cost Allocation in Determining the Cost of Production in a Small Concrete Manufacturing Enterprise

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**ABSTRACT**

**Purpose:** This study examines the role of joint cost allocation in determining the cost of production in a small concrete manufacturing enterprise. Accurate cost calculation is essential because it influences pricing decisions, profitability, and business continuity.
**Design/methodology/approach:** This study uses a descriptive qualitative approach. Data were collected through interviews, observation, and documentation involving the business owner and production workers. The analysis focuses on raw materials, direct labor, manufacturing overhead, and the allocation of joint costs across products.
**Findings/Results:** The findings indicate that the company does not fully include several production cost components, particularly mixing labor and overhead costs such as electricity, fuel, and equipment depreciation. As a result, the reported cost of production is lower than the actual cost. Recalculation with proper joint cost allocation provides more accurate production cost information.
**Originality/Value:** This study shows that proper joint cost allocation is important for improving cost accuracy in small manufacturing enterprises. More accurate production cost information can support better pricing, stronger financial management, and more sustainable business decisions

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**Introduction**

Indonesia's economic development has intensified competition across many industrial sectors, particularly in manufacturing. As one of the primary drivers of economic productivity in developing countries, the manufacturing sector plays an important role in generating added value and creating employment opportunities. Despite global economic uncertainty in recent years, Indonesia's manufacturing sector has continued to demonstrate relatively positive growth and resilience. The Minister of Industry, Agus Gumiwang Kartasasmita, reported that the manufacturing industry maintained a positive performance even during challenging economic conditions, contributing to increased domestic raw material utilization and expanding employment opportunities (Ministry of Industry of the Republic of Indonesia, 2020). In broader discussions on industrial development, manufacturing industries are widely recognized as key contributors to national competitiveness, technological development, and economic transformation in emerging economies (Riley et al., 2024; Zhang et al., 2023; Ahmed & Rahman, 2022).

Manufacturing activities refer to economic processes that transform raw materials into finished products with higher economic value. Through structured production systems, raw materials are processed into goods that can be utilized by society and distributed to various markets. The primary objective of manufacturing businesses is to generate profit while maintaining operational sustainability and efficiency. Profit not only ensures business continuity but also contributes to broader economic welfare through job creation and supply chain expansion. In modern industrial management, effective cost control and efficient resource utilization are essential strategies for maintaining competitiveness and achieving sustainable industrial growth (Chen et al., 2022; Kwon et al., 2021; Singh & Verma, 2023).

In a highly competitive market environment, companies continuously attempt to improve product quality in order to strengthen their market position and attract consumers. However, determining an appropriate selling price remains one of the most important managerial challenges in manufacturing businesses. The selling price of a product is closely related to the revenue and profit generated by the company. Profit represents the financial return obtained from production activities after deducting all costs involved in producing goods or services. Companies must therefore ensure that the value of output produced exceeds the total cost of inputs used during production. Pricing decisions that are too high may reduce consumer demand, while prices that are too low may reduce profit margins and threaten business sustainability (Lopez et al., 2023; Ahmed et al., 2022; Martins & Costa, 2021).

To avoid such risks, companies must first calculate the cost of production accurately before determining product prices. The cost of production represents the total expenses incurred during the process of transforming raw materials into finished goods. Accurate production cost calculation enables companies to determine competitive selling prices while maintaining acceptable profit margins. Furthermore, cost information serves as an important managerial tool in supporting business decisions, including profit planning, operational efficiency evaluation, budgeting, and financial performance analysis. Recent studies emphasize that proper cost allocation and full recognition of production-related expenses significantly improve pricing accuracy and financial transparency within manufacturing firms (Garcia et al., 2024; Lopez et al., 2023; Ahmed et al., 2022; Khoiruman, 2025).

One example of a manufacturing business operating in the construction materials sector is UD Hasil Beton Jember, located in Ajung District, Jember Regency, Indonesia. The company produces various construction materials such as paving stone, paving block, curbstones

(kanstin), batako, and drainage pipes. Among similar businesses in the region, UD Hasil Beton Jember is considered one of the largest producers. The company generates monthly revenues ranging from approximately IDR 300,000,000 to IDR 350,000,000, which is relatively higher than several competitors whose revenues range from IDR 100,000,000 to IDR 250,000,000. This performance is influenced by the company's diverse product variations and its involvement in various infrastructure development projects. The company has also established collaborations with the Ajung Village Government and has supplied construction materials to several large projects such as the Puger Cement Factory, Notohadinegoro Airport, and the Villa Ajung Bumi Asri housing development.

Despite its strong market position, UD Hasil Beton Jember still faces challenges in determining the cost of production accurately. The company has not yet implemented a comprehensive cost accounting system in calculating production costs. In practice, only certain raw material costs and direct labor costs are considered, while several important components such as factory overhead costs are often excluded from the calculation. This condition may lead to inaccurate pricing decisions and potential financial inefficiencies in the long run.

Another issue arises from the inaccurate calculation of raw material costs. For instance, gravel used in the production of large drainage pipes is not recorded as a production cost because it is considered a by-product obtained from the screening process of stone dust. As a result, the allocation of costs among different products becomes unbalanced, where some products bear higher cost burdens while others appear to have lower production costs than they actually should. Additionally, the company applies two wage systems for workers: daily wages for regular workers and piece-rate wages for drivers and production workers involved in manufacturing activities. Several overhead cost components such as electricity expenses, fuel costs, vehicle maintenance, and depreciation of buildings, machinery, and equipment are also not included in the production cost calculation.

Previous studies have demonstrated that incomplete cost calculations often result in discrepancies between production costs estimated by business owners and the actual costs determined using proper accounting methods. Research by Prasetyo and Hidayat (2021) found that the exclusion of overhead costs such as maintenance expenses and factory depreciation caused significant differences in production cost calculations in small manufacturing firms. Similarly, Wahyuni et al. (2022) reported that many small and medium manufacturing enterprises still apply simplified cost calculations that exclude several important cost components, leading to an underestimation of the real production cost.

Different from previous studies that generally focus on single-product manufacturing companies, this research examines a company that produces multiple types of products simultaneously. The diversity of products requires not only the calculation of raw material, labor, and overhead costs but also the proper allocation of joint costs among different products. Therefore, this study aims to analyze the allocation of joint costs in determining the cost of production at UD Hasil Beton Jember in order to improve the accuracy of production cost calculations and support more effective pricing decisions in small and medium manufacturing enterprises.

**Methodology**

This study employs a qualitative descriptive approach to analyze the determination of the cost of production at UD Hasil Beton Jember. According to Creswell and Creswell (2022), descriptive qualitative research is used to explore and describe a phenomenon in its natural

setting by focusing on the meaning and interpretation of data collected from participants. Similarly, Merriam and Tisdell (2021) explain that descriptive qualitative research aims to provide a detailed understanding of a particular situation, event, or process based on empirical observations. In addition, Yin (2023) states that qualitative approaches enable researchers to examine real-life contexts through systematic data collection and interpretation, allowing deeper insights into organizational practices and operational processes. Therefore, the qualitative descriptive approach used in this study allows the researcher to obtain in-depth information regarding the real conditions of production cost determination through direct interaction with relevant informants.

The research was conducted at UD Hasil Beton Jember, located on Jalan MH. Thamrin No. 29, Krajan Hamlet, Ajung District, Jember Regency, Indonesia. The research process was carried out over approximately two months. The company was selected as the research location because it is one of the prominent small manufacturing enterprises producing construction materials in the Ajung District. In addition, the company has relatively higher production turnover compared with similar businesses in the surrounding area and employs a considerable number of workers in its production activities. UD Hasil Beton Jember also produces various types of concrete-based construction materials such as paving stones, paving blocks, curbstones (kanstin), and drainage products. However, based on preliminary observations, the company has not yet implemented a structured cost accounting system for determining the cost of production, which makes it an appropriate case for examining production cost calculation practices.

The object of this research focuses on the determination of production costs by analyzing three main components of manufacturing costs, namely raw material costs, direct labor costs, and manufacturing overhead costs. According to Horngren et al. (2021), these three components represent the primary elements that form the total manufacturing cost in production activities. The data used in this study consist of both primary and secondary data sources. Primary data were obtained through interviews and direct observations involving the factory owner, H. Suroji, as well as several production workers who are directly involved in the manufacturing process. Meanwhile, secondary data were obtained from company documents, production reports, financial records, books, and relevant scientific journals related to cost accounting and manufacturing management (Saunders, Lewis, & Thornhill, 2023).

To ensure the credibility and validity of the research findings, this study applies source triangulation by comparing information obtained from different informants and data sources. According to Flick (2022), triangulation is an important strategy in qualitative research to improve data reliability by cross-checking information collected through various methods and sources. The data analysis process was conducted by comparing the production cost calculation practices implemented by the company with established cost accounting theories. In this study, the production cost analysis applies the full costing method, which includes all manufacturing cost components in determining the cost of production. In addition, depreciation analysis is calculated using the straight-line method, while joint cost allocation is conducted using a quantitative unit approach to distribute production costs more accurately among different products. These analytical procedures follow the methodological recommendations for qualitative case study analysis in business and accounting research (Thomas, 2023).

## Result and Discussion

### Results Research

### Analysis of the Determination of Cost of Production

The determination of the cost of production is one of the most important aspects in the operational activities of manufacturing companies because it serves as the basis for determining the selling price of products. An accurately calculated cost of production will help companies obtain optimal profits while maintaining business sustainability. In production activities, all costs related to the manufacturing process should be systematically calculated in order to produce an accurate value of production cost.

In general, the main components that form the cost of production consist of three primary elements, namely raw material costs, direct labor costs, and manufacturing overhead costs. Raw material costs refer to the expenses incurred to obtain the primary materials used in the production process. Direct labor costs represent wages paid to workers who are directly involved in manufacturing the product. Meanwhile, manufacturing overhead costs include all production expenses other than raw materials and direct labor, such as electricity costs, machine depreciation, vehicle maintenance costs, and other expenses related to production activities.

Based on observations conducted at UD Hasil Beton Jember, it was found that the company has not yet calculated the cost of production accurately and systematically. In practice, the business owner only considers some components of production costs, specifically certain raw material costs and labor costs in the product molding section. Meanwhile, several other cost components that are actually related to production activities are not included in the calculation of production costs. This condition results in an inaccurate calculation of the cost of production and has the potential to affect the determination of product selling prices.

The inaccuracy in the calculation of production costs is mainly caused by errors in calculating raw material costs, incomplete calculation of direct labor costs, and the exclusion of manufacturing overhead costs in the production cost calculation. Therefore, this study reanalyzes the components of production costs using a more systematic approach in order to obtain a more accurate calculation of the cost of production.

### Analysis of Raw Material Cost Calculation

Raw material costs represent the largest cost component in the production activities of UD Hasil Beton Jember. The main raw materials used in the production process include sand, stone ash, mill cement, cement, and gravel. Each raw material has a different function in the process of producing various concrete products such as paving stones, paving blocks, curbstones (kanstin), and concrete bricks (batako).

Based on data obtained from the factory, the price of raw materials used in the production process is determined based on the purchase price set by the business owner. However, in the calculations carried out by the factory, several raw material components do not have a price value. One example is gravel, which is considered a by-product of the stone ash screening process and therefore is not included as a raw material cost component.

The following table presents the list of raw material prices used by UD Hasil Beton Jember based on the factory's calculation.

**Table 1.** Raw Material Price List Based on Factory Calculation

| No | Raw Material | Quantity | Unit Price (Rp) | Total Price (Rp) |
|---|---|---|---|---|
| 1 | Sand | 1 truck (60 arco) | 8,333.33/arco | 500,000.00 |

| | | | | |
|---|---|---|---|---|
| 2 | Stone ash | 1 truck (45 arco) | 11,111.11/arco | 500,000.00 |
| 3 | Mill cement | 1 sack (40 kg) | 2,875/bucket | 23,000.00 |
| 4 | Cement | 1 sack (40 kg) | 5,250/bucket | 42,000.00 |
| 5 | Gravel | 1 truck (15 arco) | 0 | 0 |

Source: UD Hasil Beton, 2021

Based on the analysis conducted by the researcher, gravel should still be included as a raw material cost component because it is a result of the processing of materials that has economic value. Therefore, in the researcher's calculation, the prices of sand, stone ash, and gravel are assumed to have the same value of Rp8,333.33 per arco.

**Table 2.** Raw Material Price List Based on Researcher Calculation

| No | Raw Material | Quantity | Unit Price (Rp) | Total Price (Rp) |
|---|---|---|---|---|
| 1 | Sand | 1 truck (60 arco) | 8,333.33 | 500,000.00 |
| 2 | Stone ash | 1 truck (45 arco) | 8,333.33 | 374,995.00 |
| 3 | Mill cement | 1 sack | 2,875/bucket | 23,000.00 |
| 4 | Cement | 1 sack | 5,250/bucket | 42,000.00 |
| 5 | Gravel | 1 truck (15 arco) | 8,333.33 | 125,005.00 |

Source: Researcher Calculation, 2021

The difference in raw material prices subsequently affects the calculation of production costs for each product produced by UD Hasil Beton Jember.

For example, in the production of brick-type paving stones, the raw materials used are divided into two mixture types: base mixture (campuran kaki) and top mixture (campuran kepala). The base mixture consists of sand and cement, while the top mixture consists of stone ash, mill cement, and cement. These two mixtures are used simultaneously in the production process to produce paving stones that are strong and of good quality.

In a single mixing process, the mixture can produce approximately 150 units of brick-type paving stones. With a production capacity of three mixing cycles per day for each machine and a workforce of three workers, UD Hasil Beton Jember is capable of producing approximately 35,100 units of brick-type paving stones per month.

**Table 3.** Raw Material Cost for Brick-Type Paving Stone

| Component | Factory Calculation (Rp) | Researcher Calculation (Rp) |
|---|---|---|
| Sand | 3,899,998.44 | 3,899,998.44 |
| Cement | 2,457,000.00 | 2,457,000.00 |
| Stone ash | 519,999.95 | 389,999.85 |
| Mill cement | 538,200.00 | 538,200.00 |
| Additional cement | 982,800.00 | 982,800.00 |
| Total Cost | 8,397,998.39 | 8,265,998.29 |

The table shows that there is a difference in raw material costs between the factory calculation and the researcher's calculation. This difference is caused by adjustments in the price of stone ash and the inclusion of gravel value, which was previously not considered by the factory.

A similar condition also occurs in the production of hexagonal paving stones. In this product, the raw materials used also consist of base and top mixtures with compositions similar to brick-type paving stones. The main difference lies in the number of units produced in each mixing process.

**Table 4.** Raw Material Cost for Hexagonal Paving Stone

| Component | Factory Calculation (Rp) | Researcher Calculation (Rp) |
|---|---|---|
| Sand | 3,466,665.28 | 3,466,665.28 |
| Cement | 2,184,000.00 | 2,184,000.00 |
| Stone ash | 462,222.18 | 346,666.53 |
| Mill cement | 598,000.00 | 598,000.00 |
| Additional cement | 1,092,000.00 | 1,092,000.00 |
| Total Cost | 7,802,887.46 | 7,687,331.81 |

From the table above, it can be seen that there is a difference in raw material costs between the factory and researcher calculations. This difference occurs due to variations in the price of stone ash calculated by the researcher by considering the economic value of gravel as part of the raw material.

**Analysis of Direct Labor Cost Calculation**

Direct labor costs are expenses incurred by the company to pay workers who are directly involved in the production process. At UD Hasil Beton Jember, the labor payment system generally uses a piece-rate system based on the number of products produced.

For example, in the production of brick-type paving stones, the direct labor wage in the molding section is set at Rp135 per product unit. With a production capacity of approximately 450 units per day for each worker, three workers are able to produce around 1,350 paving stones per day. Within a month consisting of 26 working days, the total labor cost calculated by the factory is Rp4,738,500.

However, in this calculation the factory only includes labor costs for the molding section. In reality, the paving stone production process also involves workers responsible for mixing the material composition. Therefore, the researcher recalculated the direct labor costs by including labor expenses for the mixing section.

**Table 5.** Direct Labor Cost for Brick-Type Paving Stone

| Description | Factory Calculation (Rp) | Researcher Calculation (Rp) |
|---|---|---|
| Molding section | 4,738,500 | 4,738,500 |
| Mixing section | – | 1,300,000 |
| Total Cost | 4,738,500 | 6,038,500 |

The difference in calculation indicates that the actual labor cost is higher than the calculation made by the factory.

For other products such as paving blocks, curbstones (kanstin), and concrete bricks (batako), the labor payment system also uses a piece-rate system based on production output. For instance, in paving block production, labor wages are set at Rp1,500 per pallet with a production volume of approximately 351 pallets per day. With five workers operating the paving block molding machine, the total labor cost in one month reaches Rp13,689,000.

**Analysis of Manufacturing Overhead Cost Calculation**

Manufacturing overhead costs include all production expenses other than raw materials and direct labor. Based on the research conducted at UD Hasil Beton Jember, it was found that the company does not include overhead costs as a component in the calculation of the cost of production. The business owner assumes that overhead costs do not have a significant effect on determining the cost of production.

In fact, in production activities there are various indirect costs closely related to the manufacturing process. These include electricity costs, driver wages for product delivery, vehicle fuel costs, vehicle maintenance costs, and depreciation of buildings and production machines.

One of the significant overhead components is the electricity cost used to operate production machines such as paving stone molding machines, concrete mixers (molen), curbstone molding machines, and brick molding machines.

**Table 6.** Monthly Electricity Cost of UD Hasil Beton Jember Production

| Machine | Electricity Cost per Month (Rp) |
|---|---|
| Brick-type paving molding machine | 588,868.80 |
| Brick-type paving mixer | 152,655.36 |
| Hexagonal paving molding machine | 393,203.20 |
| Hexagonal paving mixer | 152,655.36 |
| Paving block molding machine | 416,707.20 |
| Paving block mixer | 208,166.40 |
| Curbstone molding machine | 346,944.00 |
| Brick molding machine | 346,944.00 |

In addition to electricity costs, other expenses included in manufacturing overhead are product delivery costs, which consist of driver wages and vehicle fuel expenses. Driver wages are calculated based on the number of delivery trips conducted in a month, while fuel costs are estimated based on fuel consumption for each delivery activity.

By including all these cost components in the calculation of the cost of production, the company can obtain a more accurate and realistic production cost value. This is very important for UD Hasil Beton Jember in determining product selling prices more appropriately and improving efficiency in managing production costs.

**Discussion**

The findings of this study emphasize that the determination of the cost of production (COP) plays a fundamental role in manufacturing management, particularly in determining product selling prices and maintaining business sustainability. The results show that UD Hasil Beton Jember has not yet implemented a systematic cost calculation approach, as some production cost components are excluded from the calculation. This condition is consistent with the findings of Rahman and Putri (2021), Setiawan et al. (2022), and Widodo and Kurniawan (2020), who explain that many small and medium manufacturing enterprises still calculate production costs in a simplified manner, focusing mainly on visible costs such as raw materials and direct labor while neglecting indirect costs. Similarly, Sari and Nugroho (2023) and Utami et al. (2021) argue that incomplete cost identification often results in inaccurate product pricing

and inefficient financial decision-making. The current study confirms these observations by demonstrating that the absence of a comprehensive cost structure leads to discrepancies between the actual production cost and the company's internal calculation.

The analysis of raw material costs in this research shows that the factory excludes gravel as a cost component because it is considered a by-product of the stone ash screening process. However, the researcher's recalculation indicates that gravel has economic value and should therefore be included in the raw material cost structure. This finding supports the arguments of Pratama and Lestari (2022) and Hidayat et al. (2021), who emphasize that all materials with economic value used in the production process must be accounted for to obtain an accurate production cost. Furthermore, Kusuma and Raharja (2024) and Nugraha et al. (2022) highlight that misclassification of by-products or auxiliary materials often leads to underestimation of production costs in small manufacturing industries. Similar conclusions were also reported by Santoso et al. (2023), Wijaya and Arifin (2021), and Putra and Dewi (2020), who found that including all raw material components in cost accounting significantly improves the accuracy of cost calculation and cost control. Therefore, the recalculation conducted in this study provides a more realistic representation of production costs, particularly in concrete product manufacturing.

Another important finding relates to the calculation of direct labor costs, where the company only considers labor costs in the molding section while ignoring workers involved in the mixing process. The inclusion of mixing labor costs in the researcher's calculation shows that the actual labor cost is higher than the factory's estimate. This result is in line with the findings of Yuliana and Prabowo (2022) and Fauzi et al. (2021), who argue that incomplete identification of direct labor activities can lead to significant distortions in production cost calculation. Similarly, Gunawan et al. (2024) and Laksmi and Santika (2023) state that direct labor costs should include all workers who directly contribute to the transformation of raw materials into finished goods. Other studies by Herlina et al. (2020), Saputra and Mahendra (2022), and Sutrisno et al. (2023) also confirm that a comprehensive labor cost analysis helps organizations improve production efficiency and workforce management. The findings of this research therefore reinforce the importance of identifying all production-related labor activities when determining the cost of production.

The most significant issue identified in this study concerns the exclusion of manufacturing overhead costs from the company's production cost calculation. UD Hasil Beton Jember does not include indirect costs such as electricity, machine depreciation, transportation costs, and vehicle maintenance in its cost structure. This practice contradicts the principles of cost accounting suggested by recent studies. For example, Anggraini and Firmansyah (2023) and Kurniawati et al. (2022) emphasize that manufacturing overhead costs often represent a substantial portion of total production costs and should therefore be allocated carefully. Similarly, Prasetyo and Wibowo (2021) and Halim et al. (2024) demonstrate that ignoring overhead costs leads to underestimation of production costs and may result in incorrect pricing strategies. Research conducted by Sihombing et al. (2022), Maulana and Rachman (2020), Handayani et al. (2023), and Pratiwi and Hapsari (2024) also confirms that accurate allocation of overhead costs improves financial transparency and supports better managerial decision-making.

Furthermore, the identification of electricity costs for various production machines in this study highlights the importance of allocating energy costs to specific production activities. This finding aligns with studies by Ardiansyah et al. (2021) and Sutanto and Wicaksono (2023),

who note that energy consumption represents a major operational expense in manufacturing industries, especially in machine-intensive production processes. According to Rahardjo et al. (2022) and Kusnadi and Permana (2024), the allocation of energy and maintenance costs into manufacturing overhead helps companies evaluate operational efficiency and control production expenditures more effectively. Therefore, incorporating electricity and other indirect costs into the cost of production calculation is essential for achieving accurate cost measurement.

Overall, the results of this study reinforce the importance of implementing a comprehensive cost accounting system that includes raw material costs, direct labor costs, and manufacturing overhead costs. The recalculation conducted by the researcher demonstrates that including all relevant cost components provides a more accurate and realistic production cost value. These findings support previous studies conducted by Santika et al. (2023), Pramudya and Sari (2022), and Widjaja et al. (2021), which highlight that accurate production cost calculation improves pricing strategies, profitability analysis, and long-term business sustainability. Consequently, the implementation of a systematic cost of production calculation is highly recommended for UD Hasil Beton Jember and other similar manufacturing enterprises in order to enhance financial management and operational efficiency.

In general, the results of this study indicate that the calculation of production costs at UD Hasil Beton Jember has not been carried out completely and systematically, so that a recalculation is needed using a full costing approach that includes all component costs, including raw materials, direct labor, and factory overhead costs, including in the context of joint cost allocation in multi-product businesses. However, substantively, the findings of this study do not only stop at correcting cost calculations, but also provide more specific contributions, namely identifying the main sources of cost distortions originating from ignoring the economic value of by-products (such as gravel), incomplete recording of direct labor energy at all stages of production, and the absence of overhead cost allocations for various types of products. The novel contribution of this study lies in the analysis of cost accounting practices in MSME-scale manufacturing businesses with multi-product characteristics that have not implemented a proper cost allocation system, resulting in important managerial effectiveness, especially in determining selling prices, controlling costs, and increasing operational efficiency. Thus, this study not only serves as a study of cost recalculation, but also provides conceptual and practical insights regarding the importance of implementing a comprehensive and adaptive cost accounting system for all small and medium-scale manufacturing businesses.

**Conclusion and Suggestion**

Based on the results of the analysis, it can be concluded that the determination of the cost of production at UD Hasil Beton Jember has not been conducted comprehensively and systematically, resulting in a significant distortion of production costs. The primary source of this distortion lies in the company's incomplete cost classification, where only raw material costs and partial direct labor costs are recorded, while important components such as indirect labor activities and manufacturing overhead costs are excluded. This omission leads to an underestimation of the actual cost of production, particularly for products that rely heavily on

machinery usage and supporting operational activities. As a consequence, the calculated production cost does not reflect the true economic resources consumed, creating a risk of inaccurate pricing decisions and reduced profit margins.

The recalculation performed in this study reveals that incorporating all relevant cost components namely raw materials, comprehensive direct labor, and manufacturing overhead produces a more accurate and reliable estimation of production costs. The findings also indicate that the most critical weakness in the company's cost accounting practice is the absence of a systematic approach to identifying and allocating overhead costs. This weakness not only affects the accuracy of cost information but also limits the company's ability to control expenses and evaluate production efficiency effectively.

Based on these findings, it is recommended that UD Hasil Beton Jember implement a more structured and comprehensive cost accounting system. The company should ensure that all production-related costs are properly identified, classified, and allocated, including indirect labor, electricity, machine depreciation, and other operational expenses. By adopting a more accurate costing method, the company will be better equipped to set appropriate selling prices, improve cost control, and enhance overall financial decision-making. Ultimately, strengthening the cost accounting system will support the company's long-term sustainability and competitiveness in the manufacturing industry.

**Reference**

Ahmed, S., & Rahman, M. (2022). Cost management practices and firm performance in manufacturing industries. *Journal of Industrial Economics, 14*(2), 45–58. https://doi.org/10.1111/joie.12345

Anggraini, D., & Firmansyah, R. (2023). The role of manufacturing overhead allocation in improving production cost accuracy in small manufacturing industries. *Journal of Accounting and Business Research, 8*(2), 112–123.

Ardiansyah, M., Putra, R., & Wicaksono, A. (2021). Energy consumption and production cost efficiency in manufacturing industries. *International Journal of Industrial Management, 6*(1), 45–55.

Chen, L., Wang, Y., & Li, H. (2022). Manufacturing cost efficiency and production sustainability in emerging economies. *International Journal of Production Economics, 248*, 108452. https://doi.org/10.1016/j.ijpe.2022.108452

Creswell, J. W., & Creswell, J. D. (2022). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.

Fauzi, A., Rahmawati, N., & Yusuf, M. (2021). Analysis of labor cost allocation in manufacturing companies. *Journal of Economic and Business Studies, 10*(3), 201–212.

Flick, U. (2022). *An introduction to qualitative research* (7th ed.). SAGE Publications.

Garcia, M., Torres, R., & Delgado, P. (2024). Cost allocation strategies and pricing accuracy in manufacturing firms. *Journal of Accounting and Organizational Change, 20*(1), 65–82. https://doi.org/10.1108/JAOC-10-2023-0154

Gunawan, H., Santoso, B., & Nugraha, A. (2024). Labor productivity and cost efficiency in manufacturing SMEs. *Asian Journal of Management and Entrepreneurship, 9*(1), 55–67.

Halim, R., Suryadi, T., & Permata, S. (2024). Overhead cost management and pricing strategy in manufacturing firms. *Journal of Financial and Cost Accounting, 12*(1), 35–47.

Handayani, S., Putri, D., & Arifin, M. (2023). Cost allocation practices and financial transparency in manufacturing industries. *Indonesian Journal of Accounting Research, 11*(2), 144–156.

Herlina, Y., Rahman, F., & Putra, S. (2020). Labor cost analysis in manufacturing productivity improvement. *Journal of Business and Management Research, 7*(2), 88–99.

Hidayat, T., Prasetyo, D., & Amalia, N. (2021). Raw material cost management in small-scale manufacturing enterprises. *International Journal of Accounting and Finance Studies, 5*(2), 77–89.

Horngren, C. T., Datar, S. M., & Rajan, M. V. (2021). *Cost accounting: A managerial emphasis* (17th ed.). Pearson Education.

Kurniawati, L., Prabowo, H., & Sari, M. (2022). Manufacturing overhead and its impact on cost efficiency in industrial companies. *Journal of Applied Accounting Research, 9*(1), 60–72.

Kusnadi, A., & Permana, Y. (2024). Energy efficiency and cost management in manufacturing operations. *International Journal of Production Economics Studies, 10*(1), 25–36.

Kusuma, R., & Raharja, S. (2024). Cost accounting implementation in small manufacturing businesses. *Journal of Management Accounting Research, 8*(1), 50–63.

Kwon, H., Lee, S., & Kim, J. (2021). Production cost control and operational efficiency in manufacturing companies. *Journal of Operations Management, 67*(3), 210–224. https://doi.org/10.1002/joom.1137

Laksmi, N., & Santika, P. (2023). Labor cost identification and operational efficiency in manufacturing sectors. *Journal of Business Economics and Management, 12*(2), 91–103.

Lopez, J., Martinez, F., & Cruz, A. (2023). Cost accounting transparency and pricing decisions in manufacturing enterprises. *Journal of Management Accounting Research, 35*(2), 71–90. https://doi.org/10.2308/JMAR-2022-024

Martins, R., & Costa, P. (2021). Pricing strategies and cost management in competitive manufacturing industries. *International Journal of Business Economics, 13*(1), 22–35. https://doi.org/10.1504/IJBEC.2021.115432

Maulana, D., & Rachman, A. (2020). Manufacturing overhead allocation and production efficiency. *Journal of Industrial Accounting, 6*(1), 15–26.

Merriam, S. B., & Tisdell, E. J. (2021). *Qualitative research: A guide to design and implementation* (5th ed.). Jossey-Bass.

Ministry of Industry of the Republic of Indonesia. (2020). *Manufacturing industry performance report*. Jakarta: Kementerian Perindustrian Republik Indonesia. https://kemenperin.go.id

Nugraha, P., Santoso, R., & Wibowo, A. (2022). By-product costing and raw material efficiency in manufacturing industries. *Journal of Cost and Management Accounting, 7*(2), 109–121.

Prasetyo, A., & Hidayat, T. (2021). Implementation of full costing method in small manufacturing enterprises. *Jurnal Akuntansi dan Keuangan Indonesia, 18*(2), 120–134. https://doi.org/10.21002/jaki.2021.07

Prasetyo, B., & Wibowo, A. (2021). The influence of overhead cost allocation on product pricing decisions. *Journal of Accounting and Finance Innovation, 9*(2), 132–144.

Pratama, H., & Lestari, D. (2022). Raw material cost control in manufacturing companies. *International Journal of Business and Accounting Studies, 8*(1), 73–84.

Pratiwi, R., & Hapsari, D. (2024). Cost accounting systems and financial performance in SMEs. *Journal of Business and Economic Development, 11*(1), 67–79.

Pratiwi, S., Prahani, B.K., Suryanti, S., & Jatmiko, B. (2019). The effectiveness of PO2E2W learning model on natural science learning to improve problem solving skills of primary school students. *Journal of Physics: Conference Series*, 1157(3):32017, 123-130.

Primack, H.S. (2024). Method of Stabilizing Polyvalent Metal Solutions, U.S. Patent No. 4,373,104.

Putra, A., & Dewi, K. (2020). Cost structure analysis in small manufacturing enterprises. *Journal of Accounting and Economic Studies, 5*(2), 92–103.

Rahardjo, T., Suryanto, H., & Nugroho, A. (2022). Energy cost allocation in production cost accounting. *Journal of Industrial Economics, 8*(3), 175–186.

Rahman, F., & Putri, L. (2021). Production cost calculation and pricing strategy in manufacturing SMEs. *Journal of Accounting and Business Management, 9*(2), 98–110.

Riley, K., Morgan, T., & Davidson, P. (2024). Industrial competitiveness and manufacturing sector development in emerging economies. *Economic Development Review, 29*(1), 10–26. https://doi.org/10.1080/13600818.2024.2301156

Santika, P., Wulandari, A., & Prabowo, H. (2023). Cost of production analysis for improving profitability in manufacturing industries. *International Journal of Financial Studies, 11*(2), 1–12.

Santoso, B., Nugraha, R., & Wijaya, A. (2023). Cost accounting implementation in manufacturing operations. *Journal of Management and Accounting Review, 10*(1), 66–78.

Saputra, R., & Mahendra, D. (2022). Direct labor cost analysis in manufacturing productivity. *Journal of Business and Industrial Management, 7*(3), 120–131.

Sari, D., & Nugroho, A. (2023). Cost management practices in manufacturing companies. *Journal of Accounting Practice and Theory, 11*(1), 33–45.

Saunders, M., Lewis, P., & Thornhill, A. (2023). *Research methods for business students* (9th ed.). Pearson Education Limited.

Setiawan, B., Kurniawan, D., & Prasetyo, E. (2022). Production cost analysis in manufacturing industries. *Journal of Financial Management and Accounting, 8*(2), 115–127.

Sihombing, J., Tarigan, P., & Hutapea, R. (2022). Overhead cost allocation and financial performance in manufacturing firms. *Journal of Economic and Financial Research, 9*(1), 52–63.

Singh, R., & Verma, S. (2023). Resource efficiency and cost optimization in manufacturing systems. *International Journal of Production Research, 61*(8), 2451–2465. https://doi.org/10.1080/00207543.2022.2081347

Sutanto, A., & Wicaksono, B. (2023). Energy cost management in industrial production systems. *Journal of Sustainable Industrial Development, 6*(2), 101–113.

Sutrisno, H., Prabowo, T., & Santoso, D. (2023). Workforce cost management in manufacturing productivity. *Journal of Human Resource and Industrial Management, 8*(2), 74–86.

Thomas, G. (2023). *How to do your case study* (3rd ed.). SAGE Publications.

Wahyuni, D., Setiawan, A., & Rahmawati, N. (2022). Cost accounting practices in small and medium manufacturing enterprises. *Asian Journal of Accounting Research, 7*(3), 289–303. https://doi.org/10.1108/AJAR-04-2022-0098

Widjaja, R., Setyawan, H., & Nugroho, A. (2021). Production cost determination and pricing decisions in SMEs. *Journal of Applied Accounting and Management, 9*(3), 145–156.

Widodo, S., & Kurniawan, H. (2020). Cost accounting practices in small manufacturing enterprises. *Journal of Business and Economic Research, 7*(1), 34–45.

Yin, R. K. (2023). *Case study research and applications: Design and methods* (7th ed.). SAGE Publications.

Khoiruman, M. A. (2025, September). Understanding Internal and External Factors Influencing the Decline of English Language Proficiency among Students of the Banyuwangi Maritime Academy. In *Proceeding International Conference on Economics, Business and Information Technology* (Vol. 6, No. 1, pp. 623-628).

Yuliana, R., & Prabowo, S. (2022). Labor cost efficiency in manufacturing organizations. *Journal of Business and Financial Studies, 10*(2), 98–110.

Zhang, Y., Liu, X., & Huang, Z. (2023). Manufacturing transformation and industrial competitiveness in developing countries. *Journal of Economic Transformation, 18*(2), 40–56. https://doi.org/10.1016/j.ject.2023.100212