

APPLICATION OF FULL COSTING METHOD FOR PRODUCTION COST DETERMINATION IN CULINARY MSMES

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ABSTRACT : Accurate cost of production information is essential for determining appropriate selling prices and supporting Accurate production cost information is essential for determining appropriate selling prices and supporting managerial decision-making in Micro, Small, and Medium Enterprises (MSMEs). However, many culinary MSMEs still apply simplified costing practices by considering only direct costs and excluding manufacturing overhead, resulting in inaccurate production cost calculations. This study aims to analyze the application of the Full Costing method in determining production costs in a culinary MSME. A qualitative case study approach was employed, with data collected through observation, interviews, and documentation. The findings show that the enterprise initially calculated production costs based only on direct materials, direct labor, and gas expenses, while excluding electricity, water, equipment depreciation, and indirect material costs. After applying the Full Costing method, the total production cost increased from IDR 2,244,000 to IDR 2,669,000, representing an increase of approximately 18.9%. Consequently, the unit production cost increased from IDR 7,500 to IDR 9,000 per unit. The increase was mainly caused by the inclusion of previously unallocated manufacturing overhead costs. These findings demonstrate that the Full Costing method provides a more comprehensive basis for production cost determination and supports more accurate pricing decisions, cost control, and managerial planning. This study provides practical insights into improving cost information systems in culinary MSMEs.

Keyword: Full Costing; cost of production; culinary MSMEs; managerial accounting; manufacturing overhead.

Code JEL : M41, D24, L66, M21, L26

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) have an important contribution to Indonesia's economic development through employment creation, income generation, and regional economic growth [1], [2]. The culinary sector represents one of the rapidly developing MSME

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sectors due to increasing consumer demand and the growth of small-scale food production businesses [3], [4]. However, increasing market competition requires culinary MSMEs to improve their managerial practices, particularly in generating accurate financial and cost information to support sustainable business operations [5], [6].

Accurate production cost information is a critical element in manufacturing-oriented businesses because it influences pricing decisions, cost control, efficiency evaluation, and profitability analysis [3], [4]. The reliability of such information depends on the ability of businesses to identify and allocate all costs associated with the production process [3], [4]. In practice, many culinary MSMEs still rely on simplified costing practices by considering only direct materials, direct labor, and selected production expenses. Manufacturing overhead costs, including electricity, water, equipment depreciation, and indirect materials, are often excluded from production cost calculations [6], [8]. This condition creates a gap between the actual costs incurred during production and the cost information used by business owners for decision-making [7], [8], [9].

The absence of comprehensive production cost calculations may result in inaccurate pricing strategies and difficulties in evaluating operational performance [9], [10]. Although the Full Costing method provides a systematic approach for incorporating all production cost components, its application among culinary MSMEs remains limited [9], [10]. Therefore, the scientific problem addressed in this study concerns the discrepancy between simplified costing practices commonly applied by culinary MSMEs and the need for more comprehensive production cost information to support managerial decisions [11], [12], [13].

Previous studies have consistently shown that the implementation of the Full Costing method improves the accuracy of production cost calculations and provides a better basis for determining selling prices in MSMEs [11], [12], [13], [14]. However, most existing studies primarily focus on comparing production costs before and after applying the Full Costing method. Limited attention has been given to examining the implementation process itself, particularly how production cost components are identified, classified, and allocated within culinary MSMEs. Furthermore, empirical evidence from bakery-based MSMEs remains relatively limited [15], [16], [17]. Therefore, this study seeks to fill this research gap by investigating the implementation process of the Full Costing method at Kunara Bakery and evaluating its contribution to improving production cost information for managerial decision-making.

To address this scientific problem, this study investigates the implementation of the Full Costing method at Kunara Bakery, a culinary MSME located in Jombang, Indonesia. Kunara Bakery currently determines production costs using a simplified costing approach that excludes several manufacturing overhead components. This study therefore analyzes how the implementation of the Full Costing method can improve the accuracy of production cost information and support managerial decision-making.

Accordingly, this study aims to analyze the implementation of the Full Costing method in determining the cost of production at Kunara Bakery and to evaluate its contribution to generating more reliable production cost information for culinary MSMEs.

1. THE LITERATURE REVIEW

The Full Costing method is widely recognized as one of the most comprehensive costing approaches because it allocates all manufacturing costs, including direct materials, direct labor, and both fixed and variable manufacturing overhead, to products. Existing studies collectively indicate that this approach provides more reliable production cost information than simplified costing methods because it recognizes all resources consumed during the production process. Consequently, the Full Costing method supports more accurate pricing decisions, improves cost control, enhances production efficiency, and strengthens managerial decision-making, particularly in manufacturing-oriented MSMEs [6], [7], [8], [9].

Accurate production cost information plays an essential role in managerial accounting because it serves as the basis for pricing decisions, profitability evaluation, inventory valuation, operational planning, and cost control. Existing literature consistently emphasizes that production cost calculations should incorporate all manufacturing resources consumed during production activities to ensure that product costs accurately reflect actual manufacturing conditions. For MSMEs, reliable production cost information is particularly important because pricing inaccuracies may directly influence business competitiveness and long-term sustainability [3], [4], [10], [11].

Existing studies collectively indicate that implementing the Full Costing method generally produces higher production costs than simplified costing approaches because manufacturing overhead costs are fully allocated to products. Previous research conducted in manufacturing and food-processing MSMEs consistently demonstrates that recognizing electricity, water, depreciation, maintenance, and indirect material costs improves the accuracy of production cost calculations and provides a more appropriate basis for determining selling prices, evaluating profitability, and controlling production costs [12], [13], [14], [15].

Furthermore, previous studies also reveal that many MSMEs continue to determine production costs using simplified costing practices by recognizing only direct material and direct labor costs while excluding several manufacturing overhead components. Such practices result in understated production costs that may influence pricing strategies, profitability analysis, and managerial decision-making. Accordingly, numerous researchers recommend the implementation of the Full Costing method as a more reliable approach for improving production cost information and supporting sustainable business management within MSMEs [18], [19].

Overall, the existing literature consistently demonstrates that the implementation of the Full Costing method improves the accuracy of production cost calculations by incorporating all manufacturing cost components into product costs [20]. More accurate production cost

information contributes to better pricing decisions, improved cost control, profitability evaluation, operational planning, and managerial decision-making[21]. These findings suggest that comprehensive production cost allocation is essential for strengthening the competitiveness and sustainability of manufacturing-oriented MSMEs [22].

2. METHODS

This study employed a qualitative case study approach to analyze the application of the Full Costing method in determining production costs at Kunara Bakery, a culinary Micro, Small, and Medium Enterprise located in Jombang, Indonesia. The case study approach was selected because it enables an in-depth examination of existing costing practices and the identification of cost components used in the production process [26],[27].

The data consisted of primary and secondary data. Primary data were obtained through direct observation of production activities and semi-structured interviews with the business owner regarding production processes, cost calculation procedures, and resource utilization. Secondary data were collected from production records, purchase documents, expense records, and other financial documents related to production activities[26],[27][28].

The research procedure consisted of several stages. First, the existing production cost calculation method applied by the enterprise was identified. Second, all production cost components were classified into direct materials, direct labor, and manufacturing overhead costs. Third, the production cost was recalculated using the Full Costing method based on the following equation:

$$\text{Production Cost} = \text{Direct Materials} + \text{Direct Labor} + \text{Manufacturing Overhead} \dots\dots\dots(1)$$

where Production Cost represents the total manufacturing cost, Direct Materials represent costs of raw materials directly used in production, Direct Labor represents labor costs directly involved in production activities, and Manufacturing Overhead represents indirect production costs, including utilities, depreciation, and other supporting production expenses.

Finally, the production cost calculated using the Full Costing method was compared with the existing costing method applied by Kunara Bakery to evaluate differences in cost allocation and the implications for managerial decision-making

3. RESULT AND DISCUSSION

Existing Production Cost Calculation at Kunara Bakery

Field observations, interviews, and document analysis revealed that Kunara Bakery currently applies a simplified production cost calculation method. The enterprise determines production costs by including only direct material costs, direct labor costs, and gas expenses, while excluding several manufacturing overhead components such as electricity, water, equipment

depreciation, and indirect materials. This simplified costing practice reflects the enterprise's current accounting practice, which prioritizes ease of calculation but does not fully capture all manufacturing resources consumed during the production process.

The omission of manufacturing overhead costs causes the reported production cost to underestimate the actual manufacturing cost incurred. Consequently, the resulting cost information may reduce the reliability of pricing decisions, cost control, and profitability evaluation. The initial production cost calculation applied by Kunara Bakery is presented in Table 1.

Tabel 1 The initial production cost calculation

Cost Component	Amount (IDR)
Direct material costs	1,584,000
Direct labor costs	480,000
Gas costs	180,000
Total production costs	2,244,000
Production volume	300 packages
Cost of production per package	IDR 7,480 (rounded to IDR 7,500)

Source: Prepared by the authors (2026).

Table 1 indicates that Kunara Bakery determines production costs using only three cost components, namely direct materials, direct labor, and gas expenses. The exclusion of manufacturing overhead costs suggests that the enterprise applies a simplified costing practice, resulting in production cost information that does not fully represent the actual manufacturing resources consumed during production.

Production Cost Calculation Using the Full Costing Method

To obtain more comprehensive production cost information, this study recalculated the production costs using the Full Costing method. Under this approach, all manufacturing costs are assigned to products, including direct materials, direct labor, and manufacturing overhead costs. The Full Costing calculation applied in this study follows the following formula:

$$\text{Cost of Production} = \text{Direct Materials} + \text{Direct Labor} + \text{Manufacturing Overhead} \dots\dots\dots(2)$$

Before calculating the production cost, manufacturing costs were first classified according to the Full Costing concept presented in Tabel 2.

Tabel 2 The Full Costing concept

Cost Classification	Description
Direct Materials	Flour, sugar, butter, and other raw materials
Direct Labor	Production workers
Manufacturing Overhead	Electricity, water, depreciation, indirect materials

Source: Prepared by the authors (2026)

The classification demonstrates that several manufacturing overhead costs previously excluded by the enterprise were incorporated into the production cost calculation. Consequently, the Full Costing method provides a more comprehensive representation of manufacturing costs presented Tabel 3

Tabel 3 comprehensive representation of manufacturing costs

Cost Component	Amount (IDR)
Direct material costs	1,584,000
Direct labor costs	480,000
Manufacturing overhead costs	605,000
Total production costs	2,669,000
Production volume	300 packages
Cost of production per package	IDR 8,897 ($\approx$ IDR 9,000)

Source: Prepared by the authors (2026)

The calculation shown in Table 2 illustrates the effect of allocating all manufacturing cost components to the production process. Unlike the enterprise's previous costing practice, the Full Costing method recognizes manufacturing overhead costs as part of product costs, resulting in production cost information that more closely reflects actual manufacturing conditions.

Comparison and Economic Interpretation

To evaluate the effect of implementing the Full Costing method, the production costs generated by both costing approaches were compared.

Table 4. Comparison of the Cost of Production

Description	Company's Costing Method	Full Costing Method	Difference
Total production costs	IDR 2,244,000	IDR 2,669,000	IDR 425,000
Production volume	300 packages	300 packages	—
Cost of production per package	IDR 7,500	IDR 8,897 ($\approx$ IDR 9,000)	IDR 1,500

Source: Prepared by the authors (2026).

The comparison indicates that total production costs increased from IDR 2,244,000 to IDR 2,669,000, representing an increase of IDR 425,000 (18.94%). Likewise, the production cost per package increased from IDR 7,500 to approximately IDR 8,897, equivalent to an increase of approximately 18.63%. The increase occurred because the Full Costing method recognizes manufacturing overhead costs that were previously excluded by the enterprise.

From an economic perspective, the revised production cost provides a more reliable basis for determining selling prices, estimating profitability, and strengthening cost control. If manufacturing overhead costs continue to be ignored, the enterprise may underestimate production costs, potentially resulting in pricing strategies that fail to recover the actual manufacturing costs incurred.

4. DISCUSSION

The findings demonstrate that excluding manufacturing overhead costs leads to an understatement of production costs. While the simplified costing method is relatively easy to implement, it does not provide sufficiently accurate cost information for determining selling prices or evaluating production efficiency.

The increase in production cost after applying the Full Costing method demonstrates that the previous costing practice underestimated the actual resources consumed during production. The difference of IDR 425,000 represents approximately 18.9% of the total production cost previously calculated by Kunara Bakery. This finding indicates that excluding manufacturing overhead costs may result in inaccurate cost information and potentially affect pricing decisions and profitability evaluation.

The results support previous studies showing that MSMEs often apply simplified costing methods due to limited accounting knowledge and practical constraints in recording manufacturing costs [12], [13], [14]. Consistent with these studies, Kunara Bakery excluded several manufacturing overhead components from its production cost calculation, resulting in understated production costs. The implementation of the Full Costing method therefore provides more comprehensive cost information and strengthens managerial decision-making [29].

These findings are also consistent with managerial accounting theory, which emphasizes that all manufacturing costs should be systematically allocated to products in order to generate reliable production cost information. The Full Costing method therefore provides a more appropriate basis for pricing decisions, operational control, and profitability analysis [20], [21].

From a practical perspective, the findings suggest that culinary MSMEs should adopt comprehensive production cost calculation methods to improve pricing accuracy, strengthen cost control, and enhance business sustainability. More reliable production cost information also enables business owners to evaluate production efficiency and develop more competitive pricing strategies [22], [29].

Future research may investigate the implementation of the Full Costing method in different MSME sectors or compare the Full Costing method with alternative costing approaches to provide broader empirical evidence regarding production cost determination and managerial accounting practices [30].

5. CONCLUSION

This study aimed to examine the implementation of the Full Costing method in determining production costs at Kunara Bakery, a culinary Micro, Small, and Medium Enterprise (MSME). The findings indicate that the enterprise's existing costing practice did not incorporate several manufacturing overhead components, resulting in production cost information that did not fully reflect the actual resources consumed during the production process.

The application of the Full Costing method provided a more comprehensive production cost calculation by incorporating all manufacturing cost components, including direct materials,

direct labor, and manufacturing overhead costs. Compared with the enterprise's existing costing practice, the Full Costing method increased the total production cost by IDR 425,000 (approximately 18.9%), demonstrating the importance of recognizing indirect production costs in generating more accurate cost information.

The findings imply that adopting the Full Costing method can strengthen cost management practices in culinary MSMEs by improving the basis for pricing decisions, production planning, cost control, and profitability evaluation. Therefore, implementing a more comprehensive costing system may support MSMEs in achieving better managerial decision-making and long-term business sustainability. Future research is recommended to examine the implementation of the Full Costing method in other MSME sectors or compare it with alternative costing approaches to provide broader empirical evidence regarding production cost determination.

Author contribution

N.A: Conceptualization, methodology, investigation, data collection, formal analysis, data curation, interpretation of findings, writing, original draft, writing, review and editing, visualization, and approval of the final manuscript.

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Conflicts of interest

The author confirms that no conflicts of interest are associated with this research or its publication.

Declaration of AI-Assisted Technology

During the preparation of this work, the author used [Grammarly] to draft the initial text and generate ideas for paragraph structure. The author reviewed the entire generated text, corrected data interpretations, and assumes responsibility for the integrity of this scholarly work.

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