VOLUME 8 No 1 Mei 2026
E – ISSN: 2620 – 5815
DOI: 10.36985/jzrdsa94

Jurnal Ilmiah AccUsi https://jurnal.usi.ac.id/index.php/jia

OPTIMIZING MSME PROFITABILITY: THE IMPACT OF PRODUCTION COSTS ON OPERATING PROFIT

(CASE STUDY: CASSAVA CHIPS MSME AT SIMPANG 3 SIBATU BATU ROAD)

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ABSTARCT

This study aims to analyze the influence of production costs on business profits and optimize profitability in Cassava Chips MSMEs (Micro, Small, and Medium Enterprises) located at Simpang 3 Jalan Sibatu Batu, PematangSiantar City. This research utilizes a quantitative method with a descriptive approach and simple linear regression analysis. The population in this study consists of the financial records of the Cassava Chips MSME owners, while the sample includes production cost data and business profit data over a 5-year period. The financial analysis utilized includes profitability ratios: R/C Ratio (Revenue/Cost Ratio), ROI (Return on Investment), and Profit Margins (Gross Profit Margin, Operating Profit Margin, and Return On Equity). The results indicate that production costs have a positive and significant impact on business profits. However, an increase in production costs that is not matched by an increase in selling price causes a decline in profit annually. Furthermore, the profitability ratio analysis shows a decline in financial performance due to rising production costs. The research indicates that efficient cost management is proven, where is accepted and is rejected. It is recommended to implement systematic cost recording, increase efficiency, adjust selling prices, and expand marketing to optimize profitability.

Keywords: Production Costs, Business Profit, Profitability, MSME

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh biaya produksi terhadap laba usaha serta mengoptimalkan profitabilitas pada UMKM Keripik Singkong yang berlokasi di Simpang 3 Jalan Sibatu Batu, Kota Pematangsiantar. Penelitian ini menggunakan metode kuantitatif dengan pendekatan deskriptif dan analisis regresi linear sederhana. Populasi dalam penelitian ini adalah catatan keuangan pemilik UMKM Keripik Singkong, sedangkan sampel penelitian meliputi data biaya produksi dan data laba usaha selama periode lima tahun. Analisis keuangan yang digunakan mencakup rasio profitabilitas, yaitu R/C Ratio (Revenue/Cost Ratio), ROI (Return on Investment), dan margin laba (Gross Profit Margin, Operating Profit Margin, dan Return on Equity). Hasil penelitian menunjukkan bahwa biaya produksi berpengaruh positif dan signifikan terhadap laba usaha. Namun, peningkatan biaya produksi yang tidak diimbangi dengan kenaikan harga jual menyebabkan penurunan laba setiap tahun. Selain itu, analisis rasio profitabilitas menunjukkan adanya penurunan kinerja keuangan akibat meningkatnya biaya produksi. Penelitian ini menunjukkan bahwa pengelolaan biaya yang efisien terbukti penting, di mana hipotesis diterima dan hipotesis lainnya ditolak. Oleh karena itu, disarankan untuk menerapkan pencatatan biaya secara sistematis, meningkatkan efisiensi, menyesuaikan harga jual, dan memperluas pemasaran guna mengoptimalkan profitabilitas.

Kata Kunci: Biaya Produksi, Laba Usaha, Profitabilitas, UMKM

I. INTRODUCTION

In today's era of globalization, free trade is driving increasingly intense business competition. Growing companies must focus on improving the efficiency and effectiveness of their resource

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Jurnal Ilmiah AccUsi https://jurnal.usi.ac.id/index.php/jia

utilization to remain competitive in a highly competitive market. With their significant potential and contributions, MSME play a vital role in the national economy. This strategic role makes MSMEs one of the key pillars in supporting the creation of strong and sustainable national economic development. MSME are able to provide employment opportunities by establishing various types of businesses, thereby significantly helping to reduce unemployment rates. SMEs must be more careful in managing their operating costs specifically by cutting unnecessary expenses and finding new ways to maintain profitability.

MSMEs must be more careful in managing their operating costs by reducing unnecessary expenses and finding new ways to maintain profitability. If not handled properly, rising production costs and narrow profit margins may hinder business growth and threaten the company's long-term sustainability.

Operating profit is the net income generated from the production process through to the sale of products, after deducting the cost of goods sold (COGS) and operating expenses such as administrative or marketing costs. Operating profit serves as an indicator of all the company's objectives in conducting business and is the primary source for the company's growth. Production costs are the total expenses incurred by the company to process raw materials into finished goods or goods ready for sale. To optimize profitability, production costs must be optimized. Optimizing production costs is the process of reducing expenses incurred during the production process without compromising product quality. This process includes several steps aimed at improving the use of raw material costs, labor costs, and overhead costs.

The effect of production costs on the profitability of Cassava Chips MSMEs has significant economic and social implications. First, ineffective cost management may reduce profit margins and the company's investment capacity. This affects the company's financial stability and its ability to survive during economic recessions or external shocks. Second, economic limitations may hinder job creation within the surrounding community. This research case study focuses on a small and medium-sized enterprise (SME) that produces cassava chips, run by a homemaker at the three-way intersection of Jalan Sibatu-Batu in Pematang Siantar. The business focuses on utilizing cassava, which is processed to produce cassava chips. The following table shows the production costs and business profits for the 2021–2025 period.

Based on observations of the cassava chip MSME business, there have been fluctuations in operating profits, with profitability rising and falling each year. This is due to instability in production costs. Because of this instability, business owners must raise the selling price of their products to cover the increased costs. If product prices rise, this can lead to a decline in consumer purchasing power, thereby increasing the risk of reduced product demand. Therefore, the profits earned by the owners of the Cassava Chip SME in the year before the increase in production costs and the year after the increase are typically different. This study uses the impact of production costs as the independent variable and business profit as the dependent variable. Titled **"Optimizing SME Profitability: The Effect of Production Costs on Business Profit (Case Study: Cassava Chip SMEs at Simpang 3 Jalan Sibatu Batu)"**

II. THEORETICAL REVIEW

Operating Income

Operating profit is the additional profit a company earns from the difference between the cost of production or purchase and the selling price offered to consumers. In the small and medium-sized enterprise (SME) sector, profit is the positive difference between total revenue and total costs, including production costs (Saputri, Sihabudin & Fauji, 2024).

Operating Profit Formula

Operating Profit = Operating Revenue – Operating Expense

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Business revenue refers to the total income generated from the sale of products or services, while business costs include production costs, employee salaries, marketing, administration, depreciation, and other operational expenses. Operating profit, also known as operational income, is the profit earned from a company's core business activities before deducting expenses such as interest and taxes. Operating profit is highly important for assessing the operational efficiency and productivity of a company.

Profitability

According to (Nirawati et al., 2022) profitability is a measure used to assess a company's ability to generate profits. Meanwhile, (according to Sofyan Syafri Harahap 2009; Nia Nirawati et al., 2022) profitability is defined as "operations, cash." It describes a company's ability to generate profits through all available skills and resources, including capital, the number of employees, and the number of company branches.

Profitability Formula:

Profitability = Net Income / Net Sales × 100

Based on the explanation above, it can be concluded that the similarity between operating profit and profitability lies in their relationship with a company's ability to generate profit. Operating profit indicates the profit earned from the company's main operational activities, whereas profitability describes how effectively the company generates profit as a whole. Therefore, their similarity lies in the fact that both focus on assessing the company's performance and ability to create profit.

The difference between operating profit and profitability is that operating profit refers to the profit earned by a company from its main operational activities after deducting operating costs. Meanwhile, profitability is a measure that indicates a company's overall ability to generate profit in relation to its capital, assets, or sales.

Objectives of Profitability

According to Ratna et al. (2024), the objectives of using profitability ratios are as follows:

a. To determine the amount of profit earned by a business within a certain period.
b. To identify the position of the company's profit in the following year compared to the previous year.
c. To determine how profit develops over time.
d. To determine net profit after tax.
e. To assess how all company funds are utilized, both owner's equity and borrowed capital.

Profit Indicators

a. Net income, which is the final profit after all expenses have been deducted, including operating expenses, interest, and taxes.
b. Profit margin, which is the percentage of profit derived from sales.
c. Operating income, which is the profit generated from core business activities after deducting operating expenses.
d. Gross profit, which is the difference between sales revenue and cost of goods sold (COGS).
e. ROI, which indicates the amount of profit earned relative to the capital invested.
f. BEP, which is the break-even point where revenue equals total costs.
g. Payback Period, which is the time required to recoup the initial capital from business profits.

Benefits of Operating Profit

a. As a tool for measuring management performance in managing company resources and assessing business operational efficiency.
b. As a basis for strategic decisions, such as business expansion, new investments, and new product development to maintain business growth.
c. As an indicator for investors and creditors in assessing business prospects and risks, thereby facilitating access to funding and strengthening the trust of business partners.
d. As a basis for tax calculation and additional tax assessment.

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e. As a signal of the types of products demanded by the market, enabling the company to adjust its production and marketing strategies to increase sales.
f. As financial information that can be used to control operational costs and avoid financial errors, thereby preventing significant losses.

Production Costs

Production costs are part of the cost of goods manufactured required to convert raw materials into finished products. Production costs include the costs of raw materials, direct labor, and factory overhead (Rachmawati et al., 2024). Meanwhile, according to (Mustofa & Bakce, 2024, as cited in Andri Wijaya, 2025), production costs are broadly defined as the "total expenditure of economic resources" required to produce goods or services, including raw materials, labor, and factory overhead costs. Thus, it can be concluded that production costs are all costs incurred by a company during the process of converting raw materials into goods or services that are ready to be sold. These costs include raw material costs, direct labor costs, and factory overhead costs, such as indirect materials, indirect labor, and other manufacturing costs (Andri Wijaya Panjaitan et al., 2025).

Production Cost Formula:

Production Costs = Raw Material Costs + Labor Costs + Overhead Costs

Cost Classification

Cost classification is the process of grouping all cost components in a more concise and systematic manner so that the explanation becomes more accurate and useful (Nur Fa'izi et al., 2025).

Cost classification requires different information to meet management needs, even though the information may originate from the same transactions. The methods of cost classification are as follows:

a. Cost Classification Based on Function

1. Production Costs
   Production costs are costs related to the production process, namely costs incurred in processing materials into finished products until the products are ready to be sold. There are three elements of production costs, namely:
   a) Direct material costs, namely costs incurred to purchase materials that are used and become part of the finished product. These costs are easy to trace because the direct materials physically become part of the finished goods.
   b) Direct labor costs, namely costs incurred to pay workers who are directly involved in the production process or whose work can be directly identified with the finished goods.
   c) Factory overhead costs, namely factory costs other than direct materials and direct labor, but which are still required in the production process. Factory overhead costs are classified into three groups: indirect material costs, indirect labor costs, and other manufacturing costs.
2. Non-Production Costs
   Non-production costs are costs incurred that are not directly related to the production process.
   a) Marketing expenses are expenses related to the marketing function in promoting and selling a product.
   b) Administrative and general expenses are expenses related to administrative and general functions that support the smooth planning, coordination, direction, and control of a business.

b. Cost Classification Based on Activity
   1. Fixed costs are costs that do not change in response to changes in production volume or activity within a relevant range.
   2. Variable costs are costs that change proportionally in response to changes in activity.
   3. Semi-variable costs are costs that combine both fixed and variable cost elements.

c. Cost Classification Based on Cost Object
   1. Direct costs are costs that can be directly traced to a cost object.
   2. Indirect costs are costs that cannot be directly traced to a cost object.

d. Cost Classification Based on Department

1. Production department refers to the department that carries out the production process.
2. Service department refers to all departments outside the production department that provide support to the production activities.

e. Cost Classification Based on Timing of Cost Recognition
1. Product costs are all costs required to produce a product.
2. Period costs are costs that are not included in product costs but are recognized in the income statement based on the period in which they occur.

f. Cost Classification Based on Management Control
1. Controllable costs are costs that can be managed or controlled by the company within a certain period.
2. Uncontrollable costs are costs that cannot be influenced or controlled by the company within a certain period.

g. Cost Classification Based on Decision-Making
1. Relevant costs are costs that will occur in the future and influence various decision alternatives, such as differential costs, opportunity costs, cash costs, and avoidable costs.
2. Irrelevant costs are costs that do not influence decision-making activities, such as sunk costs and past costs.

Production Cost Indicators

According to (Rahmadhani et al., 2025) There are several indicators of production costs, namely:

a. Direct Material Costs
Direct material costs are the costs incurred to purchase the primary materials that directly constitute the finished product, and the amount used can be clearly measured and traced to each unit of product produced.

b. Direct Labor Costs
In addition to factory overhead costs, direct labor costs are expenses incurred to pay workers who are directly involved in the production process and make a direct contribution to the manufacture of finished products.

c. Overhead Costs
Production costs are included in manufacturing overhead and are divided into the following categories: costs of auxiliary raw materials, indirect labor costs, and other manufacturing costs (Rahmadhani et al., 2025)

Full Costing Method

According to (Oktari&Yanuarmawan, 2022) To calculate cost elements, an approach using the full costing method is required.

Formulas for Calculating Full Costing

Cost Raw Materials	xxx
Direct Labor Costs	xxx
Variable Manufacturing Overhead	xxx
Manufacturing Overhead	xxx +
Cost Of Goods Manufactured	xxx

Micro, Small, and Medium-Sized Enterprises (MSME)

Definition of Micro, Small, and Medium Enterprises (MSME

Law No. 20 of 2008 regulates micro, small, and medium-sized enterprises (MSMEs). A microenterprise is a business operated by an individual or a sole proprietorship that meets certain criteria. A small enterprise, on the other hand, is an independent productive economic enterprise that is not affiliated with a medium-sized or large enterprise.

Conceptual Framework

VOLUME 8 No 1 Mei 2026
E – ISSN: 2620 – 5815
DOI: 10.36985/jzrdsa94
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https://jurnal.usi.ac.id/index.php/jia

The following is a flowchart illustrating the conceptual framework of the study "Optimizing Profitability: An Analysis of the Impact of Production Costs on Operating Profit (Case Study: Sinkog Chip SMEs at the Sibatu Batu Three-Way Intersection)"

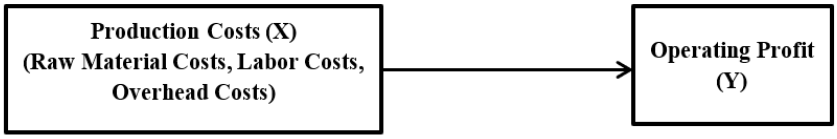

Figure 1. Conceptual Framework Diagram

III. RESEARCH METHOD

This study was conducted at the Sibatu Batu three-way intersection, specifically at the home of Mrs. Sari, the owner of a cassava chip SME. It was carried out from December 2025 to March 2026. This study employed a quantitative descriptive approach. The research design utilized a quantitative research design with a survey approach.

The population in this study consists of the financial reports of the owners of cassava chip MSME at the Sibatu Batu Road intersection. The sample was drawn from production cost data (raw material costs, labor costs, overhead costs) and operating profit data, which were fully recorded for each period. In this study, the researcher will determine the production cost and operating profit data for the past 5 years at the cassava chip MSME at the Sibatu Batu Road intersection for in-depth analysis.

Data collection methods included interviews with business owners and direct observation at production sites to record and observe production processes and output. Participants were asked to complete questionnaires regarding raw material costs, labor costs, overhead costs, and business profit data. A literature review and documentation were conducted to obtain secondary data related to theories, concepts, and research supporting data.

The data analysis in this study includes: Quantitative statistical methods using simple linear regression analysis to test the effect of production costs on operating profit. Descriptive analysis to describe the conditions of production costs, revenue, and operating profit of MSME during the study period. Data processing was performed using software such as Excel to ensure a more structured and accurate analysis. An approach to evaluating the financial performance of cassava chip MSMEs by assessing profitability using business indicators (Andi Husnul Huriyah et al., 2024):

1. R/C Ratio (Revenue-To-Cost Ratio)
   Formula: R/C = Total Revenue + Total Production Costs
   Objective: To assess whether a business can generate revenue greater than its production costs.
2. ROI (Return on Investment)
   Formula: ROI = (Net Income / Owners' Equity) X 100%
   Objective: To measure the rate of return in relation to the capital invested.
3. Profit Margin
   There Are Several Types of Margins:
   Gross Profit Margin
   Formula: (Gross Profit / Net Sales) X 100%
   Operating Profit Margin
   Formula: (Operating Profit / Net Sales) X 100%
   Return On Equity
   Formula: (Net Profit / Shareholders' Equity) X 100%

IV. RESULT AND DISCUSSION

Business Sector

Based on interviews with the business owner, production takes place on average four times a month, or about 48 times a year. Each production run yields 530 large bags of cassava chips and 1,080

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small bags of cassava chips. Thus, total annual production amounts to 6,360 large bags of chips and 12,960 small bags of chips.

Business Activities

Figure 2. Production Process of Cassava Chips MSMEs
Source: Cassava Chips MSMEs (processed by the author, 2026)

Classification of Costs for Cassava Chip MSME

Cassava Chips MSMEs only record their financial transactions manually in written form. As a result, during the operation of the business, the owner does not have systematically prepared financial statements. The data used by the author were obtained through direct interviews with the business owner.

a. Raw Material Costs

To estimate the raw material cost in the production of cassava chips, the price of fresh cassava can be used as the main benchmark. In cassava chips production, the price of cassava varies from year to year. Every month, 400 kg of fresh sweet potatoes are needed, and 4,800 kg are needed in a year.

Table 1. Raw Material Cost Table for the 2021–2025 Period

Year	Raw Material Price (IDR)	Kg/ Month	Monthly Total (IDR)	Kg/Year	Annual Total (IDR)
2021	2.000	400	800.000	4800	9.600.000
2022	1.800	400	720.000	4800	8.640.000
2023	1.500	400	600.000	4800	7.200.000
2024	1.500	400	600.000	4800	7.200.000
2025	2.500	400	1.000.000	4800	12.000.000

Source: Cassava Chip SMEs (Compiled by the author, 2026)

b. Direct Labor Costs

Direct labor costs in this Cassava Chips MSME include wages paid to workers who are directly involved in the production process, such as peeling, slicing, frying, seasoning, packaging, and delivering products to consumers. The Cassava Chips MSME has two employees who participate in the production process, with wages that vary each month. The production process in the Cassava Chips MSME is carried out four times a month; therefore, the employees receive wages four times per month.

Table 2. Direct Labor Cost Table

Year	Employee 1 (IDR)	Employee 2 (IDR)	Monthly Total for Employee 1 (IDR)	Monthly Total for Employee 2 (IDR)	Annual Total for Employee 1 (IDR)	Annual Total for Employee 2 (IDR)
2021	180.000	95.000	720.000	380.000	8.640.000	4.560.000
2022	200.000	100.000	800.000	400.000	9.600.000	4.800.000
2023	230.000	130.000	920.000	520.000	11.040.000	6.240.000

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2024	250.000	150.000	1.000.000	600.000	12.000.000	7.200.000
2025	300.000	200.000	1.200.000	800.000	14.400.000	9.600.000

Source: MSMEs: Cassava Chips (compiled by the author, 2026)

c. Factory Overhead Costs

Overhead costs in the Cassava Chips MSME include indirect material costs, indirect labor costs, and other manufacturing costs. In the Cassava Chips MSME located at Simpang 3, indirect material costs include the use of cooking oil, salt, seasonings, and gula tarik. During the production process, employees directly perform all production activities, from peeling, frying, and packaging to maintaining the cleanliness of the production area. Therefore, indirect labor activities are carried out by direct labor workers. Other manufacturing costs include the use of gas and packaging materials during the production process.

At this cassava chip SME at the three-way intersection, the costs of auxiliary materials include cooking oil, salt, spices, and pulled sugar.

1. Auxiliary Raw Materials

Table 3. Price Table for Auxiliary Raw Materials for the 2021 – 2025 Period

Additional Ingredients	2021 (IDR)	2022 (IDR)	2023 (IDR)	2024 (IDR)	2025 (IDR)
Cooking Oil	15.000	20.000	18.000	17.000	17.500
Garlic	30.000	35.000	38.000	43.000	40.000
Chili Peppers	50.000	50.000	60.000	70.000	40.000
Brown Sugar	22.000	20.000	25.000	25.000	18.000
Salt	3.500	40.000	4.500	5.000	5.000
Pulled Sugar	15.000	16.500	17.000	18.000	17.000

Source: MSMEs: Cassava Chips (compiled by the author, 2026)

2. Other Manufacturing

Table 4. Price Table for Other Manufacturing for the 2021 – 2025 Period

Other Manufacturing Costs	2021 (IDR)	2022 (IDR)	2023 (IDR)	2024 (IDR)	2025 (IDR)
Gas	18.000	18.000	18.000	18.000	19.000
Large Plastic Items	31.000	32.000	33.000	34.000	35.000
Medium Plastic Items	31.000	32.000	33.000	34.000	35.000
Small Plastic Items	31.000	32.000	33.000	34.000	35.000

Source: MSMEs: Cassava Chips (compiled by the author, 2026)

Overhead costs, including indirect material costs and other manufacturing costs, changed each year during the 2021–2025 period in line with increases in market prices.

d. Marketing Costs (Transportation Costs)

Marketing costs in the Cassava Chips MSME refer to expenses incurred to sell and introduce products to customers, such as promotion through social media, brochures, and sales discounts. However, the Cassava Chips MSME located at Simpang 3, Jalan Sibatu Batu does not conduct promotions through social media or brochures.

Meanwhile, transportation costs are costs incurred to deliver products to consumers, such as fuel expenses, vehicle rental, and shipping costs. In the Cassava Chips MSME, workers are paid a wage for each delivery of finished products to consumers.

Table 5. Freight Rate Table

Year	Transportation Costs	Monthly Amount (IDR)	Annual Amount (IDR)
2021	Transportation	150.000	1.800.000
2022	Transportation	150.000	1.800.000
2023	Transportation	150.000	1.800.000

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2024	Transportation	200.000	2.400.000
2025	Transportation	200.000	2.400.000

Source: MSMEs: Cassava Chips (compiled by the author, 2026)

e. Administrative and General Expenses

Administrative and general expenses are costs incurred to carry out office activities and business management. In the Cassava Chips MSME, administrative and general expenses include monthly electricity and water payments.

Table 6. Administrative and General Expenses Table

Year	Administrative & General Expenses	Monthly Amount (IDR)	Annual Amount (IDR)
2021	Electricity & Water	200.000	2.400.000
2022	Electricity & Water	200.000	2.400.000
2023	Electricity & Water	200.000	2.400.000
2024	Electricity & Water	200.000	2.400.000
2025	Electricity & Water	200.000	2.400.000

Source: MSMEs: Cassava Chips (compiled by the author, 2026)

Financial Statements of Cassava Chips MSMEs

Table 7. Income Statement of Cassava Chips MSMEs for the 2021 Period

Revenue		IDR 102.720.000
Costs:		
Raw Materials	IDR 9.600.000	
Labor:		
Employee 1	IDR 8.640.000	
Employee 2	IDR 4.560.000	
Overhead :		
Indirect Materials	IDR 11.796.000	
Other Manufacturing Costs	IDR 6.060.000	
Transportation	IDR 1.800.000	
Administrative and General Expenses	IDR 2.400.000	
Total Costs		IDR 44.856.000
Net Profit		IDR 57.864.000

Source: Cassava Chips MSMEs (processed by the author, 2026)

Table 8. Income Statement of Cassava Chips MSMEs for the 2022 Period

Revenue		IDR. 102.720.000
Costs:		
Raw Materials	IDR 8.640.000	
Labor:		
Employee 1	IDR 9.600.000	
Employee 2	IDR 4.800.000	
Overhead :		
Indirect Materials	IDR 14.820.000	
Other Manufacturing Costs	IDR 6.144.000	
Transportation	IDR 1.800.000	
Administrative and General Expenses	IDR 2.400.000	
Total Costs		IDR 48.204.000
Net Profit		IDR 54.516.000

Source: Cassava Chips MSMEs (processed by the author, 2026)

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Table 9. Income Statement of Cassava Chips MSMEs for the 2023 Period

Revenue		IDR 102.720.000
Costs:		
Raw Materials	IDR 7.200.000	
Labor:		
Employee 1	IDR 11.040.000	
Employee 2	IDR 6.240.000	
Overhead :		
Indirect Materials	IDR 14.088.000	
Other Manufacturing Costs	IDR 6.228.000	
Transportation	IDR 1.800.000	
Administrative and General Expenses	IDR 2.400.000	
Total Costs		IDR 48.996.000
Net Profit		IDR 53.724.000

Source: Cassava Chips MSMEs (processed by the author, 2026)

Table 10. Income Statement of Cassava Chips MSMEs for the 2024 Period

Revenue		IDR 102.720.000
Costs:		
Raw Materials	IDR 7.200.000	
Labor:		
Employee 1	IDR 12.000.000	
Employee 2	IDR 7.200.000	
Overhead :		
Indirect Materials	IDR 13.806.000	
Other Manufacturing Costs	IDR 6.312.000	
Transportation	IDR 2.400.000	
Administrative and General Expenses	IDR 2.400.000	
Total Costs		IDR 51.318.000
Net Profit		IDR 51.402.000

Source: Cassava Chips MSMEs (processed by the author, 2026)

Table 11. Income Statement of Cassava Chips MSMEs for the 2025 Period

Revenue		IDR 102.720.000
Costs:		
Raw Materials	IDR 12.000.000	
Labor:		
Employee 1	IDR 14.400.000	
Employee 2	IDR 9.600.000	
Overhead :		
Indirect Materials	IDR 13.080.000	
Other Manufacturing Costs	IDR 6.588.000	
Transportation	IDR 2.400.000	
Administrative and General Expenses	IDR 2.400.000	
Total Costs		IDR 60.468.000
Net Profit		IDR 42.252.000

Source: Cassava Chips MSMEs (processed by the author, 2026)

Simple Linear Regression Analysis of Cassava Chip SME

Model : Y = a + bx

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DOI: 10.36985/jzrdsa94
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Table 12. Simple Linear Regression Analysis Table

No	Year	X (Cost)	Y (Profit)	X^2	Y^2	XY
1	2021	44.856	57.864	2012.060736	3348.242496	2595.547584
2	2022	48.204	54.516	2323.625616	2971.994256	2627.889264
3	2023	48.996	53.724	2400.608016	2886.268176	2632.261104
4	2024	51.318	51.402	2633.537124	2642.165604	2637.847836
5	2025	60.468	42.252	3656.379024	1785.231504	2554.893936
Total	∑	253.842	259.758	13026.21052	13633.90204	13048.43972

Source: MSMEs: Cassava Chips (compiled by the author, 2026)

Cost data for the period (2021–2025): average X = 253,842 ÷ 5 = 50.8

1. Regression model: Y = 102.72 – 1X
2. Substituting X = 51 and Y = 102.72, we get 1(51) = 51.72 (predicted profit: IDR 51.72 million)

A regression analysis of data on cassava chip MSMEs from 2021 to 2025 reveals a simple formula: profit (Y) = 102.72 – 1 × production costs (X). This means that for every IDR 1,000,000 increase in costs, profit immediately decreases by IDR 1,000,000, and the average cost is approximately IDR 51,720,000. SMEs must immediately cut production costs to prevent profits from continuing to decline, such as by reducing raw material usage.

Profitability Analysis of Cassava Chip SMEs

R/C Ratio (Revenue to Cost Ratio)

Formula : Revenue/ Cost ratio

Table 13. R/C Ratio (Revenue-to-Cost Ratio) Table

Year	Income (IDR)	Production Cost (IDR)	Total
2021	102.720.000	44.856.000	2.29
2022	102.720.000	48.204.000	2.13
2023	102.720.000	48.996.000	2.10
2024	102.720.000	51.318.000	2.00
2025	102.720.000	60.468.000	1.70

Source: MSMEs: Cassava Chips (compiled by the author, 2026)

Based on the R/C ratio for the period 2021–2025, it can be concluded that the business continues to generate a profit each year, although there is a decline from 2.29 in 2021 to 1.70 in 2025. This is caused by production costs that continue to increase every year, while revenue remains unchanged.

ROI (Return On Investment)

ROI : Net Profit / Initial Capital × 100%

Table 14. ROI (Return On Investment) Table

Year	Profit (IDR)	Capital (IDR)	Total
2021	57.864.000	60.468.000	95.69%
2022	54.516.000	60.468.000	90.16%
2023	53.724.000	60.468.000	88.85%
2024	51.402.000	60.468.000	85.01%
2025	42.252.000	60.468.000	69.87%

Source: MSMEs: Cassava Chips (compiled by the author, 2026)

Return On Investment (ROI) From 2021 to 2025, it is evident that the ROI has decreased each year, from 95.69% in 2021 to 69.87% in 2025. This decline is due to a decrease in operating profit from IDR 57,864,000 to IDR 42,252,000, while the capital employed remains constant at IDR 60,468,000.

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Nevertheless, the ROI value remains relatively high and still provides returns on the capital invested. However, efforts are still needed to increase profit so that investment performance remains optimal.

Margin Laba

1. Gross Profit Margin
   Formula: (Gross Profit / Net Sales) × 100%

Table 15. Gross Profit Margin (GPM) Table

Year	Profit (IDR)	Sales (IDR)	GPM
2021	57.864.000	102.720.000	56.33%
2022	54.516.000	102.720.000	53.07%
2023	53.724.000	102.720.000	52.30%
2024	51.402.000	102.720.000	50.04%
2025	42.252.000	102.720.000	41.13%

Source: MSMEs Cassava chips (compiled by the author, 2026))

Based on the GPM figures for 2021–2025, it can be concluded that the GPM rate decreased from 56.33% in 2021 to 41.13% in 2025. This decrease is due to a decline in gross profit from IDR 57,864,000 to IDR 42,252,000, while sales remain at IDR 102,720,000 annually. Although the business still generates profit, the decline in this margin needs to be taken into consideration so that profitability can be improved in the future.

2. Operating Profit Margin
   Formula: (Operating Profit / Net Sales) × 100%

Table 16. Operating Profit Margin Table

Year	Operational Profit (IDR)	Sales (IDR)	OPM
2021	57.864.000	102.720.000	56.33%
2022	54.516.000	102.720.000	53.07%
2023	53.724.000	102.720.000	52.30%
2024	51.402.000	102.720.000	50.04%
2025	42.252.000	102.720.000	41.13%

Source: MSMEs: Cassava Chips (compiled by the author, 2026)

Based on the 2021–2025 OPM, it can be concluded that the ability of MSME to generate operating profit has been gradually declining. This indicates that operational efficiency is declining despite relatively stable sales.

3. Return On Equity
   Formula: (Net Income / Shareholders' Equity) × 100%

Table 17. Return On Equity Table

Year	Netb Profit (IDR)	Capital (IDR)	ROE
2021	57.864.000	60.468.000	95.69%
2022	54.516.000	60.468.000	90.16%
2023	53.724.000	60.468.000	88.85%
2024	51.402.000	60.468.000	85.01%
2025	42.252.000	60.468.000	69.87%

Source: MSMEs: Cassava Chips (compiled by the author, 2026)

Based on the ROE figures from 2021 to 2025, it can be concluded that the return on equity has declined gradually, from 95.69% in 2021 to 69.87% in 2025. This decline indicates that the ability of MSMEs to generate profits from their capital is diminishing.

Cost Calculation Using the Full Costing Method

Table 18. Metode Full Costing Table

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Full Costing	2021 (IDR)	2022 (IDR)	2023 (IDR)	2024 (IDR)	2025 (IDR)
Raw material costs	9.600.000	8.640.000	7.200.000	7.200.000	12.000.000
Direct labor costs	13.200.000	14.400.000	17.280.000	19.200.000	24.000.000
Variable manufacturing overhead costs	17.856.000	20.964.000	20.316.000	20.118.000	19.668.000
Variable manufacturing overhead costs	4.200.000	4.200.000	4.200.000	4.800.000	4.800.000
Cost of goods manufactured	44.856.000	48.204.000	48.996.000	51.318.000	60.468.000

Source: MSMEs: Cassava Chips (compiled by the author, 2026)

The full costing method shows that production costs affect the cost of goods manufactured. Each year, the cost of goods manufactured tends to increase, reaching IDR 60,468,000 in 2025. This increase indicates that the costs of raw materials, direct labor, and factory overhead are rising, causing total production costs to rise as well.

Discussion

Based on the results of a study conducted by researchers on cassava chip MSME at the Sibatu Batu three-way intersection during the 2021–2025 period, the findings revealed a decline in operating profit and an increase in production costs. These conditions indicate an inverse relationship between production costs and operating profit.

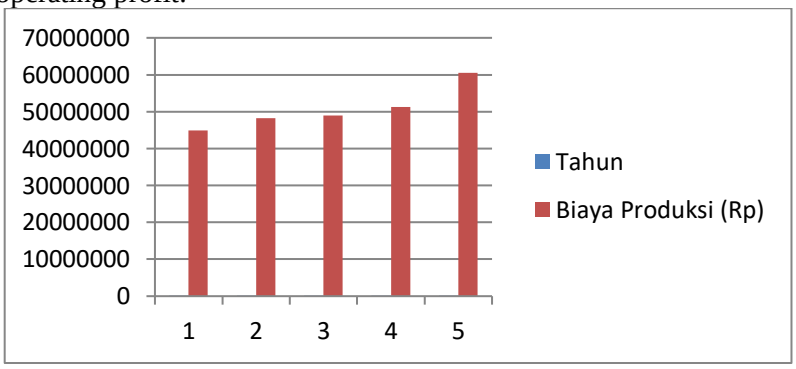

Figure 3. Graph of the Increase in Production Costs of Cassava Chips MSMEs

Source: Cassava Chips MSMEs (processed by the author, 2026)

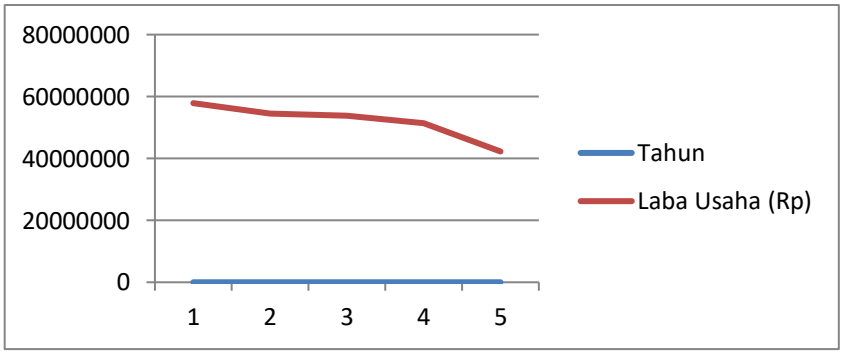

Figure 4. Graph of the Decline in Operating Profit of Cassava Chips MSMEs

Source: Cassava Chips MSMEs (processed by the author, 2026)

The results of the study, which used the full costing method to determine the cost of goods manufactured from 2021 to 2025, show an annual increase. As production costs rise, the cost of goods sold also increases. If this increase is not offset by a rise in product selling prices, profit margins will decline, directly impacting operating profit. Therefore, more effective control of production costs is

needed, such as finding raw material suppliers with more competitive prices and optimizing the production process to make it more cost-efficient.

The results of the profitability ratio analysis using the R/C Ratio (Revenue/Cost Ratio), ROI (Return on Investment), and Profit Margin indicators show a decline in the financial performance of cassava chip MSME each year. This can be seen in the decline in Gross Profit Margin, Operating Profit Margin, and Return on Equity. Additionally, the decline in profitability is attributed to several factors, including rising raw material prices, suboptimal use of materials, and increases in labor costs that have not been offset by productivity gains, as well as uncontrolled overhead costs.

The results of this study indicate that cassava chip MSME have not yet been able to adjust their selling prices optimally, so that increases in production costs directly affect their operating profits. Cassava chip MSMEs also lack proper financial record-keeping and cost control systems, making it difficult to monitor expenses and identify wasteful spending. In addition, the pricing strategy is less appropriate, as the selling price of the product does not correspond to the increase in costs, resulting in increasingly smaller profit margins.

V. CONCLUSIONS

Based on the results of the study and discussion regarding the impact of production costs on operating profits at cassava chip MSMEs at the Sibatu Batu three-way intersection for the 2021–2025 period, the following conclusions can be drawn:

1. The impact of production costs on operating profits for cassava chip MSME has been increasing every year. The rise in production costs is driven by rising prices of raw materials, such as cassava, cooking oil, and other auxiliary materials. In addition, there has also been an increase in labor costs and overhead expenses.
2. The impact of production costs on operating profits at cassava chip MSME has been declining every year. This decline in profits is due to rising production costs that have not been offset by a significant increase in product prices.
3. The research findings indicate that production costs have a positive effect on operating profit. Although production costs have risen, owners of cassava chip MSME still generate a profit every year.
4. Based on an analysis of profitability ratios using the R/C Ratio (Revenue/Cost Ratio), ROI (Return on Investment), and Profit Margin, it is evident that the business's profitability has been declining year after year. This is reflected in the decline in the Gross Profit Margin, Operating Profit Margin, and Return on Equity. As a result of rising production costs, the business's ability to generate profits has been steadily declining.

Recommendations

Based on the above conclusions, the recommendations of this study are as follows:

1. Small and medium-sized enterprises (SME) producing cassava chips at the Sibatu Batu three-way intersection are advised to begin keeping more structured and systematic records of their production costs. This means that all costs are recorded in detail and in chronological order, such as raw material costs, including cassava, cooking oil, and seasonings; direct labor costs; and overhead costs. Each expenditure is recorded based on the date and type of cost, then arranged in a clear format, such as in financial statements or a cash book. By doing so, these SMEs will be able to analyze costs, avoid waste, and improve business profitability.
2. Small and medium-sized cassava chip businesses need to exercise stricter control over production costs. This means that all expenses including raw materials, labor, and overhead costs—must be monitored, managed, and properly recorded. Adjust product prices to offset rising production costs.
3. To maximize profitability, cassava chip SME business owners need to increase the number of products sold to offset the decline in operating profits. In addition, they should market their products through social media to raise awareness and attract more customers.

BIBLIOGRAPHY

Adpadena, Zevilla and Hudi Kurniawanto. 2025. "Analisis Harga Pokok Produksi Menggunakan Metode Full Costing Dalam Penetapan Harga Jual Pada UD Alhes Furniture Terhadap PDB Dan Penyerapan Tenaga Kerja (Kemenkop UKM , 2022). Salah Satu Sektor Yang Terhadap PDB , Penyerapan Tenaga Kerja , Dan Pemerata." 6(September 2025):552–58.

Ananda, Laila Rizki and Silviana Pebruary. 2025. "Faktor-Faktor Yang Mempengaruhi Kinerja Usaha Mikro Kecil Dan." Jurnal Rumpun Ekonomi Syariah 8(1):123–37.

Andi Herman Tellu1. 2025. "Pengaruh Biaya Produksi Terhadap Laba Usaha Pada Kedai Nasi Kuning Arya Di Tamalanrea Makassa

Andri Wijaya Panjaitan, Marzuti Isra, Muhammad Hafizon Fatoni, Putri Fazirah Rahman, Petrus Watcahya Pemilulius, Rico Raparendi, and Angga Surya Darma. 2025. "Biaya Produksi: Pengertian, Struktur Biaya Langsung Dan Tidak Langsung, Perhitungan Harga Pokok, Unsur-Unsur Harga Pokok Dan Jenisnya." Jurnal Riset Rumpun Ilmu Tanaman 4(1):306–9.

Aprillianingsih Ratna, Sari Pristin Prima, and Maulida Alfiatul. 2024. "Jurnal Manajemen Terapan Dan Keuangan." 13(03):976–86.

Ayu, Sari. 2021. "Pengaruh Penjualan Dan Piutang Terhadap Laba Usaha Pada PT. Salim Ivomas Pratama Tbk Skripsi Program Studi Ekonomi Syariah." 13.

Candra Susanto, Primadi, Dewi Ulfah Arini, Lily Yuntina, Josua Panatap Soehaditama, and Nuraeni Nuraeni. 2024. "Konsep Penelitian Kuantitatif: Populasi, Sampel, Dan Analisis Data (Sebuah Tinjauan Pustaka)." Jurnal Ilmu Multidisplin 3(1):1–12.

Charles G. Polii1, Amran T. Naukoko2, Hanly F. Dj. Siwu. 2025. "Pengaruh Indeks Pembangunan Manusia (IPM) Dan Pendidikan Terhadap Kemiskinan Di Kota Tomohon." Jurnal Riset Multidisiplin Edukasi 2(2):176–95.

Dianningsih and Giovanny Kristianto. 2024. "Analisis Faktor Yang Memengaruhi Profitabilitas Umkm Di Kecamatan Kalimanah Purbalingga." Applied Research in Management and Business 3(2):1–19.

Elfrida Lanu, Maria P. L Muga, and Nikson Tameno. 2025. "Analisis Biaya Produksi Sebagai Alat Pengendalian Biaya Produksi Pada CV Mayvajen Abadi." Jurnal Ilmu Manajemen, Ekonomi Dan Kewirausahaan 4(3):43–57.

Ferdiansyah, Subhan, Ega Siful and Imbrahim Zakariyah. 2025. "Pengaruh Biaya Produksi Dan Penjualan Terhadap Laba Usaha Mikro Kecil Dan Menengah Di Kecamatan Mangelewa The Effect of Production and Sales Costs on the Profit of Micro , Small and Medium Enterprises in Mangelewa District." 22(3):413–24.

Firda Dwi Pujihati, Sihabudin, Robby Fauji. 2024. "The Effect Of Production Costs And Sales Volume On Net Laba Bersih Pada UMKM Semprong Amoundy Karawang PENDAHULUAN Perekonomian Indonesia Telah Mengalami Krisis Ekonomi . Ada Banyak Perdagangan Dan Jasa Kegiatan Dihentikan . Namun , Pada Usaha Kecil Menen." 7:4019–29.

Intan, Alisa. "Pengaruh Biaya Produksi, Biaya Operasional, Biaya Promosi dan Volume Penjualan terhadap Laba Bersih pada Sektor Manufaktur." Empiricism Journal, 2025: 1498-1513.

Jauza, Najwa Ammara and Meyniar Albina. 2025. "Model Dan Pendekatan Penelitian Kuantitatif : Kajian Filosofis , Metodologis , Dan Aplikatif." 104–11.

Kasmir. 2021. Analisis Laporan Keuangan.

Livia Saputri, Sihabudin, and Robby Fauji. 2024. "Pengaruh Biaya Produksi Dan Biaya Promosi Terhadap Laba Bersih Pada UMKM Teh Tarik Armanda." Al-Kharaj: Jurnal Ekonomi, Keuangan & Bisnis Syariah 6(9):6297–6315.

Martina, S., Ferdila, F., & Damanik, P. (2024). The Impact 0f Accounting Digitization and Financial Literacy on The Performance of MSMES In Pematangsiantar City. Jurnal Ilmiah Accusi, 6(2), 349-358

Mushofa, Mushofa, Dina Hermina, and Nuril Huda. 2024. "Memahami Populasi Dan Sampel: Pilar Utama Dalam Penelitian Kuantitatif." Jurnal Syntax Admiration 5(12):5937–48.

Nirawati, Lia, Samsudin Acep, Stifanie Anggi, Dwi Setianingrum Minanti, Ryan Syahputra Muhammad, Nabilla Khrisnawati Nurul, and Anggun Saputri Yunida. 2022. "Profitabilitas

Dalam Perusahaan." Jurnal Manajemen Dan Bisnis 5(1):60–68.

Oktari, Auliya Dewi and Dion Yanuarmawan. 2022. "Analisis Metode Full Costing Dalam Penetapan Harga Jual Produk (Studi UKM Jamur Crispy FCK)." Jurnal Akuntansi Dan Ekonomi Bisnis 1(1):45–54

Purba, D. S., & Tarigan, V. (2021). Pengaruh Biaya Produksi Dan Beban Penjualan Terhadap Laba Pt Kedaung Indah Can, Tbk. Jurnal Ilmiah AccUsi, 3(1), 61–71. https://doi.org/10.36985/accusi.v3i1.524

Purba, D. S., Martina, S., & Ferdila, F. (2025). The Influence of Financial Literacy and Access to Capital on the Financial Performance of MSMEs in Pematang Siantar City. Jurnal Ilmiah Accusi, 7(1), 254-264

Rahmadhani, Dini Sri, Panji Ridho Rabbani, Laura Octavia, Nugia Saputra, Siti Intan Kamilah, Elvina Damayanti Kuswandi Elvina Damayanti Kuswandi, and Antonya Rumondang Sinaga. 2025. "Implementasi Perhitungan Akuntansi Biaya Dalam Menentukan Harga Pokok Produksi Umkm Tandi'S Bakery." Journal of Management and Innovation Entrepreneurship (JMIE) 2(3):2238–48.

Salsabila, Hasna Syifa. 2024. "Faktor-Faktor Yang Mempengaruhi Laba Bersih (Studi Empiris Pada Perusahaan Manufaktur Sub Sektor Aneka Industri Yang Terdaftar Pada Bursa Efek Indonesia Periode 2019 – 2023)." 2(5).

Sinaga, M. H., Martina, S., & Purba, D. (2024). Pengaruh Modal Kerja, Jam Kerja Dan Tingkat Pendidikan Terhadap Pendapatan UMKM Di Kabupaten Simalungun. Jurnal Ilmiah Accusi, 6(1), 151-160

Tarigan, W. J., Sinaga, M. H., & Purba, D. S. (2024). The Effect of Accounting Training and Business Experience on The Development of MSMES In Pematang Siantar City. Jurnal Ilmiah Accusi, 6(1), 122-132

Tarigan, W. J., Saragih, L., & Sinaga, M. H. (2025). Analysis of the implementation of SAK EMKM in the preparation of financial statements for MSMEs: A case study of Kafe Maurani Simalungun Regency. Jurnal Ilmiah Accusi, 7(2), 382-394

Tarigan, W. J., Sinaga, M. H., Girsang, R. M., & Martina, S. (2022). Effect Of Working Capital and Sales on The Level of Profitability on The CV. Alam Jaya Pematang Bandar

Tarigan, W. J., Sinaga, M. H., & Djuli Sjafei Purba, M. S. (2022). Buku Ajar Akuntansi Biaya. Buku Ajar Akuntansi Biaya. Global Aksara Pres. https://doi. org/10.21070/2020/978-623-6081-06-8

Yusnita, Fika Febina. 2024. "Analisis Perhitungan Harga Pokok Produksi Dengan Metode Full Costing Untuk Menetapkan Harga Jual Pada Produk Es Kristal." PubBis : Jurnal Pemikiran Dan Penelitian Administrasi Publik.