

## Production Efficiency of Cost of Goods Sold at PT. Malang Raya Express through the Order Costing Method

Siti Rosyafah<sup>1\*</sup>, Ummi Sa'adah<sup>2</sup>, Dhuihitta Mahardhika Lakshita<sup>3\*</sup>  
Fakultas Ekonomi dan Bisnis, Universitas Bhayangkara urabaya

**Corresponding Author:** Siti Rosyafa, [Siti.ubhara@ubhara.ac.id](mailto:Siti.ubhara@ubhara.ac.id)

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### ABSTRACT

Current global crisis and intense competition among businesses have led to vigilant in financial management strategies. This research aims to investigate the impact of job order costing on the optimization of production expenditure efficiency. The study uses a qualitative data approach to analyze the production cost associated with the KWH Meter job. The findings reveal that job order costing is more cost-effective compared to the full costing. The analytical methodologies in this inquiry included identifying overhead costs, organizing production cost allocation, scrutinizing factory overhead cost calculations, and efficiency evaluation. The study concludes that job order costing is a more efficient approach to determine production cost. This research can help businesses improve their financial management strategies and optimize production expenditure efficiency.

## **INTRODUCTION**

In current global crisis context, whilst strengthen competition among similar enterprises still ongoing, it is crucial for company to be prudence in financial management especially concerning production costs. PT. Malang Raya Express utilizes the conventional method (full costing) to establish selling prices. Challenges faced by PT. Malang Raya Express revolves on budget surplus or overallocation to the completed jobs. Accurate evaluations of production costs, the precise determination and setting of a product's selling price become essential to avoid overcharging or vice versa. Therefore, the implementation of the job order costing method becomes essential for accurately determining production costs based on specific orders ("Devi 2022" n.d.). This approach also known as direct costing, is unrelated to the concept of direct costs. In this method, fixed factory overhead costs are treated as period costs and are not included in the product's cost. Consequently, these fixed factory overhead costs are expensed in the period they are incurred. The suggested solution involves the awareness from involved parties, in calculating product costs based on orders, specifically by employing the job order costing method (Aeni et al., 2023).

According to Turangan (2021) Target Costing interpreted as cost determination approach for a product or service based on a competitive price, enabling the product or service to meet the expected gain, meanwhile it should be practical and adaptive for stringent cost reduction. The price is competitive if it meets the desired profit, covering the costs incurred during goods or services production. Therefore, Target Costing makes a company more competitive, especially when facing intense competition with minimal differences in determining selling prices to capture consumers' attention. In term of calculation production costs, there are two methods that can be used: process costing and job order costing. Process costing is used when production involves a single product and made in continuous process. Examples of industries using process costing include manufacturing companies producing cement, flour, gasoline, and other raw materials. On the other hand, job order costing is a method of collecting production costs to determine the production cost of a company based on orders. The goal of the job order costing method is to determine the overall cost of each order and for the entire unit (Runtu et al., 2016).

Maliki & Rukmana (2020) determine that profit is a common goal for each company, in order to meet the increasing needs of their operations. Efficient strategy is necessary for a company to remain presistent in its competitive state, these including quality control, upgrading production capability, and pricing accuracy. Full Costing Method can be used to calculate cost production, this includes elements of materials, direct labor costs, indirect labor costs, and factory overhead costs, both fix and variable (Febriani, n.d.). Using the Job Order Costing method leads to higher calculations because several overhead costs that should be part of the production cost calculation are left out. These include telephone expenses, machine maintenance and depreciation costs, and building rental costs. Moreover, important non-production costs like administrative expenses and marketing costs are not included in the company's production cost calculations.

According to (Handayani, n.d.) In evaluating whether a company attains the desired profit, there are two strategic approaches: adjusting the selling price or minimizing production costs during item processing. Nevertheless, increasing the selling price might redirect consumers to rival products with lower prices yet comparable quality. Conversely, uncontrolled production costs can result in excessively high expenditures, ultimately eroding the purchasing power of the public. It is imperative to systematically record and manage production costs, ensuring accurate expenditure calculations for product manufacturing. Meanwhile Fadrul et al. (2020), found multiple issues persist in Pekanbaru's printing businesses, including inadequate detailed calculations of factory overhead costs during production and the omission of depreciation and machine maintenance considerations. The determination of production costs fails to comprehensively capture all expenses associated with product manufacturing. This situation highlights the necessity for training in cost calculation. Up to the present time, the company has not undertaken a thorough categorization of costs, leading to inaccuracies in cost calculations.

According to (Sitepu, 2022) The cost of production serves several purposes, including setting the selling price of a product, determining the expected profit for the company, and measuring the efficiency of a production process. According to Mulyadi (2010:63), efficiency means using resources such as time, energy, and costs in a determined manner. It also involves the ratio of input to output or cost to profit. By using the job order costing method, a company can calculate the cost incurred for each order at any given time. This method separates the production costs of each product clearly, allowing for the easy calculation of the cost of production for each order. The researcher's interest in studying this company stems from the intense competition among businesses in Indonesia. This qualitative research is theory-oriented and aims to explore the title "Production Efficiency of Cost of Goods Sold at PT. Malang Raya Express Through the Order Costing Method". The objective of this research is to understand and analyze how the implementation of factory overhead cost control using the job order costing method can improve production cost efficiency at PT. Malang Raya Express.

## LITERATURE REVIEW

According to (Harun et al., 2023) Variable costing is a method of determining production costs that only takes into account variable production costs, consisting of raw material costs, direct labor costs, and variable factory overhead costs. According to Sari et al. (2022), Job Order Costing is a method of collecting the cost of goods sold for goods or products made based on orders. According to "Dian Purnama 2019" (n.d.), the cost of production plays a crucial role in determining the selling price of a product, so that the selling price offered by the company can compete with other companies. Some approaches to determining the cost of production as a basis for determining selling prices include full costing and variable costing methods. When an order is received, an order is immediately issued to make the product according to the specifications of each order. Some companies that typically use the job order costing system are aircraft manufacturers, manufacturers of heavy machinery or special equipment,

luxury watchmakers, printers, furniture makers, and others. According to Setiobudi (2021), the process costing method is a method of allocating costs to similar products produced in a mass and continuous production process through a series of production steps called processes. The method of process costing is commonly found in the textile, chemical, paint, fertilizer, and oil industries, among others. In this method, production costs are accumulated over a specific period for each product processing. The unit cost of the product is obtained by dividing the total product cost incurred during a specific period. Some companies that typically use the job order costing system are aircraft manufacturers, manufacturers of heavy machinery or special equipment, luxury watchmakers, printers, furniture makers, and others.

Generally, products under job order costing are characterized as custom-made and not produced on a mass scale. Pricing must be done accurately to ensure the company's competitiveness in the increasingly tight market. Even small price changes can have a significant impact on the sales of products in large quantities. Therefore, companies must be careful in setting selling prices because errors in pricing can lead to losses or loss of customers due to excessively low or high prices (Purnama et al., 2017). Profit is the main goal of a company because it is the difference between the revenue received (from sales) and the costs. Therefore, decision-making and information heavily rely on the final production cost calculations for management (Handayani, n.d.). For cost calculations based on orders to be effective, each order must be identified separately. To ensure that the cost details based on orders match the required effort, there must be significant differences in the unit cost of one order compared to another (Fadrul et al., 2020). The cost of raw materials is determined based on the quantity of materials used for each order multiplied by the unit price of the raw materials. The direct labor cost is determined by multiplying the number of production employees by the processing time for the order and the wage rate used (Suryani, 2023).

Cost of Production According to Mulyadi (2010:14), the definition of production cost is as follows: "Production cost is the expenses incurred to process raw materials into finished products ready for sale." The Job Order Costing Method according to Mulyadi (2010:35) is described as "Expenses collected for a specific order, and the unit cost is calculated by dividing the total production cost for that order by the number of units in that particular order." The Benefits of the Job Order Costing Method According to Mulyadi (2010:38) for companies that produce based on orders, information on the production cost per order is beneficial for management to:

1. Determine the selling price to be charged to the customer.
2. Consider acceptance or rejection of orders.
3. Monitor the realization of production costs.
4. Calculate the profit or loss for each order.
5. Determine the cost of finished goods and work in process inventory.

When running a production-based company, the main goal is to make a profit. The amount of profit generated is a measure of how successful a company is in managing its natural resources (Hendriawan et al., n.d.). According to Al-Mekhlafi & Salah Eddin Othman (2023), activity-based costing provides management with more accurate information about product pricing, helps them adjust prices and evaluate performance, and modify production methods by identifying activities that add little value but incur costs. The cost of production is the total expenses incurred in the production process charged to the products or services produced by the company. There are three groups of production costs: raw material costs, direct labor costs, and factory overhead costs. In determining the cost of production, two methods can be used: process costing and job order costing (Fardhani et al., 2016). Planning and controlling production costs can be done by accurately calculating the cost of production while maintaining the quality of the goods or products produced. Information needed for calculating the cost of production includes information about raw material costs, labor costs, and factory overhead costs. The cost of production will be used for determining the selling price of the product as well as for periodic profit and loss calculations (Muliana & Rahmi, 2022).

Job Order Costing is a cost calculation system that allows costs to be collected and allocated to production units for each job. Some characteristics of companies using job order costing include producing various products according to customer specifications, classifying production costs based on their relationship with the product as direct and indirect production costs, and calculating direct production costs as the actual expenses incurred for a specific order (Putri et al., n.d.). To achieve a low cost of production, appropriate cost grouping is required. Production costs are grouped into three categories: raw material costs, direct labor costs, and factory overhead costs. In most manufacturing processes, the costs are accounted for using either job order costing or process costing methods.

The main goal of both cost calculation systems is to determine the cost of goods or services produced by the company (Hidayat & Priani, 2022). To expedite the determination of the cost of production and ensure it aligns with the incurred costs (raw material costs, labor costs, and factory overhead costs), the authors intend to design a production planning information system for rapid and accurate determination of the cost of production at J-Zipper Konveksi (Teguh Setiadi & Nopiah Widaningsih, 2021). The fifth team, cross-functional, is responsible for the entire product, from ideation to production. The sixth involves the value chain, where all members of the value chain are involved in the target cost determination process. The product life cycle orientation minimizes costs, including raw material costs, production costs, prices, and maintenance costs (Palulun et al., n.d.).

## **METHODOLOGY**

The research was conducted using a descriptive qualitative approach. Descriptive research is a form of research aimed at describing existing phenomena, both natural and artificial phenomena. The type of data used in this research is qualitative data, which provides descriptions that are in line with reality. The sources of data needed to support this thesis writing are:

1. Primary Data

Primary data is data taken directly from the research object through observation and direct interviews.

2. Secondary Data

Secondary data is data obtained not directly from the research object. Researchers obtain existing data collected by others through various methods, such as from relevant books, literature related to the research title, previous research results, and other supporting data available in the company being studied.

According to Slat (2013), Literature Study is a technique that involves obtaining information from theories by studying and taking notes from books closely related to the issues to be discussed or researched, to be used as the theoretical basis that complements the process of writing this thesis. Data analysis technique is a tool or method used to solve problems. The data analysis technique used in this research is based on observations of the data obtained from PT. Malang Raya Express. From the data obtained, the following analysis can be performed:

1. Identification of overhead cost components at PT. Malang Raya Express.
2. Preparation of production cost allocation at PT. Malang Raya Express.
  - a. Identification of raw material cost order cards
  - b. Identification of direct labor cost order cards
  - c. Identification of factory overhead cost order cards
3. Analysis of the application of factory overhead cost calculation using the job order costing method.
4. Evaluation of the results of factory overhead cost calculation on the efficiency that can be achieved.
5. Interpretation of the results of factory overhead cost calculation and the results of measuring the efficiency of factory overhead costs using the job order costing method.

According to Bariska et al. (2019), in addition to traditional cost allocation methods, many innovative practices have emerged in the long history of managerial accounting. Based on the cost allocation method, we can discuss absorption costing (full costing) and variable costing (direct costing, marginal costing).

**RESEARCH RESULT**

The results of the analysis of the production cost calculation of KWH Meter PT. Malang Raya Express can be seen in table 4.1 that has been processed by the researcher:

**Tabel.1 Calculation of Cost of Production KWH Meters**

Used Materials	Require-ments		Price (RP)	Total Price (Rp)
Raw Materials:				
Power Meter / KWH Meter	8	Ea	12.001.000	96.008.000
Current Transformer / CT	24	Ea	715.000	17.160.000
Software Monitoring Base	1	Ea	19.725.000	19.725.000
Software Monitoring Client / Web Client	1	Ea	4.491.000	4.491.000
Software Monitoring Device	8	Ea	1.618.000	12.944.000
Kabel Ethernet CAT 6	150	Ea	15.000	2.250.000
Kabel AWG 16	150	Meter	15.000	2.250.000
SATA HDD 2 TB	1	Meter	1.100.000	1.100.000
RAM DDR 4	1	Ea	2.483.000	2.483.000
Switch Hub Unmanaged 16 Port	1	Ea	1.423.000	1.423.000
Switch Hub Unmanaged 8 Port	1	Ea	539.350	539.350
Ethernet to FO Converter	2	Ea	400.000	800.000
Material Pendukung	1	Lot	15.730.154	15.730.154
Material konsumable	1	Lot	6.000.000	6.000.000
Panel 600X500X300 mm	1	Ea	1.733.000	1.733.000
<b>Total Raw Materials</b>				<b>184.636.504</b>
Biaya Tenaga Kerja	1	Lot		<b>7.980.000</b>
Biaya Lain-Lain	1	Lot		<b>95.250.496</b>
<b>Cost of goods sold</b>				<b>287.867.000</b>

Source: PT. Malang Raya Express

Therefore, according to PT. Malang Raya Express's calculation, the production cost of the KWH Meter is Rp 287,867,000. The computation of the production cost for the KWH Meter task utilizing the job order costing approach is outlined below:

**Tabel.2 Calculation of the Cost of Production for KWH Meter Job**

No.	Elemen Biaya Overhead Pabrik	Jumlah (Rp)
1	Cost of Raw Materials	134.014.504
2	Labour Cost	7.980.000
3	Overhead Cost	80.201.664
	Total Cost of Production for KWH Meter Job	<b>222.196.168</b>

Source: PT. Malang Raya Express

From the table can be observed that, cost of production for the KWH Meter job amounts is Rp. 222,196,168. Following the calculation of the cost of production using two methods, namely full costing and job order costing, discrepancy between the outcomes derived from the full costing method and the job order costing calculation conducted by PT. Malang Raya Express, as follows:

**Tabel.3 Difference in Calculation of Cost of Goods Production for KWH Meter**

Calculation	Total (Rp)
Company utilize <i>Full Costing</i>	287.867.000
Utilize <i>Job Order Costing</i>	222.196.168
Selisih	65.670.832

Source: PT. Malang Raya Express

As for Table 4.10, can be observed that the calculation of the cost of production using the job order costing method yields a production cost of Rp. 222,196,168. Meanwhile, the production cost calculated using the company's method (full costing) for the KWH Meter job is Rp. 287,867,000. From the above production cost results, there is a disparity with a difference of Rp. 65,670,832.



## CONCLUSIONS AND RECOMMENDATIONS

Based on the research and discussion in this study, it can be concluded that:

1. The determination of the production cost using the job order costing method for the KWH Meter job is lower than the company's method (full costing). The difference in the calculation results occurs because of the inaccurate allocation of raw material costs and the lack of detailed calculation of the cost elements included in the total factory overhead costs. This is because the calculation of raw material costs does not include raw material purchase discounts. Additionally, the company has not separated the factory asset depreciation costs and the variable factory asset depreciation costs, such as electricity, water, telephone and wifi expenses, and other factory overhead costs, which have not been calculated in detail and proportionally.
2. The determination of the production cost for the KWH Meter job using the job order costing method is cheaper and more efficient than the company's method (full costing). The difference in the calculation results occurs because of the inaccurate allocation of raw material costs and the lack of detailed calculation of the cost elements included in the total factory overhead costs.
3. In an effort to improve production cost efficiency in determining the company's selling price, it is advisable to ensure accurate calculation of raw material costs and factory overhead costs. This can be used as a basis for calculating pricing policies. Therefore, PT. Malang Raya Express should accurately calculate raw material costs, especially related to purchase discounts, and separate the factory asset depreciation costs and the variable factory asset depreciation costs, such as electricity, water, telephone and wifi expenses, and other factory overhead costs, in order to achieve its sales target and planned profit, considering the increasingly competitive market.
4. The company should be more detailed in allocating costs to a job, especially in allocating raw material costs, and should provide a detailed calculation of the cost elements in the total factory overhead costs. Therefore, the company should use the job order costing method as used in this study..

## ADVANCED RESEARCH

Future research on job order costing could focus on several areas.

1. The development of more accurate and efficient methods for allocating factory overhead costs to specific jobs could be explored. This could involve investigating the use of new technologies or software programs that can better track and allocate costs to specific jobs.
2. The impact of job order costing on the decision-making process of companies could be studied. This could involve analyzing how companies use job order costing information to make decisions about pricing strategies, production processes, and resource allocation.

3. Finally, the impact of job order costing on financial reporting could be explored. This could involve analyzing how job order costing affects the accuracy and completeness of financial statements and whether there are any potential drawbacks or limitations to its use in financial reporting.

Overall, future research on job order costing could help to improve our understanding of this important accounting method and identify ways to make it more effective and efficient for companies in various industries.

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