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## ANALYSIS OF DETERMINING COST OF GOODS PRODUCED ON PRINTING MANIA PRINTING ORDER PRODUCTS

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### *Abstract*

The results of the calculation of the cost of production using the Job Order Costing method show that the value is higher than the calculation of the cost of production using the company's method. The difference in value that occurs is due to the imposition of factory overhead costs calculated using the Job Order Costing method which is more complete and well detailed in accordance with correct accounting.

***Keywords: Job Order Costing Method, Cost of Production***

### INTRODUCTION

In the era of globalization marked by the internet, it increasingly helps people in absorbing science and technology that supports the community to have skills and can innovate in business. One of them is in the handicraft business of making menu books produced by Print Mania Printing for cafes and restaurants which are usually made of synthetic leather through new innovations that penetrate with wood fibre and batik cloth which makes the product have a higher value.

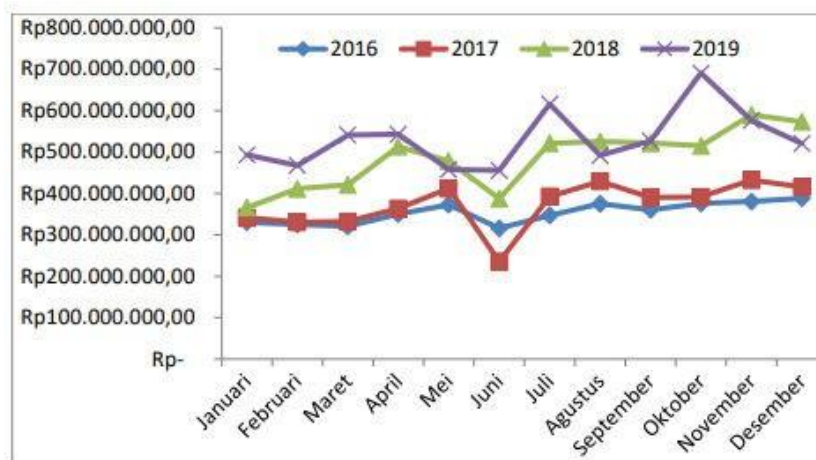
All companies aim to earn profits by managing resources effectively and efficiently. Optimal profit can be achieved by keeping production costs as low as possible, by keeping the selling price in line with the expected profit, or by increasing sales volume as much as possible while still prioritising product quality. The best way to reduce production costs is for the company to understand its existing cost structure. The existing cost structure can be evaluated using a clear costing method.

Print Mania Printing is a manufacturing company. This company carries out activities that transform raw materials into semi-finished products until ready to sell products. Manufacturing companies have the main activity of converting raw materials into finished products that are ready to sale (Mulyadi, 2016). The characteristics of manufacturing companies include material processing and production results, using machines for large scale production, production, marketing and sales processes, and there are production costs to determine and control costs consumed when carrying out manufacturing activities. In this case, production cost is objectives of costing method.

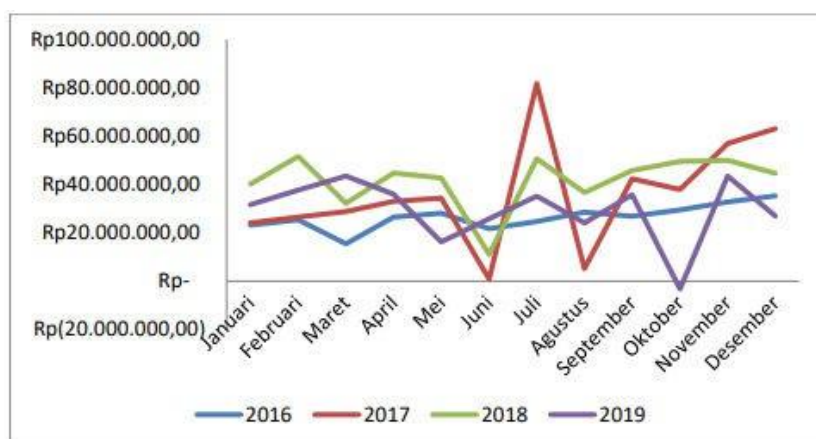
The determination of the cost of goods produced in MSMEs frequently fails to encompass all costs that should be considered. For instance, this may include raw material costs, direct labour costs and production overhead costs. The owner of Print Mania Printing, revealed that he had never systematically documented each cost, resulting in inconsistency with the actual costs incurred.

Print Mania Printing produces menu books based on orders, and consequently utilises the cost of goods method (Job Order Costing) as the basis for collecting the cost of production. The company produces a cost of production report for each unit of menu book orders. The cost of production report is used by the company to ascertain the economic resources expended in the production of menu books per unit. Calculation and classification of cost of production can serve as a reference for management decisions in determining the selling price.

Below is the sales and net profit data for printing mania in 2016-2019:



**Figure 1. Sales Printing Mania 2016-2019**



**Figure 2. Profit Printing Mania 2016-2019**

Based on the graph above, it can be seen that the sales obtained by Printing Mania over the past 4 years have fluctuated which tends to increase. In this case the company is required to be

selective in selling products to consumers, so that the sales targets planned by the Company in a certain period can be achieved optimally. Optimal sales are one of the company's targets, therefore the company will do many ways to achieve the planned targets, the determining factor for optimal net profit is sales and minimizing the optimal cost of goods manufactured.

On the profit chart, it can be seen that the net profit earned by printing mania is fluctuating. Fluctuations that occur in sales activities, production costs and net income have a huge impact on the company, namely if sales increase and production costs decrease, net income will be pushed up, sales decrease and production costs decrease, net income will stagnate, sales increase and production costs increase, net income will be pushed down, and if sales decrease and production costs increase, net income will be pushed down.

As Nugi, the proprietor of Print Mania Printing, asserts, the determination of the cost of production in the Print Mania Printing menu book business is based on the estimated cost of production that he personally calculates. On average, this constitutes 43.875% of the selling price. The calculation of the cost of goods made by him only calculates raw material costs and labour costs, he does not calculate overhead costs and non-production costs. Consequently, it can be deduced that the Print Mania printing press has not calculated the Cost of Goods Sold (COGS) in accordance with the experts. This signifies that the print mania printing press does not utilise the cost of goods produced accurately, employing neither the full costing method nor the variable costing method, but rather determining the cost of goods produced in this company arbitrarily.

The researcher thus considers it necessary to conduct research related to the determination of the cost of goods produced with the order costing method (Job Order Costing) because the products produced at Print Mania are classified into order products with a full costing approach. It is on the basis of this explanation that the researcher has chosen Print Mania as research subject to determine the cost of goods produced using the job order costing method. The proposed study, therefore, will be entitled 'Analysis of Cost of Goods Produced on Print Mania Printing Order Products'.

## **LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

### **1. Accounting**

Accounting can be defined as the cycle of recording, classifying, summarising and presenting economic activity and events related to finance so that it can be used by user for decisions making. Define accounting defined as a service activity that functions to provide quantitative information related to finance (Sugiri & Riyono, 2018). This information is expected to be input

in the process of making economic and rational decisions. According to Sumarsan (2020), accounting can be defined as the art of collecting, identifying, classifying, recording transactions and events related to finance, with the objective of producing financial statement information. The primary function of accounting, therefore, is to provide information regarding a company's financial situation. The accounting report is a document that provides information about the company's financial changes, whether these are for or loss. The core principle of accounting can be defined as the calculation of the company's cash inflows and outflows. The overarching objective of accounting is to present economic information to stakeholders in the form of financial statements.

## **2. Cost**

Cost can be defined as expenditure or the value of that which is foregone in order to obtain goods or services that are useful for the future, or that accrue benefits in excess of a single accounting period (Firdaus, 2012). Conversely, a resource that is relinquished (sacrificed) or foregone to achieve specific objectives can be delineated as cost (Hongren, 2013). Cost can also be defined as the sacrifice of resources measured in units of money, which has occurred or is likely to occur to achieve certain goals (Edward, 2011). This understanding suggests that costs are defined as the sacrifice or expenditure of economic resources measured in units of money to obtain goods and services that have occurred or will occur and have the benefits of one or more accounting periods.

## **3. Cost of Goods Manufactured**

Cost of goods manufactured is a way of taking into account the elements of cost into production costs (Mulyadi, 2016). In taking into account the elements of cost into production costs, there are two approaches full costing and variable costing. Cost of goods is the value of assets, but if during the current year these assets are used to help generate income, these assets must be converted to expenses (Witjaksono, 2013). Meanwhile, the cost of goods produced represents the total cost of goods completed in a certain period. Cost of goods manufactured is a collection of production costs consisting of direct raw materials, direct labor and factory overhead costs plus inventory of products in the initial process and reduced inventory of products in the final process (Bustami & Nurlela, 2013). Cost of goods manufactured is tied to a certain period of time. The cost of goods manufactured will be the same as the cost of production if there is no inventory of products in the initial and final processes. Cost of goods is a costing that supports specific managerial objectives (Hansen & Mowen, 2013). This means that determining the cost of a product depends on the specific managerial objectives or objectives to be achieved. Based on this understanding, it can be concluded that the cost of production is a way for companies to

take into account all the elements of cost required when the company produces a product using the full costing or variable costing method.

The process of converting raw materials into finished products that are ready to be sold gives rise to production costs. Consequently, it is imperative for a company to possess accurate information regarding the cost of production. According to Mulyadi (2016), companies that produce on a regular basis find it beneficial to periodically calculate the cost of production for a given time period. This information is particularly useful for management as it enables them to: Determining the selling price of the product; Monitoring the realisation of production costs; Calculating periodic profit or loss; Determining the cost of finished product inventory and products in process presented in the balance sheet. In addition, the calculation of production costs is of paramount importance, as it enables the determination of the selling price, which is presented in the statement of financial position (Samsul, 2013).

#### **4. Job Order Costing**

According to Mulyadi (2016) the definition of the order costing method is that production costs are collected for a specific order and the cost per unit of product produced to fulfill the order is calculated by dividing the total production cost for the order by the number of product units in the order in question. The job order costing system is a system for providing manufacturing cost information for each quantity of product produced. Each quantity of product produced is called an order (Warren et al, 2014). This job order costing system is often used by companies that produce custom products or orders for customers or batches of similar products.

The cost of goods ordered in this method is the product per unit or group of products in one order (Daljono, 2011). In general, managers need information about how much the cost of products for each order is, this is because each order has different specifications. It can be concluded that the definition of cost of goods ordered is one method of collecting or determining the price of production where the production process is determined by order.

#### **5. Determination of Factory Overhead Cost Price**

To be able to calculate factory overhead costs, there are stages that must be carried out by the company. These stages are as follows:

1. Prepare a factory overhead cost budget: The preparation of the factory overhead cost budget is based on the volume of activities that will be carried out in the future.
2. Select and estimate the basis for charging factory overhead costs The basis for charging factory overhead costs to products can be selected based on product units, raw material costs, direct labour costs, direct labour hours, machine hours.

Factors that must be considered in charging factory overhead costs include:

- a. Pay attention to the type of factory overhead costs that are dominant in the production department.
- b. Pay attention to the characteristics of the dominant factory overhead costs and their relationship with the basis of charging that will be used.
- c. Calculate the factory overhead cost rate which can be done with the formula:

$$\text{Factory Overhead Cost Rate} = \frac{\text{Budgeted Factory Overhead Costs}}{\text{Estimated Basis of Charging}}$$

The primary objective in the selection of an overhead rate base is to ensure overhead charges in reasonable proportion to the indirect factory resources utilized by the product order, or work performed.

### RESEARCH METHOD

This research method used is a quantitative descriptive method that will be related to the problems that exist in the object of research regarding job order costing. This research aims to describe or explain a variable or several variables without comparing or correlating one with another. Based on the type of data and analysis, this research uses quantitative data that will be processed using the formula of the method applied in this study. based on objectives by focusing on applied research that is shown to solve practical problems, meaning that research is carried out by applying the theory that will be used as a framework with reality in the work environment. based on the research method, this research is included in survey research, which can be carried out on large and small populations. And this research is generally for the generalization of an observation.

Data collection method used is primary data in the form of information to find out the actual description and explanation of the calculation of cost of goods ordered. In accordance with this, the authors collect data through interviews which are then recorded from the source, namely Print Mania as a complement in this study, by requesting information and actual data in the field. Secondary data is data that contains information that has to do with the object of research. Secondary data is usually already arranged in the form of documents. In this study, secondary data was obtained from financial reports or accounting records at the Print Mania business, as well as documents related to the calculation of cost of goods ordered.

Data collection techniques used are literature studies Literature searches, looking for references to main books, supporting books, articles, previous research results, lecture notes, and internet media related to theory and its development with the problem at hand. Field studies with observation Research conducted directly by conducting field research on the object of research

to obtain the data needed to complete the research by observing Print Mania regarding the problem of calculating the cost of goods ordered, interviews, documentation, namely Documentation is obtained by recording or searching for data on variables such as costs, production, production results, and data generated related to research. The data is usually in the form of notes, agendas, notes, minutes and so on.

## RESULT AND ANALYSIS

### RESEARCH RESULTS

#### Company Production Process

The calculation of the cost of goods manufactured by the company is currently still simple, the costs calculated to calculate the cost of goods manufactured include raw material costs, labor costs, and other costs which are factory overhead costs calculated by the company. Until now, the company still uses the job order costing system but it is not in accordance with the actual theory. Various products in its business activities receive several orders from consumers, including Menu covers, Bill Holders, Coasters, Room Service, Guest Service Directories, Compendiums, and Design Menus.

**Tabel 1. Restaurant order production 2019 (per unit)**

Month	Menu Cover	Bill Holder	Guest Service Directories
January	965	730	845
February	1.045	965	710
March	2.450	1.045	1.206
April	1.400	1.000	1.036
May	1.984	844	952
June	765	631	522
July	896	890	783
August	1.686	775	649
September	897	989	1.015
October	682	625	587
November	1.302	950	1.109
Desember	1.528	420	990
<b>Total</b>	<b>15.600</b>	<b>9.764</b>	<b>10.404</b>

Based on the table above, the author will analyze the calculation of the cost of production for the most restaurant orders, such as the highest number of cover menus in March (2,450) in which there are several ordering agencies with different types and sizes of orders. One type is restaurant menu cover for 10 restaurants, each restaurant orders 10 restaurant menu covers. So the total amount is 100 units of restaurant menu cover. In Bill Holder, the highest number is in March (1,405), in which there are several ordering agencies with different types and sizes of orders. So the total number becomes 100 bill holder units. In guest service directories, the



highest number is in March (1,206) in which there are several ordering agencies with different types and sizes of orders. So the total number becomes 100 units of guest service directories. For 100 units, the company purchases raw materials according to with the order, which is as follows.

1. Raw materials
  - a. (Restaurant Menu Cover)
    - i. Leather 100 x 130 cm Rp. 60,000 : 3 pcs = Rp. 20,000 per pcs
    - ii. Hand board 65 x 75 cm Rp. 5,000
  - b. Bill Holder
    - i. Leather 100 x 130 cm Rp. 60,000 : 3 pcs = Rp. 20,000 per pcs
    - ii. Hand board 65 x 75 cm Rp. 5,000
    - iii. Aica aibon glue 1 jerry can Rp. 320,000 : 100 pcs = Rp. 3,200 per pcs
    - iv. Ring binder 6 holes Rp. 4,000
    - v. Sewing thread Rp. 1,000
    - vi. Stamped foil Rp. 31,000
  - c. Guest Service Directories
    - i. Leather 100 x 130 cm Rp. 60,000 : 3 pcs = Rp. 20,000 per pcs
    - ii. Hand board 65 x 75 cm Rp. 5,000
    - iii. Aica aibon glue 1 jerry can Rp. 320,000 : 100 pcs = Rp. 3,200 per pcs
    - iv. PVC plastic 0.16 micron x6 Rp. 3,000
    - v. Sewing thread Rp. 1,000
    - vi. Stamping foil Rp. 31,000
    - vii. Baud Rp. 2,000
2. Labor
  - a. Solomon Rp. 2,600,000/month
  - b. Ajat Rp. 3,000,000/month
  - c. Firman Rp. 3,000,000/month
  - d. Ujang Rp. 3,000,000/month
3. Factory overhead costs
  - a. Cost of auxiliary materials:
    - i. Aica aibon glue 1 jerry can Rp. 320,000 : 100 pcs = Rp. 3,200 per pcs
    - ii. Stamped foil Rp. 31,000
  - b. Indirect labor costs:
    - i. Soetjipto Rp. 5,000,000/month
    - ii. Husein Rp. 4,000,000/month
    - iii. Heaven Muhammad Marjan Rp. 4,000,000/month
  - c. Depreciation cost of fixed assets of Print Mania:
    - i. Depreciation cost of sewing machine Rp. 6,600,000:5 years=Rp.1,320,000:12 month = Rp. 110,000/month.
    - ii. Sewing machine maintenance costs Rp. 100,000 / month
    - iv. Building rental fee Rp. 1,500,000/month.
4. Depreciation cost of variable assets Print Mania
  - i. Electricity cost Rp. 700,000/month
  - ii. Water cost Rp. 200,000/month
  - iii. Internet fee Rp. 400,000/month



## DISCUSSION

### Calculation of Cost of Goods Manufactured

**Tabel 2. Calculation of Cost of Goods Produced of Restaurant Menu Cover, Bill Horder, and Guest Service Directories(in IDR)**

Cost Description	Restaurant Menu Cover	Bill Horder	Guest Service Directories
Raw Material	1.300.000	1.550.000	1.200.000
Direct Labour	1.540.000	1.540.000	1.540.000
Factory Over Head	2.108.000	2.128.000	2.132.000
<b>Total COGS</b>	<b>4.912.000</b>	<b>5.128.000</b>	<b>4.872.000</b>
<b>Cost per unit</b>	<b>49.120</b>	<b>52.180</b>	<b>48.720</b>

From the table above, it can be seen that the results of the calculation of the cost of goods used by the company only include the cost of raw materials, direct labor and overhead costs. As according to Bustami and Nurlela (2013: 49) the cost of goods manufactured is a collection of production costs consisting of direct raw materials, direct labor and factory overhead costs plus inventory of products in the initial process and reduced inventory of products in the final process. The cost of goods manufactured is tied to a certain period of time. The cost of goods manufactured will be the same as the cost of production if there is no inventory of products in the initial and final processes.

### Income Statement Comparison

**Tabel 3. Comparison of company records with job order costing method (in thousand IDR)**

	Restaurant Menu Cover		Bill Holder		Guest Service Directories	
	Company Records	Job Order Costing	Company Records	Job Order Costing	Company Records	Job Order Costing
Raw Material Cost	1.300	1.300	1.550	1.550	1.200	1.200
Direct Labour Cost	1.540	1.540	1.540	1.540	1.540	1.540
Factory Overhead Costs	2.108	2.336	2.128	2.356	2.132	2.360
<b>Total Cost</b>	<b>4.948</b>	<b>5.176</b>	<b>5.218</b>	<b>5.446</b>	<b>4.872</b>	<b>5.100</b>

When viewed from the calculation of the income statement, it can be seen that the gross profit generated is much smaller than the company's calculation with joborder costing calculations based on theory. This is because the company does not properly charge several elements of costs incurred in the production process that should be borne by the company. Thus, the Print Mania Printing company does not present all costs incurred in the production and distribution process of its sales. Therefore, the author can say that this company in its report not only looks not more profitable but also incurs losses due to errors in the presentation of financial statements.

The results of this calculation are supported by the journal Syafi'I Abdullah (2018) which states that the company in calculating the cost of goods ordered is not correct in the sense that it is too small or too low to determine the cost of production so that there is the potential for losses in the long term, although in the short term the losses are not visible. Furthermore, if it is related to profit and loss, if the Print Mania Printing company charges all its costs in the production process, it will provide smaller results or incur losses in the company.

### CONCLUSION

In determining the cost of goods produced by the Company, Print Mania Printing still calculates its cost of goods produced with a simple method, because it has not been detailed in including the elements of existing costs. The company in calculating factory overhead costs does not include building rental costs, sewing machine maintenance costs and sewing machine depreciation costs, so that the calculation of the cost of goods produced by the company is not correct. The calculation of the cost of goods produced by the Job Order Costing method is higher, because factory overhead costs such as sewing machine care and maintenance costs, sewing machine depreciation costs, and building rental costs are included in the calculation of the Company's cost of goods produced so that the profit generated by the job order costing method is higher and optimal.

The difference in the calculation of profit and loss of cost of production by the Company using the job order costing method can be seen in the details of costs. factory overhead, the job order costing method is more detailed and all costs are included such as building rental costs, sewing machine maintenance and maintenance costs and sewing machine depreciation costs, so there is a difference in the cost of production.

To get the results of calculating the cost of goods produced precisely and accurately, the company should consider calculating all components of the cost of goods produced, namely raw material costs, direct labor costs, factory overhead costs, and non-production costs such as using the Job Order Costing method, where in this method costs are collected for each order separately according to the identity of each order. Because with this calculation, the company can find out the entire production cost when producing its orders. The company should analyze all overhead costs charged in the company in detail and start calculating depreciation costs in calculating its cost of goods produced, because depreciation costs are an important component for calculating factory overhead costs. So that the calculation of the cost of goods produced is more accurate and precise in setting the selling price and is able to maximize the expected profit. The results of this study are expected to be used as a reference for further researchers. Future

researchers should add cost of goods produced calculation methods other than job order costing so that more different research results can be known.

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