

Selling Price Determination Using Activity-Based Costing System in Determining Selling Prices

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ABSTRACT : *companies are required to be able to keep up with developments dynamically with increasingly sophisticated technological developments and increasingly rapid economic developments. Many companies develop their products to attract consumers and ensure consumer satisfaction. Manufacturing and service companies will incur costs to produce goods and services. CV Media has developed its business in the manufacturing sector producing various types of ethnic bags under the Trojika Indonesia brand. Apart from that, CV Media currently only relies on the traditional production calculation system and charges factory overhead costs using one financing category which is allocated based on the number of production units. This research is a type of quantitative descriptive research. The type of data used in this research is documentary data in the form of invoices for purchasing goods and financial data in the company. The data analysis technique is by comparing traditional system calculations and activity based costing. Then after that, determine the cost of production based on activity, the costs for each group of overhead costs are traced to various types of products using the group rates consumed by each product or the cost drivers used by each product. The finding of this research is been carried out, the conclusion obtained is that with this comparison, business owners can avoid too much cost distortion so that they are not excessive or insufficient. Of course, the selling price given to customers is not too high and is still considered cheap by customers.*

KEYWORDS -SELLING PRICE, ACTIVITY-BASED COSTING, COST OF PRODUCTION

I. INTRODUCTION

In today's developments, companies are required to be able to keep up with developments dynamically with increasingly sophisticated technological developments and increasingly rapid economic developments. Many companies develop their products to attract consumers and ensure consumer satisfaction. According to Kolo and Darma (2020:59) suggest that product quality is one of the determining factors in meeting consumer satisfaction.

Manufacturing and service companies will incur costs to produce goods and services. According to Mulyadi in the book Activity-Based Cost System (Mulyadi 2015:6), costs are a number of resources expended to achieve the desired goals, the resources expended are measured in currency units. It is very important for companies to calculate the costs incurred to produce goods or services. Therefore, it is important for companies to calculate maximizing the use of resources, reducing waste costs, and carrying out production effectively and efficiently

Based on research conducted by Julianti (2017: 1), it is stated that all costs incurred for the production of goods or services will be calculated to obtain the cost of production which will be used by management in making the right decision to determine the selling price. CV Media is a company operating in the construction

sector. Then in 2000, the company expanded its business in the food sector by producing banana chips, cassava chips and spinach chips. Currently CV Media has developed its business in the manufacturing sector producing various types of ethnic bags under the Trojika Indonesia brand. Apart from that, CV Media currently only relies on the traditional production calculation system and charges factory overhead costs using one financing category which is allocated based on the number of production units. If this calculation system is left in place, the calculation of overhead cost allocation at CV Media will be inaccurate because it can cause cost distortions, both undercosting and overcosting.

The results of research conducted by Mediansyah (2019: 106) show that the results of calculating the cost of production using an activity-based costing system are lower than using conventional methods for most sling bag products, except for the results of calculating the cost of production of backpacks using an activity-based system. The costing system is higher compared to conventional methods. Calculating the cost of production using conventional methods results in cost distortions caused by allocating overhead costs using one cost grouping and using one allocation basis, so that the assignment is less precise because costs are charged even though they have nothing to do with the product units produced. Meanwhile, in activity-based costing system calculations, the allocation of factory overhead costs uses cost drivers related to activities in producing products, so that the resources used by a product can be measured more precisely.

II. LITERATURE REVIEW

ii.1 Cost Accounting

According to Mulyadi (2018:7) cost accounting is defined as a procedure used to record costs, classify costs, summarize and present costs, as well as manufacture products and sell goods or services through certain methods. According to Siregar et al. (2013:11) defines cost accounting as the process of measuring, analyzing, calculating and reporting costs, profitability and performance in an operation. According to Mulyadi (2015: 8) defines that cost objects are resources that are used as objects for measuring and assigning costs. Meanwhile, according to Carter (2009:31), a cost object is defined as an activity or item that can be used as a measurement and accumulation of costs. There are 3 (three) stages of assigning costs to cost objects, namely as follows (Mulyadi 2015:15): assigning resources to activities, assigning activity costs to products/services, assigning costs to customers. In general, costs are classified based on the relationship between costs, according to Carter (2009: 40-47) the classification of costs is divided into 5 (five), namely as follows: costs related to products, costs related to production volume, costs related to departments production or other segments, costs related to the accounting period, costs related to a decision, action, or evaluation.

ii.2 Cost of goods sold

According to Hansen *et al.* (2009:30) the cost of production is the costs attached to the units sold consisting of direct material costs, labor costs and overhead costs. According to Mulyadi (2018:16) production costs are costs incurred for the purpose of producing a product. According to Garrison *et al.* (2008:441) calculating the cost of production has several objectives, namely to determine the appropriate selling price, determine the company is at an efficient point, determine sales decisions, serve as a guide in purchasing new tools and equipment, carry out calculations on the balance sheet. accurate cost of production, knowing the cost information required by the company. Mulyadi (2015:65) the cost of production that has been calculated within a certain period of time can be useful for management, including being able to determine product selling prices, monitor realized production costs, calculate product profits and losses, cost of inventory, whether finished products or products. which is still in the process of being presented in the balance sheet.

ii.3 Activity -Based Costing System

Hornrgren *et al.* (2012: 146) defines an Activity-Based Costing System as a cost determination system by identifying individual activities as fundamental cost objects such as activities, tasks and work units that have a specific purpose for designing and distributing a product. Activity-based costing system according to Atkinson *et al.* (2012:193) is an indirect costing system and encourages resources for activities, business processes,

services, products/services and customers. Activities carried out in a company in order to produce products/services are the focus of the activity-based costing system. This system is designed to provide information regarding the activities and resources needed by the company to be able to carry out transactions regarding cost driver factors or the causes of costs occurring. Garrison et al. divides 5 (five) activity cost levels, namely Unit-Level Activities, Batch-level activities, Product-level activities, Customer-level activities, Organization-sustaining activities.

According to Horngren et al. (2012:150–153) in his book entitled "Cost Accounting" states that the activity-based costing system has 7 (seven) stages in cost assignment, namely as follows:

1. Identify the products that will be used as cost objects.
2. Identify the direct costs of the product.
3. Determine the activities and cost allocation basis for allocating indirect costs to products.
4. Identify indirect costs related to each allocation basis.
5. Calculate the rate per unit for each cost allocation basis.
6. Calculate indirect costs allocated to products.
7. Calculate the total of all direct costs and indirect costs charged to the product as a result of product costs.

ii. 4Selling price

After calculating the cost of production, the company will determine the selling price for the products produced to be sold to customers. The selling price needs to be determined accurately so that the costs that have been sacrificed can be covered and the company can obtain the expected profits. However, the selling price should not be set too high so that it can attract more consumers and the company can compete competitively with similar companies. Kotler and Armstorng (2018:308) define the selling price as the amount of money sacrificed to obtain a product and service that can provide benefits to be felt by customers by using the product or service. In this regard, Horngren et al. (2012:433–434) in his book entitled "Cost Accounting" suggests that there are 3 (three) factors that can influence demand and supply, namely customers, competitors, costs. The usual approach in determining selling prices is to increase costs using the following formula Garrison et al. (2012:716):

$$\text{Selling Price} = (1 + \text{Markup Percentage}) \times \text{Cost}$$

III. RESEARCH METHODOLOGY

This research is a type of quantitative descriptive research. In preparing the research, the researcher used numerical data in the cost of production with an activity-based costing system, then the results of the calculation of the cost of production were compared with the results of the traditional costing system calculation. The type of data used in this research is documentary data in the form of invoices for purchasing goods and financial data in the company. The data sources required in the research come from CV Media and other data related to sales and activity costs. Data collection techniques were carried out using interviews, observation and documentation. The data analysis technique is by comparing traditional system calculations and activity based costing. Then after that, determine the cost of production based on activity, the costs for each group of overhead costs are traced to various types of products using the group rates consumed by each product or the cost drivers used by each product. Factory overhead costs are determined from each cost group for each product, so they can be calculated using the following formula ;

$$\text{BOP charged} = \text{Group Rate} \times \text{Cost of Driver used}$$

Then, calculate the cost of production per unit based on factory overhead costs, namely using the following formula:

$$\text{Cost of Goods Production} = \text{Prime Costs} + \text{Factory Overhead Costs}$$

Finally, determine the selling price using the following formula Garrison et al. (2012:716):

$$\text{Selling Price} = (1 + \text{Markup Percentage}) \times \text{Cost}$$

IV. RESULTS AND DISCUSSION

IV.1 Calculation of Cost of Goods Production at CV Utama Cimahi Using Traditional Costing System

Calculate the cost of production per unit of product using the following formula:

$$\text{HCost of Goods Production} = \text{Prime Costs} + \text{Factory Overhead Costs}$$

Description	Main Costs(Rp)	Factory Overhead Costs(Rp)	Cost of Production(Rp)
HPO-6 Beagle	33.050	24.537	57.587
HPO-8 Anteros	45.770	24.040	69.810
Fun Bag-Sakura Asih	82.650	34.197	116.847
MPO-Kenizha	31.060	24.118	55.178

Table 1. Cost of Production per unit of CV Media Production

Source: data processed by researchers

Based on the calculation table above, it shows that the basic production cost of the traditional costing system for the Beagle model HPO-6 product is IDR 57,587. Then, for the Anteros model HPO-8 product, the cost of production is IDR 69,810. Then, the cost of production for the Sakura Asih Fun Bag model is IDR 116,847. And, the cost of production for MPO products is IDR 55,178.

Next, calculate the selling price of CV Media, which has a profit target of 15%, but the company follows market prices and price requests from customers. So, the selling price is determined by different profit percentages. Below is presented table 2. selling price calculation

Table 2 Calculation of Selling Prices Using the Traditional System

Information	Cost of Production (Rp)	Percentage	Selling Price (Rp)	Profit (Rp)
HPO-6 Beagle	57,587	23.29%	71,000	13,413
HPO-8 Anteros	69,810	20.33%	84,000	14,190
Fun Bag-Sakura Asih	116,847	11.26%	130,000	13,153
MPO-Kenizha	55,178	8.74%	60,000	4,822
Total Profit				45,578

Source: data processed by researchers

The results of calculating the cost of goods produced by CV Utama Cimahi in 2020 using the traditional costing system for the HPO-6 Beagle product, the cost of production was IDR 57,587 with a profit percentage of 23.29%, resulting in a selling price of IDR 71,000. Then, the cost of production for the HPO-8 Anteros product is IDR 69,810 with a profit percentage of 20.33% and the selling price is IDR 84,000. Then, the cost of production for the Fun Bag Sakura Asih product is IDR 116,847 with a profit percentage of 11.26%, so the selling price of the Fun Bag Sakura Asih is IDR 130,000. And, the cost of production for MPO Kenizha is IDR 55,178 with a profit percentage of 8.74%, resulting in a selling price of IDR 60,000. So, the total profit for all products is IDR 45,578.

IV.2 Calculation of Cost of Goods Production at CV Utama Cimahi Using Activity-Based Costing System

Based on research information that has been carried out, CV Utama Cimahi is currently still calculating the cost of production using the traditional costing system. In this subchapter, the cost of production will be calculated using an activity-based costing system so that it is hoped that the calculation will be more accurate and achieve the profit target of 15% as determined by the company. In calculating the cost of production using an activity-based costing system, the steps according to Supriyono (2007:270) will be used in two stages:

- A. First Stage, Identifying activities and activity levels

The following is an identification based on activity and activity level.

Table 3 Components of Factory Overhead Costs based on Activity Level Classification

BOP Activity Components	Activity Level
Cost of Auxiliary Materials	<i>Unit-Level Activity</i>
Office Electricity Costs	
Factory Electricity Costs	
Sewing Machine Depreciation Costs	
Cutting Machine Depreciation Costs	
Bartek Machinery Depreciation Costs	
Rent an Office Building	
Drinking Water Costs	
Transportation costs	
Indirect Labor Costs	
Marketing Costs	
Building Maintenance Costs	<i>Facility-sustaining activity</i>
Factory Depreciation Costs	
Machine Maintenance Costs	

Source: Processed by researchers

Then, relate and determine the appropriate costs for each activity. Factory overhead cost components are determined and classified based on each level of activity. Then, each component of factory overhead activity will be connected to a cost driver in assigning costs. The next step is to determine homogeneous cost groups and calculate group rates.

- B. Second stage, determine the cost of production based on each activity. costs for each group of overhead costs are traced to various types of products, namely HPO-6 Beagle, HPO-8 Anteros, Fun Bag Sakura Asih and MPO Kenizha by using the group rates consumed by each product or the cost drivers used by every product. Factory overhead costs are determined from each cost group for each product.

When both stages have been completed, all that remains is to calculate the cost of production per unit based on factory overhead costs, namely by using the following formula:

$$\text{Cost of Goods Production} = \text{Prime Costs} + \text{Factory Overhead Costs}$$

Below you can see table 4 of the cost of production for the activity-based costing system

Table 4 Calculation of Cost of Goods Production Using Activity Based Costing System

Information	Main Cost (Rp)	Factory Overhead Costs (Rp)	Cost of Production (Rp)
HPO-6 Beagle	33,050	25,285	58,335
HPO-8 Anteros	45,770	22,002	67,772
Fun Bag-Sakura Asih	82,650	40,843	123,493
MPO-Kenizha	31,060	21,562	52,622

Source: data processed by researchers

After calculating the cost of production using the ABC system, the next step is to determine the selling price. In determining the selling price, you can use the following formula:

$$\text{Selling Price} = (1 + \text{Markup Percentage}) \times \text{Cost}$$

Below, you can see the table. 5 selling price calculations for HPO-6 Beagle, HPO-8 Anteros, Fun Bag Sakura Asih and MPO Kenizha products with a profit percentage of 15% (fifteen percent) as follows:

Table 5 Calculation of Selling Prices Using the Activity Based Costing System

Information	Cost of Production (Rp)	Percentage	Selling Price (Rp)	Profit (Rp)
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Information	Cost of Production (Rp)	Percentage	Selling Price (Rp)	Profit (Rp)
HPO-6 Beagle	58,335	15%	67,085	8,750
HPO-8 Anteros	67,772	15%	77,937	10,166
Fun Bag-Sakura Asih	123,493	15%	142,017	18,524
MPO-Kenizha	52,622	15%	60,515	7,893
Total Profit				45,333

Source: data processed by researchers

Based on the selling price calculation data above, the calculation results for the selling price of the HPO-6 Beagle product are IDR 67,085. Then, the calculation results for the selling price of the HPO-8 Anteros product were IDR 77,937. Then, the calculation results for the selling price of the Fun Bag Sakura Asih product were IDR 142,017. And, the selling price of MPO Kenizha products is set at Rwp60,515 . So, the total profit for all products is IDR 45,333.

IV.3.Comparison of Cost of Production of Traditional Costing System with Activity-Based Costing System

The cost of production for traditional costing systems and activity-based costing systems is compared to determine cost distortions. The following is table 6 comparing the cost of production of traditional costing systems with activity-based costing systems as follows

Table 6 Comparison of Cost of Goods Production of Traditional Costing System and Activity-Based Costing System

Types of products	Traditional Costing System (Rp)	Activity-Based Costing System (Rp)	Difference (Rp)	Information
HPO 6 - Beagle	57,587	58,335	(749)	Undercosting
HPO 8 - Anteros	69,810	67,772	2,038	Overcosting
Fun Bag - Sakura Asih	116,847	123,493	(6,646)	Undercosting
MPO 1- Kenizha	55,178	52,622	2,556	Overcosting

Source: data processed by researchers

Based on the comparison table above, it shows that the cost of production of the HPO-6 Beagle using the traditional costing system is lower (undercosting) compared to the cost of production of the activity-based costing system with an undercosting difference of IDR 749. Furthermore, the cost of production of HPO-8 Anteros using the traditional costing system compared to the cost of production of the activity-based costing system experienced overcharging of IDR 2,038. Then, the cost of production of Fun Bag Sakura Asih using the traditional costing system compared to the cost of production of the activity-based costing system experienced undercosting of IDR 6,646. And, the cost of production of the Kenizha model MPO (Mini Pouch Organizer) using the traditional costing system compared to the cost of production of the activity-based costing system experienced an overcharge of IDR 2,556.

This cost distortion occurs because the company uses a traditional costing system in calculating the cost of production and only uses one allocation base, namely based on the number of production units. Meanwhile, if you use an activity-based costing system to charge factory overhead costs using several cost drivers, it will be appropriate to charge.

In line with research by Rumampuk (2013: 638), that the burden of factory overhead costs with one cost pool in the traditional costing system will result in costs arising from activities and transactions that are not related to the number of units produced by the company which causes the allocation of factory overhead costs to be less appropriate.

IV.4 Comparison of selling prices from the cost of production of traditional costing systems and activity-based costing systems

Based on sales price determination data, CV Media's profit percentage calculation is determined at 15% (fifteen percent) of the cost of production. The company expects a profit of 15% from each product, so for the Beagle model HPO-6 (Hand Pouch Organizer) product the selling price is IDR 67,085 and the profit is IDR 8,750. Then, the selling price for the Anteros model HPO-8 (Hand Pouch Organizer) product was determined at IDR 77,937 with a profit of IDR 10,166. Then, for the Sakura Asih model Fun Bag (Functional Bag) product, the selling price was set at IDR 142,017 with a profit of IDR 18,524. And, for the Kenizha model MPO (Mini Pouch Organizer) product, the selling price is set at IDR 60,515 with a profit of IDR 7,893.

V. CONCLUSION

Based on the results of the research that has been carried out, the conclusion obtained is that with this comparison, business owners can avoid too much cost distortion so that they are not excessive or insufficient. Of course, the selling price given to customers is not too high and is still considered cheap by customers.

REFERENCES

- [1.] Atkinson, Anthony A., Robert S. Kaplan, Ella Mae Matsumura, and S. Mark Young. 2012. *MANAGEMENT ACCOUNTING*. Vol. 14. sixth edit. edited by S. Wall. United States of America: Pearson Education Inc.
- [2.] Basu, Swastha, and Irawan. 2005. *Modern Marketing Management*. Yogyakarta.
- [3.] Carter, William K. 2009. *Cost Accounting*. 14th ed. edited by IJ Dewi. Jakarta: Salemba Empat.
- [4.] Cooper, Robin, and Robert S. Kaplan. 1991. *The Design of Cost Management Systems: Text, Cases, and Readings*. New Jersey: Prentice Hall International.
- [5.] Dunia, Firdaus Ahmad, and Wasilah Abdullah. 2012. *Cost Accounting*. 3rd ed. edited by ES Suharsi. Jakarta: Salemba Empat.
- [6.] Dunia, Firdaus Ahmad, Wasilah Abdullah, and Catur Sasongko. 2019. *Cost Accounting*. 5th ed. edited by E. Suharsi and PP Lestari. Jakarta: Salemba Empat.
- [7.] Garrison, R.H., E.W. Noreen, and P. .. Brewer. 2008. *Managerial Accounting*. Jakarta: Salemba Empat.
- [8.] Garrison, Ray H., Eric W. Noreen, and Peter C. Brewer. 2012. *Managerial Accounting*. 14th ed. edited by S. Mattson. America: Team Vertovec.
- [9.] Hanimah, Nur. 2020. "ANALYSIS OF THE APPLICATION OF THE ACTIVITY BASED COSTING METHOD IN DETERMINING COST OF PRODUCTION (CASE STUDY OF RAIHAN BAKERY AND CAKE SHOP MEDAN)." *North Sumatra State Islamic University* 21(1):1–9.
- [10.] Hansen, Don R., Maryanne M. Mowen, and Liming Guan. 2009. *Cost Management: Accounting and Control*.
- [11.] Horngren, Charles T., Srikant M. Datar, and Madhav V. Rajan. 2012. *Cost Accounting: A Managerial Emphasis*. 14th edit. edited by S. Yagan. United States of America: Pearson Education Inc.
- [12.] Indriantoro, Nur, and Bambang Supomo. 1999. *Business Research Methodology for Accounting & Management*. Pert Edition. Yogyakarta.
- [13.] Julianti, Nurfira. 2017. "IMPLEMENTATION OF ACTIVITY - BASED COSTING SYSTEM AT SWEET KARINA HOTEL BANDUNG." Bandung State Polytechnic.
- [14.] Kotler, P., and Gary Armstorng. 2018. *Principles of Marketing*. 17th Edit. University of North Caroline.
- [15.] Mediansyah, Stephaldy. 2019. "Analysis of the Implementation of the Activity Based Costing System in Determining the Production Cost of CV Mokamula Cimahi." Pasundan University.
- [16.] Mulyadi. 2007. *Activity Based Costing System*. Keen Edition. Yogyakarta: BPF.
- [17.] Mulyadi. 2015. *Activity-Based Cost System*. 6th. Yogyakarta: UPP STIM YKPN YOGYAKARTA.
- [18.] Mulyadi. 2018. *Cost Accounting*. 5th ed. edited by UPP STIM YKPN. Yogyakarta: YKPN College of Management Sciences.

- [19.] Murshidi. 2008. *Cost Accounting, Conventional Costing, Just In Time, and Activity-Based Costing*. Bandung.
- [20.] Murshidi. 2010. *Cost Accounting*. edited by MR Arken. Bandung: PT. Refika Aditama.
- [21.] Rumampuk, Maria. 2013. "Comparison of Calculation of Product Costs Using Activity Based Costing Methods and Conventional Methods in Chicken Farming Businesses Cv. Kharis in Bitung City." *Journal of Economic, Management, Business and Accounting Research* 1(4):637–45.
- [22.] Siregar, Baldric, B. Suropto, D. Hapsoro, and F. Biyanto. 2013. *Management Accounting*. Jakarta: Salemba Empat.
- [23.] Sugiyono. 2016. *Quantitative, Qualitative, and R&D RESEARCH METHODS*. Bandung: Alfabeta.
- [24.] Supriyono. 1999. *Cost Accounting for Cost Collection and Determination of Cost Prices*. Second Edition. Yogyakarta.
- [25.] Supriyono, R. 2007. *No Title Cost Management A Business Management Reformation*. Yogyakarta.