



Implementation of Activity-Based Costing In Calculation of Cost of Production: Participatory Action Research

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ABSTRACT

Companies must have a more competitive advantage than other companies. To maintain its competitiveness, an effective pricing strategy is needed. Companies can set the selling price appropriately if the company can calculate the cost of the product. The cost of production can be calculated using Activity-Based Costing (ABC). ABC is a method used by manufacturing and service companies in measuring the cost of activities, resources, and cost objects. One of the SMEs engaged in the manufacturing sector is the Tanggulangin bag and luggage craft in Sidoarjo Regency which has now become a tourist icon in Sidoarjo Regency because it has good quality with a wide variety of products (Business UKM, 2010). With the development of small and medium-scale businesses, it is hoped that they will be able to absorb labor and improve the economy of the people of the Sidoarjo Regency. This study uses a qualitative approach. While the type of research used is Participatory Action Research. The results of this study indicate that the Activity Based Costing system improves the accuracy of product costing by recognizing that many of the fixed overhead costs vary proportionally with changes other than production volume. By understanding what causes these costs to increase or decrease, these costs can be traced to the individual products. This causal relationship allows the owner to improve the accuracy of product costing, which significantly improves decision-making. The application of

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Activity Based Costing is not only useful for its purpose of pricing but can also be used to improve the way things work. Success in implementing an Activity Based Costing system is not only by understanding the technical details but requires support from the owner and also the employees concerned to work together and take the initiative to implement an Activity Based Costing system.

Keywords: Cost of goods sold; Activity Based Costing; Participatory Action Research

INTRODUCTION

To maintain its competitiveness, an effective pricing strategy is needed, which is not too low and not too high (Cant et al., 2016). Companies can set the selling price correctly if the company can calculate the cost of the product (Maryanti et al., 2019). Inaccuracy in calculating the cost of production can be detrimental to the company. This is because the cost of production is used as the basis for determining the selling price and calculating periodic profit and loss (Rully, 2013).

The cost of production can be calculated using Activity-Based Costing (ABC). ABC is a method used by manufacturing and service companies in measuring the costs of activities, resources, and cost objects (Kumar & Mahto, 2013). This is because ABC identifies the actual costs incurred by the company in the production process so that it can help calculate profits and determine product selling prices (Foroughi et al., 2017).

UKM Bag X which is located in the Tanggulangin Bag and Suitcase Industrial area, Sidoarjo Regency is an SME that is the object of research. These SMEs have internal constraints regarding determining the selling price of their products due to limited human resources in financial management (Kumparan Bisnis, 2018). Sales in one month can reach up to 950 bags produced by 12 employees. Each product produced has several production volumes, levels of complexity, and different characteristics.

LITERATURE REVIEW

Contingency Theory

Fiedler (1978) argues that contingency theory is a leader's suitability theory which means that a leader's performance is determined by his or her understanding of the organizational situation. Etzioni (1964) also argues that contingency theory is based on the



idea that organizational management can run well and smoothly if organizational leaders can pay attention, analyze and solve certain situations that are being faced. Because according to contingency theory, the ultimate goal of an organization is to be able to survive and grow, or it can also be called viability.).

Cost of Production

Calculating the cost of production is an important activity before selling the products that have been produced as the basis for determining the selling price of the product. The company's goal is to determine the cost of goods to measure internal profits earned. In addition, it can be used as a basis for making decisions for product development such as accepting or rejecting orders, making or buying raw materials, and others. The calculation of the cost of production becomes the basis for the company in determining the selling price of the product concerned (Zimmerman & Yahya-Zadeh, 2011).

Activity-Based Costing

Kumar & Mahto (2013) states that ABC is a method for determining actual costs, which is an important aspect of manufacturing and service organizations and can be defined as a methodology for measuring the cost and performance of activities, resources, and cost objects.

There are three benefits of implementing ABC according to Cooper and Kaplan (1991:277),:

1. Improved Decision. Calculation of product costs using ABC produces more accurate information so that company management can make the right decisions because it avoids the distortions that occur in calculating product costs using traditional systems.
2. Continuous Improvement Activities to Reduce Overhead Costs, which are cost savings that can be carried out by handling raw materials more efficiently without having to lower the purchase price of raw materials and reschedule production. Accompanied by continuous improvement of activities and the use of better information, these cost savings should be achieved.
3. Ease of Determining Relevant Costs. ABC is used to obtain relevant information in decision-making by increasing the accuracy of product cost reports.

METHODS

This study uses a qualitative approach. A qualitative approach is used to obtain details about phenomena that are difficult to trace or understand using more formal research methods (Strauss & Corbin, 2008). While the type of research used is Participatory Action Research (PAR). PAR is a collaborative study between researchers and participants that is oriented to actual action. Berg & Lune (2017: 138) also argues that PAR is a collaboration between researchers and the public to form a social relationship and take actual action to create the expected conditions.

Research Stages

This study uses the stages of PAR research proposed by Lune & Berg (2017: 139), as follows:

1. Identifying the Research Question(s)

Researchers and participants cooperate in observing the problems that exist in the research location. Researchers and participants jointly formulate research questions that can be accounted for.

2. Gathering the Information to Answer the Question(s)

After identifying the problem, the next stage is that the researcher and the participants formulate an action plan that will be carried out in the next stage. The action plan in this stage includes the formulation of the calculation of the cost of production using the ABC system.

3. Analyzing and Interpreting the Information

At this stage, researchers and participants jointly analyze the information that has been collected. The researcher begins to act according to the planning in the previous stage.

4. Sharing the Results with the Participants

Next, the researcher will share the results of his findings. What information is obtained after the formulation of the ABC system? Can the owner apply the ABC system that has been formulated? Are there any changes before and after using the new calculations and other findings?



RESULT AND DISCUSSION

Exposure to UKM X Bag Data in Calculation of Cost of Production

This research has four stages in PAR research which will provide solutions for UKM Tas X. The stages of PAR research include:

1. Identifying the Research Question(s)

In this stage, the researcher begins to look for the root of the problem related to the calculation of the cost of production. The owner and the researcher discuss the problems that are being faced while running this business. The condition seen in the initial observations is that the owner still uses the traditional method of calculating the cost of production, namely calculating the total costs incurred for production and then dividing it by the number of bags produced. Meanwhile, the determination of the selling price is obtained from the addition of the cost of production with a minimum profit. The limited knowledge of the owner in calculating the cost of production of bags causes the determination of the selling price to be inappropriate.

Based on the results of problem identification carried out with the owner, an agreement was made that the problem being faced in this UKM is related to the difficulty in calculating the cost of production so that the actual profit cannot be known.

2. Gathering the Information to Answer the Question(s)

In the second stage, researchers together with the owner formulate an action plan to solve the problems that occur. The owner and researcher agree to create an ABC system that can be applied to calculate the cost of production. The hope of applying the ABC method is that the owner can determine the right selling price.

3. Analyzing and Interpreting the Information

At this stage, the first thing the researcher did was copy the data obtained from UKM into Ms. Excel. The data is in the form of a list of products as well as overhead costs and labor wages.

3.1 Product List

Table 3.1 Table of Types of Products, Prices, and Total Sales for 2021

No	Product name	Quantity	Price / Unit	Sales Total
1	Lunch Bag A	4.051	32.000	129.632.000
2	Lunch Bag B	2.174	29.000	63.046.000
3	Birdhouse Bag	2.056	11.000	22.616.000
4	Chicken Cage Bag A	1.776	25.000	44.400.000
5	Chicken Cage Bag B	1.351	25.000	33.775.000
	Total	11.408		293.469.000

Based on the record costs in 2021, there are several types of costs that are categorized as overhead costs.

Table 3.2 Table of Overhead Costs for 2021

No	Charge Type	Total Cost
1	Biaya Gaji Karyawan	155.520.000
2	Biaya Listrik	25.200.000
3	Biaya Pengiriman	42.780.000
4	Biaya Komunikasi / Telp	2.844.000
5	Biaya Pemeliharaan Mesin	5.508.000
	Total	231.852.000

The activity of UKM Bag X

Activity identification is carried out in three parts, namely

1. Purchasing Department

The activities of the Purchasing section are related to the procurement of goods for production, namely:

- 1) Purchasing raw materials and auxiliary materials or goods needed to support production activities
- 2) Monitoring the purchase orders that have been issued by the purchasing department

2. Warehouse Section

Warehouse activities are activities related to the storage of raw materials, auxiliary materials, and finished materials. The activities are:



- 1) Make requests for the procurement of raw materials and auxiliary materials to the purchasing department and accept the arrival of raw materials and auxiliary materials based on information obtained from the purchasing department
- 2) Carry out storage of finished products and monitor the availability of stock of finished goods

3. Production Department

The activities of the production department are:

- 1) Bag production
- 2) Doing handover over finished products to the warehouse.

Assigning Costs to Activities

The cost of resources can be obtained from the overhead report, but how much is spent on each activity cannot be seen. So it becomes important to assign resource costs to activities using direct tracing or driver tracing or allocations. The following resource driver is used to assign resources to activities.

Resources	Resources Drivers
Employee	Salary Cost Labor Hours
Electricity	Cost Based on Kwh Direct Loading Shipping Fees
Communication	Fees Charged Directly Through the Measurement of Individual Credit Usage
Machine Maintenance	Cost Based on Order

Data Processing for Preparation of Activity Cost Reports

Costs are allocated by section according to the costs incurred in that section. The next stage is to determine how much it will cost to perform each activity. This requires identifying the resources consumed by each activity. The next stage is the preparation of activity cost reports.

Table 3.3 Allocation of Overhead Costs per Section

Cost	Purchasing Section	Warehouse Department	Production Department
Employee Salary Expenses	12.960.000	25.920.000	116.640.000
Electricity cost	2.433.000	4.866.000	17.901.000
Shipping costs	0	42.780.000	0
Communication / Telephone Fees	2.844.000	0	0
Machine Maintenance Costs	0	0	5.508.000
Total Overhead Costs	18.237.000	73.566.000	140.049.000

Imposition of Costs on Products

After the cost of the activity is calculated, the cost can be assigned to the product in proportion according to the activity of its use, as measured by the activity driver. This charge is settled by calculating a predetermined activity rate and multiplying this rate by the activity's actual usage.



Table. 3.4 Imposition of Costs on Products

Activities	Total Cost	Basic Quantity of Cost Allocation		Overhead Cost Allocation Rates
		Number of Drivers	Activity Cost Drivers	
Purchasing Department				
Making Purchases of Raw Materials	13.023.360	457	Purchase Order	28.497,5
Monitor POs	5.213.360	457	Purchase Order	11.407,7
Warehouse Department				
Storing Raw Materials, Auxiliary Materials, and Finished Materials	12.960.000	11.408	Number of Production Units	1.136
Monitor Finished Materials	12.960.000	11.408	Number of Production Units	1.136
Production Department				
Bag Production	100.978.560	11.408	Number of Production Units	8.851,5
Handover of Production Results to the Warehouse Section	39.070.440	11.408	Number of Production Units	3.424,8

In the last stage, the researcher shared the results of the calculation of the ABC method with the owner of UKM Bag X. Furthermore, the owner of UKM Bag X could apply it to his business.

CONCLUSION

The Activity-Based Costing system improves the accuracy of product costing by recognizing that many of the fixed overhead costs vary in proportion to changes other than production volume. By understanding what causes these costs to increase or decrease, these costs can be traced to the individual products. This causal relationship allows the owner to improve the accuracy of product costing, which significantly improves decision-making. Based on the results of the research and conclusions above, the researcher would like to provide the following suggestions: Distorted information about the profit/loss of a product can cause companies to try to keep receiving orders to produce products that are not profitable so that the company will unconsciously experience losses. On its operations. Seeing these conditions, it is suggested to UKM bag X review the cost calculation system that has been used so far and start considering implementing an Activity Based Costing system. The application of Activity Based Costing is not only useful for its purpose of pricing but can also be used to improve the way things work. Success in implementing an Activity Based Costing system is not only about understanding the technical details. Support is needed from top management as well as related managers to work together and take the initiative to implement an Activity Based Costing system.

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