

Application of the Activity Based Costing Calculation Method in Determining the Cost of Production PT. Sakura Makmur Wijaya in the city of Surabaya

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Abstract

The research carried out by this researcher was a qualitative descriptive study by obtaining data through documentation, literature study, observation and interviews. This research aims to compare whether determining the cost of production using the Activity-Based Costing method is more appropriate than using the traditional method at PT. Sakura Makmur Wijaya. Researchers took samples of products produced by the company, namely gondola shelves, bookshelves and warehouse shelves in 2016. Calculating the cost of production using traditional methods which are currently still carried out by the company, the results for gondola shelves were IDR. 10,329,489,695.58, bookshelf Rp. 3,448,701,959.66, and warehouse shelves amounting to Rp. 1,290,430,635.75. Meanwhile, using the Activity Based Costing method, the results obtained for Gondola Shelves were IDR 10,322,044,996.50, for Bookshelves IDR 3,444,432,305.13, and for Warehouse Shelves IDR. 1,302,144,989.37. The results of the research show that calculating the cost of goods manufactured using the Activity Based Costing System when compared with the traditional system calculation gives lower results for Gondola Shelf and Bookcase products, except for Warehouse Shelves. Differences occur due to overhead rates being charged for each product. In the traditional system, the costs for each product are only charged to one cost driver, namely the product units produced. Meanwhile, in the Activity-Based Costing System method, factory overhead costs for each product are charged to many cost drivers, so that the Activity Based Costing System is able to track the costs incurred by product types precisely based on the consumption of each activity required and can be used as an alternative by company in allocating its costs.

Penerapan Metode Perhitungan Activity Based Costing Dalam Penentuan Harga Pokok Produksi PT. Sakura Makmur Wijaya di kota Surabaya

Abstrak

Penelitian yang dilakukan peneliti ini merupakan penelitian deskriptif kualitatif dengan perolehan data melalui dokumentasi, studi literatur, observasi dan wawancara. Penelitian ini bertujuan untuk membandingkan apakah penentuan harga pokok produksi dengan menggunakan metode Activity-Based Costing lebih tepat dibandingkan dengan menggunakan metode tradisional pada PT. Sakura Makmur Wijaya. Peneliti mengambil sampel produk yang dihasilkan oleh perusahaan yaitu rak gondola, rak buku dan rak gudang pada tahun 2016. Menghitung harga pokok produksi dengan cara tradisional yang saat ini masih dilakukan oleh perusahaan, diperoleh hasil rak gondola sebesar Rp. 10.329.489.695,58, rak buku Rp. 3.448.701.959,66, dan rak gudang sebesar Rp. 1.290.430.635,75. Sedangkan dengan menggunakan metode Activity Based Costing diperoleh hasil untuk Rak Gondola sebesar Rp10.322.044.996,50, Rak Buku Rp3.444.432.305,13, dan Rak Gudang Rp. 1.302.144.989,37. Hasil penelitian menunjukkan bahwa perhitungan harga pokok produksi dengan menggunakan Activity Based Costing System jika dibandingkan dengan perhitungan sistem tradisional memberikan hasil yang lebih rendah untuk produk Rak Gondola dan Rak Buku, kecuali Rak Gudang. Perbedaan terjadi karena tarif overhead yang dikenakan pada masing-masing produk. Pada sistem tradisional, biaya setiap produk hanya dibebankan pada satu cost driver yaitu unit produk yang diproduksi. Sedangkan pada metode Activity-Based Costing System, biaya overhead pabrik untuk setiap produk dibebankan ke banyak cost driver, sehingga Activity Based Costing System mampu melacak biaya-biaya yang dikeluarkan oleh jenis produk secara tepat berdasarkan konsumsi setiap aktivitas yang dibutuhkan. dan dapat dijadikan alternatif oleh perusahaan dalam mengalokasikan biayanya.

INTRODUCTION

Background of the problem

In general, every company founded has the aim of achieving its vision and mission and being able to maintain the company's survival (going concern) by seeking as much profit as possible. The increasing number of new business competitors emerging accompanied by increasingly sophisticated technology currently has a big influence on the rate of development of each company. For this reason, companies must be clever in taking steps efficiently in utilizing existing technology and resources, so that they can support the company's operational activities in innovating product development such as product concepts, product

designs and product prices that are in line with the quality and expectations of consumers. How large or small the price of a product being sold greatly influences the product's position in the market.

Production costs tend to experience changes caused by several factors, including increases in labor costs adjusted to the Regional Minimum Wage (UMR) set by the government, increasingly expensive raw material costs and increases in Factory Overhead Costs (FOH).

The aim of calculating the cost of production is to determine the total production costs incurred by the company which include the costs of raw materials, direct labor and factory overhead

costs. The cost of production greatly influences the size of the profit/loss obtained by the company which is presented in the financial statements.

PT. Sakura Makmur Wijaya is a company engaged in the production of supermarket shelves and warehouse shelves. In its production process, this company uses raw materials such as sheet iron plate, stainless plate, iron wire, aluminum profiles and the like. Calculation of the cost of production at PT. Sakura Makmur Wijaya still uses traditional cost methods.

According to Milton & Hammer (1991;12), the traditional cost calculation method is allocating manufacturing costs to product units in ending inventory and to units sold during one period.

The use of traditional calculation methods is to simplify the calculation of cost assignments because costs are charged on the number of units produced, machine hours and direct labor hours. Due to the different work stages for each product item, the company management of PT. Sakura Makmur Wijaya decided to use traditional cost calculation methods.

As the company develops, many new competitors appear whose product quality is also good. This new competitor sells its products at competitive prices in the market. This is an obstacle for companies to increase their development. Gradually the prices given by the company became less competitive with those of its new competitors.

Calculating the cost of production using the traditional method currently used by companies is considered less accurate because the costs are directly charged to the volume of product units produced, resulting in cost distortions. According to Hansen and Mowen (2013; 169) cost distortion is the overall rate of a factory or department no longer assigning overhead costs appropriately to each product. For example, if costs are distorted and cost calculations are too high for a major product with large volumes, then bids submitted will systematically lose

even though the company feels it has used an aggressive bidding strategy.

LITERATURE REVIEW

Theoretical basis

Understanding Cost Accounting

Cost Accounting according to William (2009:11) is widely considered as a way of calculating the value of inventory reported on the balance sheet and cost of goods sold figures presented in the income statement, cost accounting equips management with the tools necessary for planning and controlling activities, quality improvement and efficiency, as well as decision making both routine and strategic.

Cost accounting is the process of recording, classifying, summarizing and presenting costs, manufacturing and selling products or services, in certain ways, as well as interpreting them (Mulyadi, 2016; 7)

From the understanding of several experts above, it shows that cost accounting is a means or way to present cost information that has occurred in financial reports for decision making by company management.

Objectives of Cost Accounting

According to William (2009;11) the collection, presentation and analysis of information regarding costs and benefits helps management to complete the following tasks:

1. Create and implement plans and budgets for operations in previously predicted competitive and economic conditions.
2. Determine cost calculation methods that enable activity control, reduce costs and improve quality.
3. Control the physical quantity of inventory, and determine the costs of each product and service produced.
4. Determine the company's costs and profits for one year or another shorter period.
5. Choose between two or more short-term or long-term alternatives, which can change revenues or costs.

According to Mulyadi (2016;7) cost accounting has three main objectives:

1. Determining product costs.
2. Cost control and,
3. Making specific decisions.

To fulfill the purpose of determining product costs, cost accounting records, classifies and summarizes the costs of making products or providing services.

Understanding Costs

Accountants define costs as resources sacrificed or forgone to achieve certain goals (Charles, 2008;31).

According to Hansen and Mowen (2013;47) costs are cash or cash equivalent values sacrificed to obtain goods or services that are expected to provide current or future benefits for the organization. Costs are said to be cash equivalents because noncash sources can be exchanged for desired goods or services.

Meanwhile, according to William (2009;30), accountants have defined costs as "an exchange rate, expenditure or sacrifice made to guarantee the acquisition of benefits.

Meanwhile, according to Mulyadi (2016; 8), the definition of costs in a broad sense is the sacrifice of economic resources, measured in units of money, which has occurred or which is likely to occur for a particular purpose. Meanwhile, in a narrow sense, costs can be interpreted as sacrificing economic resources to obtain assets (Mulyadi, 2016;9).

According to Hansen and Mowen (2013; 47), when costs have been spent in the process of generating income, the costs are declared expired.

Cost Classification

According to Mulyadi (2016;13), generally the classification of costs is determined on the basis of the objectives to be achieved with the classification, because in cost accounting the concept is known: "different costs for different purposes".

Success in planning and controlling costs depends on a thorough understanding of the relationship between costs and business activities (William, 2009;68).

Cost classification is very important for company management to know the presentation of cost assignments to cost objects. According to William (2009;31), a cost object or cost objective is defined as an item or activity whose costs are accumulated and measured. Cost classifications include the following:

1. Production Costs

According to Mulyadi (2016;14) production costs are the costs incurred to process raw materials into finished products that are ready to be sold. Meanwhile, according to Hansen and Mowen (2013; 57) production costs can be further classified as direct materials, direct labor and overhead.

Production costs are further classified into:

- a. Direct Material Cost
- b. Direct Labor
- c. Overheads

The combination of various production costs leads to the concepts of conversion costs and prime costs. Prime costs are all direct manufacturing costs. Conversion costs are all manufacturing costs other than direct material costs, these costs show all manufacturing costs that occur to convert direct materials into finished goods (Charles, 2008;48).

2. Non-Production Costs

Non-production costs consist of two general categories: selling costs and administrative costs (Hansen and Mowen, 2013;59).

- a. Marketing Costs
- b. Administration Fees
3. Direct Costs
4. Indirect Costs
5. Variable Costs
6. Fixed Costs

Cost of goods sold

Charles (2008;45) cost of goods manufactured is the cost of goods purchased to be processed

until completion, both before and during the current accounting period.

Hansen and Mowen (2013;55) product cost is a cost assignment that supports specific managerial objectives. The value chain cost of a product is obtained by assigning costs to a series of activities that define the value chain, then assigning the costs of those activities to the product. The cost of goods manufactured reflects the total cost of goods completed during the current period (Hansen and Mowen 2013;60).

Elements of Cost of Goods Production

According to Hansen and Mowen (2013;60) costs that are only charged on completed goods are manufacturing costs from direct materials, direct labor and overhead. The details of these costs are described in a supporting list which is referred to as the cost of production report.

From this explanation, it can be concluded that to obtain results in the form of cost of production, 3 important elements are needed which are used as the basis for the calculation, namely: direct raw material costs, direct labor costs and factory overhead costs.

Benefits of Cost of Goods Production

According to Mulyadi (2016;65) in mass production companies, information on the cost of production calculated for a certain period of time is useful for management to:

1. Determine the selling price of the product.
2. Monitor the realization of production costs.
3. Calculate gross profit or loss for a certain period.
4. Determine the cost of inventory of finished products and products in process which are presented in the balance sheet.

Cost Accumulation

According to William (2009; 123), the cost system mentioned previously can be used with

job order costing, with process costing, or with other cost accumulation methods.

1. Job order costing system

According to Mulyadi (2016;39) in companies whose production is based on orders, information on the cost of production per order is useful for management to:

- a) Determine the selling price that will be charged to the customer.
- b) Consider accepting or rejecting the order.
- c) Monitor the realization of production costs.
- d) Calculate the profit or loss for each order.
- e) Determine the cost of inventory of finished products and products in process which are presented in the balance sheet.

2. Cost calculation system based on process (process costing).

According to William (2009; 124), process costing accumulates costs based on departments. Process costing is used when all units performed in a department or other work area are homogeneous, or when there is no need to differentiate one unit from another, or when it is impractical to do so.

Traditional Costing Method

Understanding Traditional Cost Methods

According to Milton & Hammer (1991;12), the traditional cost calculation method is allocating manufacturing costs to product units in ending inventory and to units sold during one period. In a fiscal year, matching costs to revenues will produce profits for that period.

Variable manufacturing costs will be allocated to units produced, which will then be charged to units sold. Meanwhile, non-manufacturing variable costs (variable non-manufacturing costs) are usually charged directly to the units sold (Milton and Hammer, 1991;12).

Weaknesses of Traditional Calculation Methods
According to Garrison and Norren (2016;339), the weaknesses of traditional cost systems include:

1. Traditional cost accounting methods
2. Traditional method
3. Charging costs that are too high for products with high volumes and charging costs that are too low for products with low volumes can cause errors in decision making.

The limitations of traditional cost accounting systems were stated by Hansen and Mowen (2013; 168) that the overall factory rates and departmental rates that have been used for decades do not function well and can cause large product cost distortions. Distortion of production costs for some companies can be detrimental to the company, especially for companies characterized by increased or tight competitive pressure (often occurring at the global level), continuous improvement, TQM, customer satisfaction and advanced technology. According to Hansen and Mowen (2013; 169) organizations often experience certain symptoms that indicate their cost accounting system is outdated. Symptoms of an outdated traditional cost system include:

1. The results of the offer are difficult to explain.
2. Competitors' prices appear unreasonably low.
3. Products that are difficult to produce appear to show high profits.
4. The operations manager wants to discontinue products that appear profitable.
5. Profit margins are difficult to explain.
6. Customers do not complain about the cost of price increases.
7. The accounting department spends a lot of time providing cost data for special projects.
8. Product costs change due to changes in financial reporting regulations.

There are two main factors that cause the inability of overall factory and departmental rates based on units to charge overhead costs appropriately, including:

1. The proportion of overhead costs that are not related to units to total overhead costs is large.
2. The level of product diversity is large.

Advantages of Traditional Calculation Methods

The advantages of calculating the traditional cost system according to Hongren, (2005:42) are:

1. The traditional cost calculation system is easy to implement because this system is simpler and easier for workers to understand so it is easy to apply.
2. Provide management reports showing the costs incurred.
3. In accordance with generally accepted accounting principles.

Activity Based Costing Method

Understanding the Activity Based Costing Method

According to Charles (2008; 168), the ABC system calculates the costs of each activity and assigns costs to cost objects such as products and services based on the activities required to produce each product or service.

Meanwhile, the same opinion was also conveyed by William (2009; 528), activity based costing (ABC) is defined as a cost calculation system in which more than one overhead cost is allocated using a basis that includes one or more factors. not related to volume (non-volume related factor). Compared to traditional cost accounting, ABC reflects a more thorough implementation of cost tracking. ABC calculations recognize that many costs – other costs can in fact be traced – not to units of output, but rather to the activities required to produce the output.

In ABC, the basis used to allocate overhead costs is called the driver (William 2009; 528). A cost driver is a variable, such as activity level or volume, on which costs are incurred within a certain time period. This means that there is a causal relationship between changes in activity levels or volumes and changes in total cost levels (Charles, 2008;37).

Cost Hierarchy in Activity Based Costing.

A cost hierarchy categorizes indirect costs into different cost pools based on the type of cost driver, or different cost allocation bases, or different levels of difficulty in determining cause-effect relationships (or benefits received). ABC systems typically use a cost hierarchy in four levels – output unit level costs, batch level costs, product support costs, and facility support costs – to identify cost allocation bases that, where possible, are the cost drivers of the costs in the activity cost pool (Charles, 2008;171). The following is the explanation:

1. Output Unit Level Costs (Output Unit - Level Cost)
2. Batch Level Costs (Batch Level Costs)
3. Product Support Costs
4. Facility Support Costs (Facilities – Sustaining Costs)

Basic Concepts of Activity Based Costing Systems

The ABC system can provide information about activities and their costs. Knowing what activities are performed and their costs allows managers to focus their attention on activities that can create opportunities for cost savings. There are two basic beliefs that underlie the activity based costing system according to Mulyadi (2007:52), namely:

1. Cost caused
2. The causes of costs can be managed

Identifying and Assessing Value Content

According to Hansen and Mowen (2013; 237) the core of process value analysis is activity analysis. Activity analysis should show four results:

- a. What activities are carried out.
- b. How many people do the activity.
- c. The time and resources required to perform various activities
- d. Assessment of the value of activities to the company, including suggestions for selecting and retaining value-adding activities.

These various activities can be classified as value added or non-value added.

1. Value added activities

Value added activities according to Hansen and Mowen (2013; 237) are various activities needed to survive in business which are called value added activities. Various other activities in the company are discretionary activities. Discretionary activities are classified as value-added activities if they simultaneously fulfill various conditions:

- a. Activities that result in changes in conditions.
- b. Changes in conditions that could not be achieved through previous activities.
- c. Activities that allow various other activities to be carried out.

Value-added costs are various costs that arise from carrying out various value-added activities with perfect efficiency.

2. Non-value added activities.

All activities other than the activities that are most important for remaining in business and therefore deemed unnecessary, are referred to as non-value added activities (Hansen & Mowen, 2013; 238).

According to Hansen & Mowen (2013; 238), non-value added activities can be identified through their inability to fulfill one of the three conditions mentioned above. Non-value-added costs are various costs caused by value-added activities. Due to increased competition, many companies are trying to eliminate non-value-added activities because they add unnecessary costs and suppress performance.

According to Hansen & Mowen (2013;239) examples of non-value added activities include:

A. Scheduling

An activity that uses time and resources to determine when different products have access to the process (or when and how much adjustment should be made) and how much to produce.

B. Displacement

An activity that uses time and resources to move raw materials, work in progress, and finished goods from one department to another.

C. Waiting time

An activity where raw materials or goods in process use time and resources to wait for the next process.

D. Inspection

An activity in which time and resources are used to ensure that a product meets its specifications.

E. Storage

An activity that uses time and resources where the related goods or raw materials remain in inventory.

Continuous improvement brings the goal of cost reduction. Various efforts to reduce the costs of various existing products and processes will be referred to as Kaizen cost calculations. Competitive conditions force companies to deliver the products that customers want on time at the lowest possible cost. This means the company must continue to strive to improve its costs. Activity analysis is an important element in Kaizen cost calculations. Activity analysis can reduce costs in four ways:

1. Elimination of activities

Activity elimination focuses on various activities that do not add value. If activities that fail to add value have been identified, then measurements must be taken to direct the company to eliminate these activities.

2. Selection of activities

Activity selection involves selecting different sets of activities brought about by several conflicting strategies. Different strategies can lead to different activities, for example, they can require very different activities. If other things do not change, then the lowest cost product design strategy should be chosen.

3. Reduction of activity

Cost reduction reduces the time and resources an activity requires. Tuning activities are required activities and are often cited as examples that should involve less time and resources in them.

4. Unification of activities

Specifically, the quantity of a cost driver is increased without increasing the total cost of the associated activity and the amount of costs traceable to the products that use that activity. For example, a new product may be designed to use components that have been used for previous products. By using existing components, various activities related to those components already exist and the company avoids creating an entirely new set of activities.

Advantages of the Activity Based Costing system.

The benefits of implementing an Activity-Based Costing system according to Dunia and Abdullah (2012;328), are as follows:

1. Help identify inefficiencies that occur in the production process, either per department, per product or per activity.
2. Helps make better decisions because cost calculations for a cost object become more accurate.
3. Helps control costs (especially factory overhead costs) at the individual and departmental levels.

Activity-Based Costing System makes it easier to determine costs that are less relevant in Traditional Systems. Many less relevant costs are hidden in the Traditional System. A transparent Activity Based Costing System means that these cost sources can be identified and eliminated. In addition, the Activity-Based Costing System supports continuous improvement through activity analysis. Activity-Based Costing System allows corrective action for activities that do not add value or are less efficient. This is closely related to company productivity issues.

Weaknesses of the Activity Based Costing system.

Apart from having advantages, the ABC system calculation also has weaknesses (Garrison and Noreen, 2016; 337) including:

1. Implementing ABC is a large project that requires large resources. When implemented, ABC will be more expensive to maintain than traditional costing processes – data related to various activity measures must be collected, checked, and entered into the system periodically. The benefits of increased accuracy may not be worth the costs.

2. ABC data can easily be misinterpreted and must be used with caution when making decisions. Costs are assigned to products, customers, and other cost objects only when they are potentially relevant. Before making significant decisions using ABC data, managers must identify the costs that are truly relevant to the decision at that time.

3. Generally, the reports produced by the best ABC system do not comply with applicable financial accounting standards. Consequently, organizations using ABC must have two different cost systems – one for internal users and one for preparing external reports. This is more expensive than using one system and can cause confusion about which system to trust and rely on.

Traditional Method Calculation Stage

According to Hansen Mowen (2013; 166), determining the cost of production based on a function system has 2 stages.

1. First Stage

In the first stage, the overall factory overhead costs are divided and assigned to each department. When costs are assigned to each production department, unit-based drivers – such as direct labor hours (for labor-intensive departments) and machine hours (for machine-heavy departments) – are used to calculate departmental rates for products processed by the various departments assumed to use resources overhead power in proportion to the drive based on departmental units (such as machine hours or direct labor hours used).

2. Second Stage

Next, in the second stage, overhead is charged to products by multiplying the department rate by the number of drivers used by the relevant department. The amount of overhead charged

to a product is simply the sum of the number of overheads charged to each department.

The rationale for departmental rates is simple. Some production departments may use more overhead than others. Products that take up more time in departments that use a lot of overhead should be charged more overhead than products that take up less time. Departmental rates take this into account, while overall factory rates do not take this into account because they use averages.

Activity Based Costing Method Calculation Stage

According to Charles (2008;172), understanding the basic concepts of ABC is used to improve simple cost calculation systems. The seven-step cost calculation approach and three guidelines for improving the cost calculation system are improving direct cost tracking, creating a homogeneous indirect cost pool, and identifying cost allocation bases that have a cause and effect relationship with costs in the existing cost pool. The following are guidelines for implementing the ABC system steps as follows:

1. Identify the product that is the cost object.
2. Identify the direct costs of the product.
3. Choose a cost allocation basis that will be used to allocate indirect costs to products.
4. Identify the indirect costs associated with each cost allocation basis.
5. Calculate the rate per unit of each cost allocation basis used to allocate indirect costs to products.
6. Calculate indirect costs allocated to products.
7. Calculate the total product cost by adding all direct and indirect costs.

According to Garrison and Norren (2016;319) there are stages for implementing ABC:

1. Stage - 1: Identify activities, cost pools, and activity measurements

The first main step in implementing an ABC system is identifying the activities that will

become the basis of the system. When combining activities in an ABC system, activities should be combined together at the appropriate level, selecting activity cost pools and activity sizes. Activity cost pools and activity measurements depend on the number of decisions involved, the number and definition of activity cost pools and activity measurements used by the company vary for each company. Based on the description above, for the first stage it is necessary to classify costs incurred based on activity at each level. including output unit level, batch level, product support level and facility support level.

2. Stage - 2: Charge overhead costs to the activity cost pool

The first stage allocation in the ABC system is the process of assigning functional overhead costs originating from the company's general journal to the activity cost pool. This allocation will be more accurate if employees who are classified as indirect labor (supervisors, technicians and quality inspection personnel) are asked what percentage of time they spend on customer orders, product design, number of orders and dealing with customers. According to Charles (2009; 528) in ABC, the basis used to allocate overhead costs is called the driver. Resource drivers are the basis used to allocate costs from a resource to various different activities that use that resource. Based on the description above, the next stage is collecting and processing data relating to the time used for customer orders, product design, number of orders and dealing with customers.

3. Stage - 3: Calculate activity rates.

The activity rates that will be used to assign overhead costs to products and customers are calculated in determining the total activity for each cost pool that the company is expected to produce for the current production mix and to serve its current customers. According to Garrison and Norren (2016; 324) in calculating rates The following activities are how:

$$\text{Activity Rate} \quad : \quad \frac{\text{Total Cost}}{\text{Total Activity}}$$

Based on the description above, at this stage the activity rate (pool rate) will be calculated for each cost incurred based on the cost driver (cost driver).

4. Stage - 4: Assign overhead costs to cost objects.

The fourth step in implementing ABC is called second-stage allocation. In the second stage of allocation, activity rates are used to assign product and customer costs.

According to Garrison and Norren (2016;327) the way to assign overhead costs to cost objects is:

$$\text{BOP is charged: Activity Rate} \times \text{Activity used}$$

Based on the description above, at this stage the assignment of factory overhead costs to cost objects will be calculated by means of activity rates that have been calculated based on the cost driver in the third stage multiplied by the activities used.

5. Stage 5: Prepare management reports
Common management reports created with ABC data are product and customer profitability. These reports help companies connect their resources to more profitable growth opportunities while at the same time improving products and customers that can generate profits.

Differences between Traditional Methods and Activity Based Costing Methods.

The following are the differences between traditional methods and activity based costing methods put forward by several experts:

1. Traditional methods tend to rely too heavily on unit-level allocation bases such as direct labor hours and machine hours, whereas ABC estimates the costs of resources consumed by cost objects such as products and customers. Activities form a relationship between costs and cost objects (Garrison and Noreen, 2016;339).

2. ABC reflects the application of more comprehensive cost tracking. Traditional product costing traces only direct material costs and direct labor costs to each unit of output. In

contrast, ABC recognizes that many costs – other costs can in fact be traced – not to units of output, but rather to the activities required to produce the output. (William, 2009;528).

3. ABC recognizes activities, activity costs, and activity drivers at different levels of aggregation in one production environment. The four levels commonly identified are Unit, Batch, Product and Plant. The nature and variety of activity triggers distinguish ABC from traditional cost calculations (William, 2009:529).

4. The ABC system is a two-stage cost calculation system, while the traditional system can be a one- or two-stage calculation system (William, 2009:533).

5. When implemented, ABC will be more expensive to maintain than traditional costing processes – data relating to various activity measures must be collected, checked and entered into the system periodically (Garrison and Noreen, 2016;337).

Conceptual Framework

METHOD

RESEARCH METHODS

Research methods are basically a scientific way to obtain data with specific purposes and uses (Sugiono, 2015;2).

In this research, the author analyzes the calculation of the Cost of Goods Production at PT. Sakura Makmur Wijaya uses the Activity Based Costing (ABC) calculation method to track costs by classifying costs at four levels of activity, including; output unit level costs, batch level costs, product support costs and facility support costs. This test was carried out using a qualitative method approach.

According to Sugiono (2015; 7), qualitative research methods are called new methods because they have not been popular for a long time, they are called postpositivistic because they are based on the philosophy of postpositivism. This method is also called an artistic method, because the research process is more artistic (less patterned), and is called an interpretive method because the research data is more related to what is found in the field.

The cost of goods manufactured is the cost of goods purchased to be processed until completion, both before and during the current accounting period (Charles 2008;45).

In this research, the cost of production is recalculated using the activity based costing calculation method by tracking costs by classifying costs at four levels of activity, including; output unit level costs, batch level costs, product support costs and facility support costs.

Companies that have competence in the fields of marketing, manufacturing and innovation can make its as a source to achieve competitive advantage (Daengs GS, et al. 2020:1419).

The research design is a plan to determine the resources and data that will be used to be processed in order to answer the research question. (Asep Iwa Soemantri, 2020:5).

Standard of the company demands regarding the results or output produced are intended to develop the company. (Istanti, Enny, 2021:560).

Researchers chose to use this method because what was tested would be measured by interviews in the field and taking data in the form of financial reports from the metal products sector manufacturing company PT. Sakura Makmur Wijaya, who lives on Jl. Raya Majjend. Bambang Joewono, KM. 02, Kemangsen – Balongbendo, Sidoarjo.

Data collection technique

According to Sugiono (2015;19) researchers sort data by selecting data that is interesting, important, useful and new. Data that is deemed unusable is removed. Based on these considerations, the data is then grouped into various categories which are determined as the focus of the research.

Qualitative researchers are actually required to carry out grounded research, namely finding theories based on data obtained in the field or social situations (Sugiono, 2015; 214).

The type of data used in writing this thesis by researchers is:

1. Primary Data

According to Sugiono (2015;137) primary sources are data sources that directly provide data to data collectors. At this stage, the researcher looks for data obtained from the results of field research through direct interviews between the researcher and the authorized company that has been appointed by the company.

2. Secondary data

According to Sugiono (2015;137) secondary sources are sources that do not directly provide data to data collectors, for example through other people or through documents. At this stage, researchers looked for data obtained from various written information regarding company data at PT. Sakura Makmur Wijaya and supporting journal documents related to this research.

Data source

The procedure for obtaining the data sources required by researchers in this study is:

1. Documentation

According to Sugiono (2015;138) in conducting interviews, apart from having to bring instruments as a guide for the interview, data collectors can also use tools such as tape recorders, pictures, brochures and other materials that can help the interview run smoothly.

From the expert explanation above, steps can be taken by researchers to obtain data originating from PT's financial reports. Sakura Makmur Wijaya, photos of the machines used for the production process, and photos during interviews with the company. This data is used as a tool for testing and comparing other data obtained through relevant sources.

2. Literature Study

According to Sugiono (2015; 214) in qualitative research, the theoretical basis written in the research proposal functions more to show how far the researcher has theory and understands the problem being studied even though the problem is still temporary. Therefore, the theoretical basis put forward is not a fixed price, but is temporary.

The literature study obtained by the researcher came from literature books and research journals in the form of previous theses which

were used as a reference for comparing data, in order to complete the research study.

3. Observation

Data collection techniques using observation are used if the research concerns human behavior, work processes, natural phenomena and if the number of respondents observed is not too large (Sugiono, 2015; 145).

At this stage, the researcher makes direct observations in order to provide information and data related to the discussion carried out by the researcher.

4. Interview

Interviews are used as a data collection technique if the researcher wants to conduct a preliminary study to find problems that must be researched, and also if the researcher wants to know things from respondents in more depth and the number of respondents is small (Sugiono 2015; 137). At this stage, the researcher conducted questions and answers directly to authorized company staff appointed by the company PT. Sakura Makmur Wijaya to provide information to the author about the situation and conditions of the company.

Data analysis technique

Qualitative data analysis is inductive, namely an analysis based on the data obtained, which is then developed into a hypothesis. Based on the hypothesis formulated based on this data, the data is then searched again and again so that it can then be concluded whether the hypothesis is accepted or rejected based on the data collected. If, based on data that can be collected repeatedly using triangulation techniques, it turns out that the hypothesis is accepted, then the hypothesis develops into a theory (Sugiono, 2015; 245).

In accordance with the explanation above, the researcher analyzed the data obtained from the research results by comparing the calculation of the cost of production using the Activity Based Costing method with the traditional method which is currently still used by the company. Next, the researcher drew conclusions from the comparison results.

RESULT AND DISCUSSION

Cost of Goods Production by Company

To calculate the cost of production, 3 important elements are needed as the basis for the calculation, namely: direct raw material costs, direct labor costs and factory overhead costs. Researchers determined the samples were produced by PT. Sakura Makmur Wijaya based on interviews that have been conducted shows that the sample is representative of all products.

Determining the Cost of Goods Production with a Calculation System

Traditional by PT. Sakura Makmur Wijaya.

The method used by companies to assign factory overhead costs to products, factory overhead costs are accumulated into one unit for the entire factory using a charging basis

$$\text{BOP Rate} : \frac{\text{Actual Overhead}}{\text{Units produced}}$$

Units produced

$$\text{BOP Rate} : \frac{\text{Rp. 2,077,014,821.00}}{12,285 \text{ Product units}}$$

$$= \text{Rp. 169,069.18}$$

Next, overhead is assigned to products by multiplying the department rate by the number of movers used by the relevant department. Here's the calculation:

Overhead charged: Overhead rate X Units produced

a.) Gondola Shelf Products

$$\text{Overhead charged} : \text{Overhead rate} \times \text{Units produced}$$

$$\text{Overhead charged} : \text{Rp. 169,069.18} \times 10,176 = \text{Rp. 1,720,447,929.87}$$

Table 1

HPP Gondola Shelving Products

No.	Production Costs	Total	Total	Costs per unit
1.	Main cost	Rp. 8.609.041.765,71	10.176	Rp. 846.014,32
2.	Overhead costs	Rp. 1.720.447.929,87	10.176	Rp. 169.069,18
Total HPP		Rp. 10.329.489.695,58	10.176	Rp. 1.015.083,50

Source: Company data

b.) Bookshelf Products

$$\text{Overhead charged} : \text{Overhead rate} \times \text{Units produced}$$

$$\text{Overhead charged} : \text{Rp. 169,069.18} \times 1,883 = \text{Rp. 318,357,257.46}$$

Table 2

HPP Bookshelf

No.	Production Costs	Total	Total	Costs per unit
1.	Main cost	Rp. 3.130.344.702,20	1.883	Rp. 1.662.424,16
2.	Overhead costs	Rp. 318.357.257,46	1.883	Rp. 169.069,18
Total HPP		Rp. 3.448.701.959,66	1.883	Rp. 1.831.493,34

Source: Company data

c.) Warehouse Shelf Products

$$\text{Overhead charged} : \text{Overhead rate} \times \text{Units produced}$$

$$\text{Overhead charged} : \text{Rp. 169,069.18} \times 226 = \text{Rp. 38,209,633.66}$$

Table 3

HPP Warehouse Shelf Products

No.	Production Costs	Total	Total	Costs per unit
1.	Main cost	Rp. 3.130.344.702,20	1.883	Rp. 1.662.424,16
2.	Overhead costs	Rp. 318.357.257,46	1.883	Rp. 169.069,18

Total HPP	Rp. 3.448.701.959,66	1.883	Rp. 1.831.493,34
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Source: Company data

The results of calculating the cost of production at PT. Sakura Makmur Wijaya for gondola rack products in table 4.5 amounting to Rp. 1,015,083.50, for bookshelf products in table 4.6 amounting to Rp. 1,831,493.34 and for warehouse shelf products in table 4.7 Rp. 5,709,870.07.

Determining the Cost of Goods Production with a Calculation System

Activity Based Costing.

According to Garrison and Norren (2016;319) there are stages for implementing ABC:

1. First stage: Identify activities, cost pools, and activity measurements.

The first main step in implementing an ABC system is identifying the activities that will become the basis of the system. When combining activities in an ABC system, activities should be combined together at the appropriate level, selecting activity cost pools and activity

sizes. Activity cost pools and activity measurements depend on the number of decisions involved, the number and definition of activity cost pools and activity measurements used by companies varies from company to company.

Time management skills can facilitate the implementation of the work and plans outlined. (Rina Dewi, et al. 2020:14)

Saat mengumpulkan sumber data, peneliti mengumpulkan sumber data berupa data mentah. Metode survei adalah metode pengumpulan data primer dengan menggunakan pertanyaan tertulis(Kumala Dewi, Indri et all, 2022 : 29).

Data analysis in the study was carried out through descriptive analysis method, which is defined as an attempt to collect and compile data, then an analysis of the data is carried out, while the data collected is in the form of words. (Kasih Prihantoro, Budi Pramono et al, 2021 : 198).

CONCLUSION

1. With the traditional system which is currently still used by the company, a greater result is obtained in calculating the cost of production per unit for gondola rack products worth IDR. 1,015,083.50, bookshelf worth Rp. 1,831,493.34, and for warehouse shelves worth Rp. 5,709,870.07, whereas with the ABC system, lower results were obtained in calculating the cost of production per unit for gondola rack products worth Rp. 1,014,351.91, bookshelf worth Rp. 1,829,225.87, and greater results for warehouse shelves worth Rp. 5,761,703.49. From the calculation of the cost of production using the Activity Based Costing system compared to the traditional one, there is a difference of Rp. 7,444,699.08 for gondola rack products, difference Rp. 4,269,654.53 for bookshelf products, and the difference (Rp. 11,714,353.62) for warehouse shelf products.

2. The difference in the results of calculating the cost of production using the Traditional System

and the Activity Based Costing System is due to the imposition of factory overhead costs on each product. In the traditional system, the costs for each product are only charged to one cost driver, namely the product units produced. As a result, there tends to be distortion in the charging of factory overhead costs and results in calculations of the cost of production that are less relevant. In the Activity-Based Costing System method, factory overhead costs for each product are charged to many cost drivers, so that the Activity Based Costing System is able to track the costs incurred by product types precisely based on the consumption of each activity required.

3. From the results of the researcher's observations of the company, there is more than one supervisor in the plate cutting production department. This was because initially there was a division of work into two groups, consisting of a morning group and an evening group. Meanwhile, currently it has been changed to become a morning group only, while the evening group has been eliminated. This incurs costs and is a non-value

added activity that can be detrimental to the company.

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