
Analysis of Calculating the Cost of Goods Produced by a Car Body Company Using the Activity-Based Costing Method in Determining Selling Prices (Case Study at PT. XYZ Company)

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Abstract

This study aims to determine the application of calculations for determining the cost of production using the Activity Based Costing method at PT. XYZ. Activity Based Costing is a method used to determine production costs per unit based on activities within the company. Data collection techniques through interviews and documentation directly to the research object. The resulting data is data related to determining the cost of production based on the ABC Costing method. The data analysis technique used is the descriptive analysis technique. This analysis is carried out by calculating the company's cost of production. Based on the research carried out, the results obtained are that in determining the cost of production using the Activity Based Costing method there are differences with the traditional method applied by the company. The differences that occur are due to the burden of overhead costs on each product. In the traditional method, overhead costs for each product are only charged to one cost driver, namely the number of units sold. In the Activity Based Costing System, overhead costs for each product are charged to several cost drivers. So that the Activity Based Costing System can allocate activity costs to each product appropriately based on the consumption of each activity and has more efficient and effective unit costs. The implementation of selling price calculations uses a burden rate so that marketing is faster in determining selling prices and can be measured to calculate production costs.

Keywords: Cost of Production, Activity Based Costing, Traditional, Burden

JEL Codes: M. 40, M41, M.42

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1. Introduction

Manufacturing companies classify costs into three main costs, namely production costs,

marketing costs, and administrative and general costs. From the classification of costs, it should be known that calculating production costs is one of the important things in realizing company goals. According to Mulyadi (2015), in making products there are two groups of costs, namely production costs and non-production costs. Production costs are costs incurred in processing raw materials into products, while non-production costs are costs incurred for non-production activities such as marketing and general administration activities. Production costs form the cost of production which will be used to calculate products that at the end of the accounting period are still in process. Non-production costs are added to the cost of production to calculate the total cost of the product.

Companies operating in the auto body sector have unique recording and cost assignments where if sales are based on orders, the calculation of consumable costs must be divided based on the work/orders carried out. This requires accuracy and a very strict level of recording detail so that overhead costs can be allocated to costs per order, even for supporting departments such as administration, sales, and human resources must also be able to be measured based on activities to obtain, carry out and send the order.

The cost of production has a very important role in determining the selling price of products. More precise costing will result in a more accurate cost of production (Wakidin, 2022). In calculating product costs to determine the cost of production, many companies still use the traditional full costing method. The traditional system only charges products at the cost of production, marketing, and administrative, and general costs are not included in product costs but are treated as business costs and are deducted directly from gross profit to calculate net business profit.

Mowen (2012:393) defines the cost of production as representing the total cost of goods completed in a certain period. Cost of Goods Production consists of direct raw materials, direct labor, and overhead. According to Raiborn and Kinney (2011:56), the cost of goods manufactured (CoGM) is the total production cost of goods that have been completed and transferred into finished goods inventory during a period. According to Bustami and Nurlala (2013:49), the cost of production is a collection of production costs consisting of direct raw materials, direct labor, direct labor, and factory overhead costs plus product inventory in the initial process minus product inventory in the final process. The cost of production is tied to a certain period.

Activity Based Costing is an improved method of conventional cost accounting systems, where the ABC Costing system can calculate more detailed cost allocations based on activities compared to conventional ones which only look at production results in allocating costs. According to Garrison and Noren (2013:312), Activity Based Costing is a cost calculation method designed to provide cost information for managers for strategic and other decisions as a complement to, not as a substitute for, the cost system normally used by the company.

Kumar and Mahto (2013) researched the analysis and implementation of Activity Based Costing (ABC) and Traditional Cost Accounting (TCA) in motor vehicle spare parts manufacturing companies which resulted that compared to Traditional Cost Accounting (TCA), the Activity Based Costing (ABC) method provides actual costs. Companies can gain profits by increasing their sales according to product demand while still paying attention to the actual costs of components which are calculated using Activity Based Costing (ABC) rather than the Traditional Cost Accounting (TCA) method and it becomes easier for companies to decide which products to produce more.

2. Literature Review

2.1 Production Cost

Production costs are costs that arise from a production process in making goods or services to be sold. In determining production costs for calculating the absolute cost of production as a basis for inventory assessment and determining periodic profit and loss, production costs need to be classified according to the type/object of expenditure. This is important so that cost and allocation data collection, which often requires high precision, such as determining the level of product completion in the process of mass production, can be done easily. There are three main elements of production costs, namely raw material costs, labor costs, and factory overhead costs (Harnanto, 2017:33).

According to Carter (2015:30), costs are an exchange rate, expenditure, or sacrifice made to guarantee the acquisition of benefits. In financial accounting, expenditures or sacrifices at the acquisition date are reflected by the depreciation of cash or other assets that occur now or in the future.

According to Hariyani (2018:19), these are costs incurred to process raw materials into semi-finished goods or finished goods that are ready to be sold. Production costs consist of three cost elements, namely direct raw material costs, direct labor, and indirect factory costs (factory overhead costs) as follows:

1. Direct materials (direct raw material costs)
This is the cost of making up most of the raw materials to become semi-finished products or finished goods. An example of the raw material for furniture production is wood, for clothing production the raw material is cloth.
2. Direct labor
These are wages paid by the company to workers who are directly related to production activities. Examples of direct labor for furniture production are carpenters, sanders, painters, sawyers, and other direct laborers who work to process wood into furniture.
3. Factory overhead cost
These are costs that do not include direct materials direct labor or indirect factory costs. For example, auxiliary materials, indirect wages (supervisors, factory security guards, etc.), repair costs, maintenance of machines and factory buildings, depreciation costs for machines and factory buildings, and so on.

Method of Determining Cost of Goods Production

According to Mulyadi (2010:17) in calculating cost elements into the cost of production, there are two approaches, namely:

- a. Full Costing is a method of determining the cost of production that considers all elements of production costs into the cost of production, which consists of raw material costs, direct labor costs, and factory overhead costs.
- b. Variable Costing is a method of determining the cost of production that considers production costs that have variable behavior, into the cost of production, which consists of raw material costs, direct labor costs, and variable factory overhead costs.

2.2 Activity-Based Costing

Horn gren et.al (2008) define an Activity Based Costing System (ABC System) as calculating the costs of each activity and assigning costs to cost objects such as products and services based

on the activities required to produce each product and service. According to Tunggal (2009:2), activity-based costing is a costing method that is based on activities designed to provide cost information to managers for making strategic decisions and other decisions that affect capacity and fixed costs.

Hansen and Mowen (2012) state that the ABC (Activity Based Costing) method is a system of accumulating costs and assigning costs to products using various cost drivers, carried out by tracing costs from activities and after that tracing costs from activities to products. Identifying activity costs and then products is a step in developing an activity-based costing system.

Activity Based Costing System (ABC) is an accounting system that focuses on activities carried out to produce products or services. Activity Based Costing systems provide information about activities and the resources needed to carry out these activities. An activity is any event or activity that is a cost driver, that is, acts as a causal factor in cost expenditure within the organization.

3. Research Method

Research variables

Operational variables in this research include:

1. Activity Based Costing (ABC Costing)

- a. By assessing production costs based on the company's activities, it can be seen which activities are less efficient than the company's production activities.
- b. Charging costs for these activities will provide proper cost recognition in production cost reporting.

2. Target Costing

Companies use target costing to determine margins, which can be measured by looking at market prices - profit.

3. Burden Rate

In determining the selling price, the company will more quickly use the burden rate, whereby knowing the burden rate allows the company to estimate the overhead cost calculation quickly, namely multiplying the burden rate by how long the production process takes. So, the calculation used by the company to determine the selling price is by looking at the total cost of raw materials plus the burden rate, direct labor costs, and margin.

Data analysis technique

The analysis steps carried out in this research are as follows:

1. First stage.

Conduct initial interviews regarding problems occurring in the Company and interviews regarding the process of calculating the cost of production in the Company, both from the cost accounting section to the warehouse and marketing sections.

2. Second stage.

Observing transaction data on activities from ordering orders, and picking up production goods, to making production cost calculations.

3. Third stage.

Analyze the document data obtained to ensure that the procedures and numbers listed are appropriate. Each document obtained can provide adequate information about the activities carried out by the Company.

4. Fourth stage.

Calculating the cost of manufactured goods using the method used by PT. XYZ is a simple

calculation using conventional methods. This calculation consists of several methods, namely:

- a. Determine the factory overhead cost rate per product unit.
- b. Charging a single factory overhead rate is allocated to the cost elements produced based on the number of units for each type of product.

5. Fifth stage.

The researcher carried out the procedure for calculating the cost of manufactured goods using the method that the researcher wanted to test, namely the ABC (Activity Based Costing) method. In the calculation there are several procedures, namely:

- a. Identify cost activity groups (cost pools) and their cost drivers.
- b. Determine the value of the cost driver when the activity occurs.
- c. Determine the pool rate or group rate.
- d. Determination of the cost of goods manufactured or cost of production.

6. Sixth stage.

Carrying out a comparative analysis in determining the Cost of Manufactured Goods between the application of conventional methods and Activity-Based Costing (ABC) at PT. XYZ. The results of this analysis show the differences between the two methods.

7. Seventh stage.

We are carrying out a comparative analysis in determining the selling price between considering the initial costing target in determining the selling price and the implementation carried out at PT. XYZ.

8. Eighth stage.

Conduct a comparative analysis of speed in determining selling prices between those using the burden rate and those applied by PT. XYZ.

The following presents a research conceptual framework model for calculating the cost of production of body parts using ABC Costing to determine selling prices.

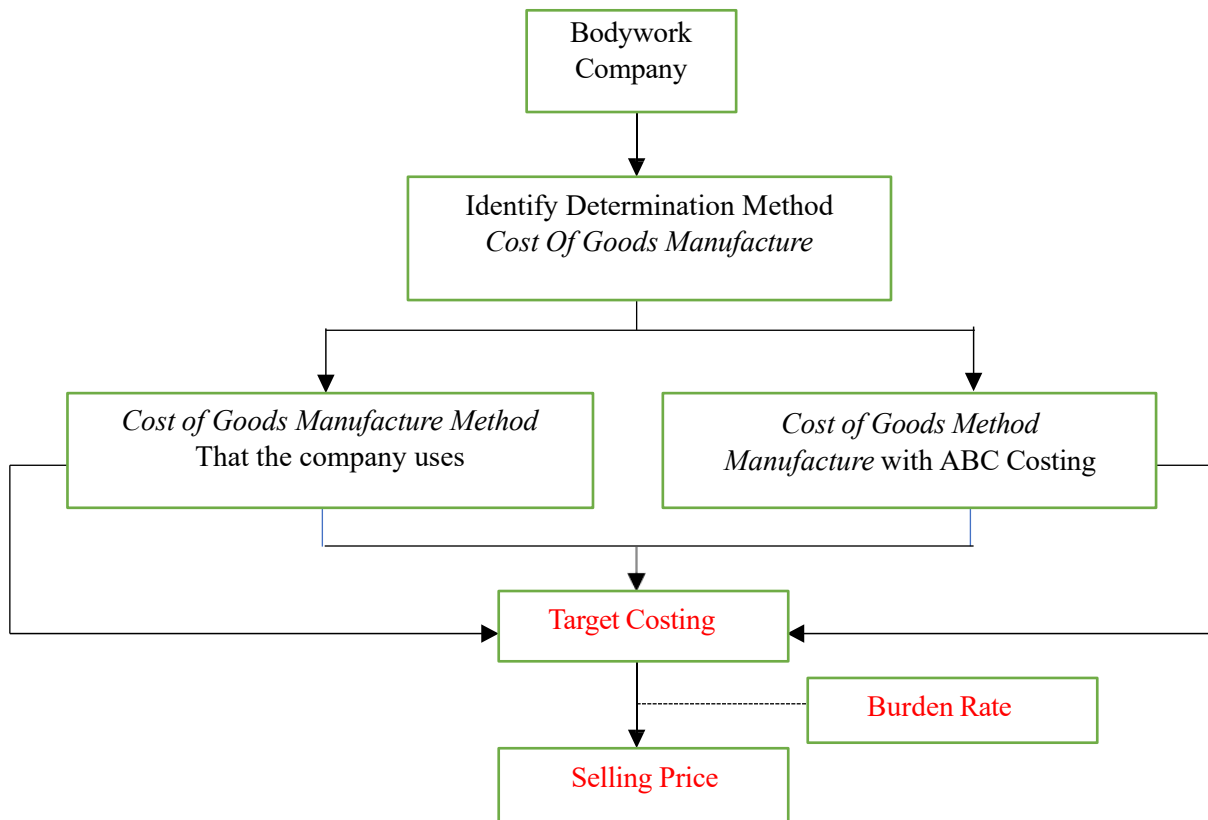


Figure 1. Research Model

4. Findings and Discussions

4.1 Findings

The researcher asked for information and company data from the Manager of Accounting, Finance & Tax, Mr. Handoko, who better understands the process of making financial reports and calculating the cost of goods sold. According to him, PT. XYZ carries out the production process based on orders and calculates using traditional costing methods. In calculating the cost of production, the company uses traditional costing, namely by adding up factory expenses, marketing expenses, and general and administrative expenses. In calculating the allocation of overhead costs to products, dividing the total overhead costs by the total units sold to get the rate per product and multiplying the rate per product by the number of products sold per product type. To determine cost estimates, the company uses costing standards determined for overhead costs, where the overhead calculated consists of direct labor costs, FOH Material (consumable), Production FOH (electricity, water, maintenance, and factory operations), waste and quality testing as a basis for determining selling prices quickly by PT marketing. XYZ.

Based on Table 1 below, it is known that an Overhead standard makes the standardization calculation per product differ only in the use of raw materials, which have different uses according to the size of the product, and additional accessories according to customer requests. The following is an example of standardizing the cost of production as a basis for determining selling prices.

Table 1 Standardization of FOH Costs

STANDARISASI BIAYA FOH					
TYPE	GAJI	Oli, Cat Hitam, kawat Las, Gas	Listrik, Air, Operasional & Maintenance Pabrik	Subcon (OPTIONAL)	TOTAL
	DUMP TRUCK				
A	12.000.000	5.000.000	2.500.000		19.500.000
B	11.500.000	4.800.000	2.300.000		18.600.000
C	6.000.000	2.500.000	1.500.000		10.000.000
S	13.100.000	5.500.000	3.000.000		21.600.000
WASTE	10%				
UJIMUTU					
ADA SERTIFIKAT	700.000				
TIDAK ADA SERTIFIKAT	3.500.000				

The interesting thing in this research is whether by standardizing overhead costs the company can determine the selling price quickly and be able to compete in the market, and whether this method can provide a profit on the sale of the product. This can be seen in Table 2 below.

Table 2 Standardization of Cost of Goods Sold

Standarisasi Harga Pokok Penjualan	
DUMP TRUCK UKURAN 6,5 X 2,4 X 2,0 MTR (P X L X T)-L/D-6/4	
Bagian	Harga Pokok Penjualan
Pemakaian Bahan Baku :	
SUBFRAME (HYD 220 T)	23.937.455
SUBFRAME WOOD	2.656.800
MAINFRAME	8.299.000
BODY	17.810.500
ASSY I	2.475.800
ASSY II	15.193.000
PTO	9.065.734
CAT	1.063.630
FINISHING	1.305.476
TOTAL BIAYA BAHAN	81.807.395

BAKU	
Tenaga Kerja	13.100.000
FOH Material	5.500.000
FOH Produksi	3.000.000
Uji Mutu	700.000
Waste (2%)	1.636.147,90
Total Biaya Proses Produksi	23.936.148
Harga Pokok Penjualan	105.743.543

Source: PT Management Data. XYZ

Table 3 Example of Product Profit and Loss

PRODUCT NAME	HPP				INVOICE	PROFIT / (LOSS)	% Margin
					TO		
	EST	ACT	VAR	% Varian	CUSTOMER Rp.		
PINTU BELAKANG ENGSEL ATAS (5.8 x 2.35 x 1.75 MTR)	94.160.438	84.500.815	9.659.623	10%	118.181.818	33.681.003	28%
PE PINTU BELAKANG ENGSEL ATAS (5.8 x 2.35 x 1.75 MTR)	94.160.438	85.259.069	8.901.369	9%	118.181.818	32.922.749	28%
PE PINTU BELAKANG ENGSEL ATAS (5.8 x 2.35 x 1.75 MTR)	94.160.438	85.011.385	9.149.053	10%	118.181.818	33.170.433	28%
TANGKI BBM 8.000 L (SBL. 1 KOMP.)	93.703.993	93.703.993	-	0%	162.500.000	68.796.007	42%
BAK BESI 5 PINTU (4.25 X 1.85 X 0.7 MTR)	39.531.867	29.577.226	9.954.641	25%	31.818.182	2.240.956	7%
BAK BESI 5 PINTU (4.25 X 1.85 X 0.7 MTR)	39.531.867	33.215.162	6.316.705	16%	31.818.182	- 1.396.980	-4%
PE PINTU BELAKANG ENGSEL ATAS (5.8x 2.35 x 1.65 MTR)	94.160.438	140.096.867	- 45.936.429	-49%	122.727.273	- 17.369.594	-14%
PE PINTU BELAKANG ENGSEL ATAS (5.8 x 2.35 x 1.65 MTR)	94.160.438	127.961.817	- 33.801.379	-36%	122.727.273	- 5.234.544	-4%
COAL BODY 40m³	172.755.433	290.404.995	- 117.649.561	-68%	290.000.000	- 404.995	0%
Total	816.325.351	969.731.328	- 153.405.977		1.116.136.364	146.405.036	

Based on Table 4.3, it is known that by using overhead standardization in determining selling prices there is still a significant deviation difference in the realization of production costs, reaching more than 10% and wherein the profit and loss per product, gross profit has a thin margin that cannot cover marketing and operational costs. admin in 2021 there are even projects that experience losses.

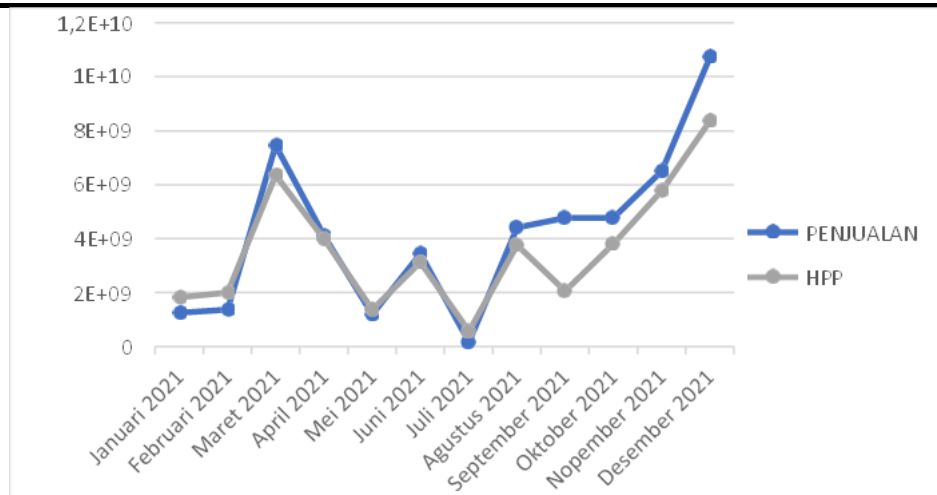


Figure 2. Sales Comparison Chart with COGS

Based on the graph in Figure 2. Chart comparing sales with COGS, it can be seen that in January, February, and July 2021, the cost of goods sold was higher than the selling price, whereas from March to June the sales value and cost of goods sold were almost the same/ approaching, the company has a sales price above the new cost of goods sold in September and December 2021.

4.2 Discussion

Application of Cost Calculation Methods

1. Determination of Cost of Goods Production at PT. XYZ Using Conventional or Traditional Methods

In calculating the Cost of Manufactured Goods in this way, factory overhead costs are calculated compared to the number of products based only on one cost driver, such as the amount of production in units or direct labor hours. In this method, there are two calculation methods, namely:

1. First stage

In this initial stage, factory overhead costs are added up for all cost components and then compared with the company's total sales proceeds to form a single rate based on product units. So, if calculated according to the formula, the overhead costs per unit are as follows:

$$\text{Overhead costs per unit} = \frac{\text{Factory overhead costs}}{\text{Total sales unit}} = \frac{1,240,379,453}{300} = 4,134,598$$

From the calculation above, the factory overhead rate charged for each type of product is IDR 4,134,598.

2. Second stage

Furthermore, in this second part, the single factory overhead rate costs are allocated to the cost elements produced based on the number of units for each type of product, so the conventional method of production cost calculation is presented as follows:

Furthermore, in this second part, the single factory overhead rate costs are allocated to the cost elements produced based on the number of units for each type of product, so the conventional

method of production cost calculation is presented as follows:

Table 4. Calculation of Cost of Goods Production Using Conventional Methods

Keterangan	Konsumsi Aktivitas		
	Dump Truck	Dump Truck	NON
	Offroad	Onroad	Dump Truck
Biaya Bahan Baku	9.153.671.344	4.141.969.323	20.453.441.196
Biaya Tenaga Kerja Langsung	822.306.031	290.136.018	1.579.437.012
Biaya Tenaga Kerja Tidak Langsung	488.186.506	261.939.052	1.266.097.925
Biaya Overhead :			
DT Offroad = (48 X Rp 4.134.598)	198.460.712		
DT Onroad = (65 X Rp 4.134.598)		268.748.881	
Non DT = (187 X Rp 4.134.598)			773.169.859
Harga Pokok Produk	10.662.624.594	4.962.793.275	24.072.145.992
Unit Produk Jual	48	65	187
HPP Per Unit	222.138.012	76.350.666	128.728.053

Based on the processing and calculation of data in Table 4 above by applying conventional methods, the Cost of Goods Production per unit at PT. XYZ in 2021 amounts to Rp. 222,138,012 for the off-Road Dump Truck type per unit, Rp. 76,350,666 for the on-road Dump Truck type per unit, and Rp. 128,728,053 for the Non-Dump Truck type per unit.

2. Determination of the Cost of Production of PT. XYZ Using the Activity-Based Costing Method (ABC Costing)

1. First stage

In this first stage, costs will be classified into activity centers and determine the cost drivers of the activity centers. In this calculation, the author only focuses attention on overhead costs, because only the process of assigning factory overhead costs to ABC is different from the allocation process in the traditional system.

To make it easier to group overhead costs into cost groups, a list of activities has been created which can be seen in the following table:

Table 5. Activity Identification

Level Aktivitas	Aktivitas	Cost Driver
Level Unit	Persiapan Produksi	Jumlah Proses Produksi
Level Unit	Proses Welding	Jam Kerja Karyawan
Level Produk	Proses Assembly	Jam Kerja Karyawan
Level Produk	Finishing	Jam Kerja Karyawan

Explanation:

1. Unit Level Activities.

Activities are classified at the unit level because these indirect costs can be divided into each unit produced.

2. Product Level Activities.

Activities are classified at the Product level because these indirect costs can only be allocated based on product type.

2. Second stage

The products produced in the Offroad Dump Truck product category are the production of Dump Truck bodies which will be used for transport vehicles in mining areas; on road Dump Truck production of Dump Trucks, which will be used on highways; and Non-Dump Truck production other than Dump Trucks, namely Tank. Following are the details of the cost rates for the following activities:

Table 6. Identify Cost Drivers PT. XYZ

Level Aktivitas	Aktivitas	Cost Driver	Total
			Biaya
Level Unit	Persiapan Produksi	Jumlah Proses Produksi	5.804.657
Level Unit	Proses Welding	Jam Kerja Karyawan	232.186.293
Level Produk	Proses Assembly	Jam Kerja Karyawan	226.381.636
Level Produk	Finishing	Jam Kerja Karyawan	116.093.147
			580.465.733
Level Aktivitas	Aktivitas	Cost Driver	Total
			Biaya
Level Unit	Persiapan Produksi	Jumlah Proses Produksi	2.390.710
Level Unit	Proses Welding	Jam Kerja Karyawan	95.628.389
Level Produk	Proses Assembly	Jam Kerja Karyawan	93.237.679
Level Produk	Finishing	Jam Kerja Karyawan	47.814.194
			239.070.972
Level Aktivitas	Aktivitas	Cost Driver	Total
			Biaya
Level Unit	Persiapan Produksi	Jumlah Proses Produksi	4.208.427
Level Unit	Proses Welding	Jam Kerja Karyawan	168.337.099
Level Produk	Proses Assembly	Jam Kerja Karyawan	164.128.672
Level Produk	Finishing	Jam Kerja Karyawan	84.168.550
			420.842.748

3. Third stage

In this stage, the pool rate or group rate is determined. The pool rate is calculated to determine the rate per unit cost driver, obtained from dividing total costs by total activity consumption.

Table 7 Identification of Group Rates PT. XYZ

Level Aktivitas	Aktivitas	Cost Driver	Total	Konsumsi Aktivitas	
			Biaya	Dump Truck	Rate
Level Unit	Persiapan Produksi	Jumlah Proses Produksi	5.804.657	346	16.776
Level Unit	Proses Welding	Jam Kerja Karyawan	232.186.293	9.665	24.024
Level Produk	Proses Assembly	Jam Kerja Karyawan	226.381.636	9.523	23.773
Level Produk	Finishing	Jam Kerja Karyawan	116.093.147	4.883	23.773
			580.465.733	24.417	
Level Aktivitas	Aktivitas	Cost Driver	Total	Konsumsi Aktivitas	
			Biaya	Dump Truck	Rate
				Offroad	

Level Unit	Persiapan Produksi	Jumlah Proses Produksi	5.804.657	346	16.776
Level Unit	Proses Welding	Jam Kerja Karyawan	232.186.293	9.665	24.024
Level Produk	Proses Assembly	Jam Kerja Karyawan	226.381.636	9.523	23.773
Level Produk	Finishing	Jam Kerja Karyawan	116.093.147	4.883	23.773
			580.465.733	24.417	
Level Aktivitas	Aktivitas	Cost Driver	Total	Konsumsi Aktivitas	
			Biaya	Dump Truck	Rate
				Onroad	
Level Unit	Persiapan Produksi	Jumlah Proses Produksi	2.390.710	346	6.910
Level Unit	Proses Welding	Jam Kerja Karyawan	95.628.389	9.421	10.151
Level Produk	Proses Assembly	Jam Kerja Karyawan	93.237.679	1.667	55.943
Level Produk	Finishing	Jam Kerja Karyawan	47.814.194	4.883	9.791
			239.070.972	16.317	

4. Fourth stage

After calculating the pool rate or group rate for each activity, the basic cost can be calculated from the amount of production for each type of product, namely Offroad Dump Truck, on-road Dump Truck, and Non-Dump Truck. The calculation of factory overhead costs is based on the size of the activity, PT. In 2021, XYZ generated factory overhead costs for the Dump Truck Offroad product type, namely IDR 580,465,733, while for the Dump Truck on road and Non-Dump Truck types, it was IDR 239,070,972 and IDR 420,842,748. The load on the Offroad Dump Truck looks more significant compared to the others because the amount of work is more detailed and quite tricky, so the load allocation is adjusted to the many product-producing activities.

Table 8 Calculation of Cost of Goods Production Per Product Unit (ABC Costing) at PT. XYZ

Keterangan	Konsumsi Aktivitas		
	Dump Truck	Dump Truck	NON
	Offroad	Onroad	Dump Truck
Biaya Bahan Baku	9.153.671.344	4.141.969.323	20.453.441.196
Biaya Tenaga Kerja Langsung	822.306.031	290.136.018	1.579.437.012
Biaya Tenaga Kerja Tidak Langsung	488.186.506	261.939.052	1.266.097.925
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Persiapan Produksi	5.804.657	2.390.710	4.208.427
Proses Welding	232.186.293	95.628.389	168.337.099
Proses Assembly	226.381.636	93.237.679	164.128.672
Finishing	116.093.147	47.814.194	84.168.550
Harga Pokok Produk	11.044.629.614	4.933.115.366	23.719.818.881
Unit Produk	69	72	205
HPP Per Unit	160.067.096	68.515.491	115.706.434

3. Determination of Production Prices at PT. XYZ Using Target Costing

Product Sales PT. XYZ During 2021

During the 2021 period, PT. XYZ succeeded in selling dump trucks off-road, dump trucks on-road, service, spare parts, and non-dumping trucks, with a total sales of 300 products. The following is detailed sales data at PT. XYZ during 2021.

Table 9 Sales Data per Product for 2021

No	Produk	Kuantitas	Persentase
1	Dump Truck Offroad	48	16,00%
2	Dump Truck Onroad	65	21,67%
3	Non-Dump Truck	187	62,33%
	Total	300	100%

Next, the target costing calculation is carried out using the following formula:

$$\text{Target Production cost} = \text{Selling Price} - \text{Profit}$$

Table 10 Calculation of Cost of Goods Production Using Target Costing at PT. XYZ

Jenis Produk	Harga Pasar	Target Laba (%)	Target Laba	Target Harga Pokok Produksi
Dump Truck Offroad	264.000.000	33%	87.574.622	176.425.378
Dump Truck Onroad	133.666.667	15%	20.459.070	113.207.597
Non-Dump Truck	126.000.000	15%	19.035.735	106.964.265
	523.666.666		127.069.426	396.597.240

4. Determining Sales Prices and Production Costs Using Burden Rate

Calculation of Burden Rate & Direct Labor Rate

By knowing the total factory costs, marketing costs, direct costs, and general and administrative costs, as well as the number of working hours per month, we can determine the burden rate and direct labor rate as an estimate of the cost of production to which the allocation of costs for marketing and administration has been added. and general, here is the burden rate calculation for PT. XYZ in 2021 calculated by researchers:

Table 11 Calculation of Burden Rate and Direct Labor Rate PT. XYZ

	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
Std Hours Earned	26.686	22.723	20.687	20.475	21.217	21.511	25.048	21.893	19.827	17.899	14.663	14.937
Factory Expenses	Rp 857.987	Rp 448.912	Rp 911.255	Rp 780.331	Rp 784.226	Rp 307.292	Rp 681.762	Rp 489.539	Rp 428.136	Rp 477.078	Rp 410.525	Rp 664.103
Marketing Expenses	Rp 453.154	Rp 193.195	Rp 221.485	Rp 519.056	Rp 903.881	Rp 326.286	Rp 426.714	Rp 573.893	Rp 449.624	Rp 738.057	Rp 326.065	Rp 651.822
General & Administrative Exp	Rp 580.531	Rp 451.191	Rp 458.595	Rp 483.509	Rp 738.205	Rp 440.937	Rp 441.234	Rp 495.522	Rp 445.784	Rp 463.109	Rp 458.691	Rp 482.876
Total Spending	Rp 1.891.672	Rp 1.093.298	Rp 1.591.335	Rp 1.782.896	Rp 1.426.312	Rp 1.074.514	Rp 1.549.710	Rp 1.558.754	Rp 1.323.544	Rp 1.678.244	Rp 1.195.280	Rp 1.798.801
Burden Rate (Total Exp ÷ D	Rp 87.030	Rp 65.515	Rp 96.740	Rp 113.196	Rp 151.099	Rp 68.727	Rp 80.342	Rp 93.668	Rp 88.097	Rp 114.845	Rp 108.822	Rp 148.745
Total Direct Payroll	Rp 668.184	Rp 549.856	Rp 542.263	Rp 730.783	Rp 1.074.539	Rp 571.418	Rp 625.174	Rp 603.678	Rp 519.079	Rp 503.344	Rp 373.540	Rp 450.228
Total Indirect Salary payroll	Rp 430.820	Rp 395.372	Rp 409.963	Rp 534.801	Rp 779.561	Rp 403.870	Rp 462.659	Rp 491.912	Rp 423.165	Rp 377.369	Rp 400.374	Rp 422.997
Total Payroll	Rp 1.099.005	Rp 945.228	Rp 952.226	Rp 1.265.584	Rp 1.854.100	Rp 975.288	Rp 1.087.833	Rp 1.095.590	Rp 942.244	Rp 880.713	Rp 773.914	Rp 873.225
Direct Labor Rate	Rp 25.039	Rp 24.199	Rp 26.212	Rp 35.692	Rp 50.645	Rp 26.564	Rp 24.959	Rp 27.574	Rp 26.180	Rp 28.121	Rp 25.475	Rp 30.142
Burden Rate	Rp 87.030	Rp 65.515	Rp 96.740	Rp 113.196	Rp 151.099	Rp 68.727	Rp 80.342	Rp 93.668	Rp 88.097	Rp 114.845	Rp 108.822	Rp 148.745
Total	Rp 112.069	Rp 89.714	Rp 122.952	Rp 148.888	Rp 201.744	Rp 95.291	Rp 105.301	Rp 121.242	Rp 114.278	Rp 142.966	Rp 134.297	Rp 178.886

From Table 11, the burden rate changes every month, either increasing or decreasing, and the direct labor rate also does so because it is directly affected by production. This can indicate that there is an increase/decrease in costs which has quite an impact on production costs so management must take corrective/efficiency steps. As analysis material, you can also compare the company's sales rate to see whether it can cover the required cost rate per hour, here is the comparison.

Table 12. Burden Rate Calculation with Sales Rate PT. XYZ

	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual
Std Hours Earned	26.686	22.723	20.687	20.475	21.217	21.511	25.048	21.893	19.827	17.899	14.663	14.937
Direct Labor Rate	Rp 25.039	Rp 24.199	Rp 26.212	Rp 35.692	Rp 50.645	Rp 26.564	Rp 24.959	Rp 27.574	Rp 26.180	Rp 28.121	Rp 25.475	Rp 30.142
Burden Rate	Rp 87.030	Rp 65.515	Rp 96.740	Rp 113.196	Rp 151.099	Rp 68.727	Rp 80.342	Rp 93.668	Rp 88.097	Rp 114.845	Rp 108.822	Rp 148.745
Total	Rp 112.069	Rp 89.714	Rp 122.952	Rp 148.888	Rp 201.744	Rp 95.291	Rp 105.301	Rp 121.242	Rp 114.278	Rp 142.966	Rp 134.297	Rp 178.886
Sales	Rp 1.175.407	Rp 1.739.655	Rp 5.286.919	Rp 3.128.922	Rp 14.189.863	Rp 1.980.491	Rp 9.681.018	Rp 7.376.167	Rp 5.787.076	Rp 4.655.914	Rp 2.031.202	Rp 5.484.091
Rate jualan	44.046	76.561	255.561	152.817	668.797	92.069	386.504	336.919	291.879	260.121	138.526	367.148
Loss Rate	(68.023)	(13.153)	132.610	3.929	467.052	(3.222)	281.203	215.677	177.601	117.155	4.229	188.262
Dalam sebulan	(1.815.269.029)	(298.871.332)	2.743.357.372	80.442.361	9.909.451.016	(69.311.120)	7.043.475.248	4.721.822.367	3.521.288.500	2.096.956.602	62.007.780	2.812.064.810

Table 12 shows that sales of PT. XYZ in January 2021, February 2021, and June 2021, were not able to cover production costs so it experienced losses.

In determining the selling price, management can be faster because if the burden rate + direct

labor rate is known, all you must do is estimate how long the unit will take to be completed so that it can cover production costs and add material costs to become the cost of producing the product. By knowing the total cost, the company only needs to add the margin it wants to achieve so that it is quicker and more accurate to assess the selling price, which of course is proven by the higher production cost value when calculated using the ABC method, thus providing a high and safer spare margin for the company.

5. Conclusion

Based on the research results, data analysis, and interpretation, this research can draw the following conclusions:

1. Based on research conducted at PT. XYZ regarding the Cost of Manufactured Goods, it can be concluded that the results of the comparison or difference between the conventional method and the ABC (Activity Based Costing) method indicate a situation of over-costing, where the prices calculated by PT. XYZ is more expensive than using the Activity Based Costing method, where all costs are calculated based on the activity.
2. The application of the target costing method, although it is easy to determine the selling price because it follows market prices, is not used properly in controlling product costs at PT. XYZ because the calculation for production quantities using the target costing method is higher. So, calculating costs based on the target costing method cannot help management in controlling product costs based on planning according to selling prices and company profits. Using the activity-based costing method is still more efficient and can be applied well at PT. XYZ because the calculation of the amount of production using activity-based costing is lower than the cost calculation using the target costing method.
3. In determining the selling price by knowing the Burden Rate and adding the direct labor rate plus material costs, the product production costs will be obtained. Only by adding the company's target margin will the company be quicker and more precise in determining the selling price. This is proven by the calculation of the cost of production, which is overstated compared to when calculated using the ABC method, which means that the Company has more room to estimate its profit margin.

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