



Implementation of Activity Based Costing System in Making Effort to Determine The Tariff of Operation Action (Case Study In Surabaya Royal Hospital)

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ABSTRACT

The purpose of this study is to determine whether the application of activity-based costing system can show a more accurate resource allocation at Royal Hospital Surabaya . As well as a comparison tool with operating rates that has been established so far, especially in its application to a hospital that its orientation two goals that is community service and profit balance. This research was conducted at Royal Hospital Surabaya. The method used is descriptive method that is calculate the tariff of hospital operation action at this time, set cost method based on activity based costing, then compare tariff of operation action based on activity based costing with its realization. The results showed that from the calculation of the tariff of the operational action by using activity-based costing, if it is compared with the tariff used by the hospital, activity-based costing gives greater results for small operation actions and gives smaller results for medium and large operations. This is due to the overhead cost of each product. In activity-based costing, the overhead cost of each product is charged to many cost of drivers. So in activity-based costing, has been able to allocate the cost of activity to each operational action based on the consumption of each activity

Key word: Activity-Based Costing, cost driver

INTRODUCTION

The main task of the hospital is to provide medical services, care, and health services. In providing health services, hospital gets income from the services and facilities given, one of them is the operation action services, where the income from the services is obtained from the tariffs that should be paid by the service user or the patient. The tariff determination of this operation is a very important decision, because it can affect the profitability of the hospital. Based on the above conditions, the hospital is required to be able to utilize technology and experts in the field of health, communications, information, and the field of transportation that can support health services so as to make the operational costs that is spent by hospital becomes big that will affect high tariff for operation action.

To control costs, the hospital needs an appropriate accounting system, especially the calculation method for cost determination to produce accurate cost information related to the cost of service activity. The calculation of the basic cost is initially applied in a manufacturing company, but in its development the cost of goods has been adapted by the company of service, a trading company, and a nonprofit sector. In Article 3 of Decree of the Minister of Health Number 1165 / Menkes / SK / 2007 concerning arrangement of tariff pattern of Hospital of

Public Service Agency(PSA) needs to be adjusted with the development and need of health service. About setting the Public Service Agency tariff pattern of the Hospital includes activities that are charged with tariff, tariff component, tariff calculation pattern, and revenue management of Public Service Agency of the hospital. This fact shows that the government has realized the importance of tariff calculation included in the health care sector. Two contradictory matters require hospital management to be able to set the right tariff so that the two goals can be achieved simultaneously.

As science developed in the early 1900s, a cost-based pricing system was established based on activities designed to overcome cost distortions. This accounting system is called Activity Based Costing (ABC). In the ABC method, the incidence of costs is caused by the activity produced by the product. This approach uses cost drivers that are based on activities which generate the cost and would be better if applied to companies that produce product diversity. The purpose of this study is to raise the topic of activity-based costing system (ABC) which relates to one way to calculate or classify the costs that can be used as guidance tariff of hospital costs especially in the field of operation at the Royal Hospital one of the private hospital located in Surabaya.

LITERATURE REVIEW

Definition of Cost

Cost accounting is the process of recording, classifying, summarizing, and presenting the costs of making and selling products or delivering services, in particular ways, and interpreting the results. (Surjadi, 2013: 1)

According Syaifullah (2014: 10) In cost accounting known as cost and expense. Cost or commonly referred to as a fee is a prerequisite exchange rate or sacrifice made to obtain a benefit. Where the period is more than one year because it is capital expenditure (capital expenditure). The amount of rupiah spent in large amounts.

While the expense or so-called expense, represents a decrease in economic benefits in an accounting period in the form of an outflow of assets, or the occurrence of liabilities resulting in a decrease in equity, which does not involve the division of investors. The period is less than one year because it is a revenue expenditure (revenue expenditure). And the money issued relatively small.

According to Bustami and Nurlela (2012: 3) Cost, (cost) has not expired, and is classified as assets included in the balance sheet. Example:

- 1) Supplies of raw materials
- 2) Inventory of product in process
- 3) Product inventory complete
- 4) Supplies or unused assets

While Expenses (Expense) is a cost that has given benefits and now it has run out. Unearned costs that can give benefits in the future are classified as assets. This fee is included in the Profit and Loss, as a deduction from income, Example:

- 1) Depreciation expense
- 2) Marketing expense
- 3) Expenses classified as operating expenses.

Traditional Cost Accounting and its limitations

According Mulyadi (2014: 196) traditional cost accounting system calculate the cost of the production as a component products cost. In addition, traditional cost accounting systems only provide detailed information about production costs, costs incurred in the production. Production costs are divided into two categories: (1) direct production costs and (2) indirect costs of production. Direct production costs are production costs that can be charged directly to a particular product. Indirect production costs can not be charged directly to a particular product.

Therefore, in the traditional cost accounting system, product cost consists of 3 elements: (1) raw material cost (RMC), (2) direct labor cost (DLC), (3) factory overhead cost (FOC). RMC and DLC is a direct cost so as not to cause problems loading on the product. Loading RMC and DLC can be done accurately by using direct tracking or driver tracking. However, loading a FOC creates a problem. This is because FOC has no input-output relationship that can be physically observed. Therefore, FOC loading must be based on searching the driver and allocation.

In a traditional cost accounting system only used drivers' activity in unit-level to charge the FOC on the product. The unit-level activity of drivers are the factors that cause the change of cost in accordance with the changes in the product unit in production. The use of unit-level driver costs to charge the FOC on products assumes that the overhead consumed by the product has a very high correlation with the number of units in production. Examples of unit-level drivers are: (1) units in production, (2) percentage of RMC, (3) percentage of DLC, (4) direct working hours, and (5) hour machine.

Traditional cost accounting systems based on single tariff of FOC and department of FOC fit only in traditional manufacturing environments and domestic level competition. However, traditional cost systems create cost distortions when used in advanced manufacturing environment and global level competition. The environment of advanced manufacturing is an environment that is characterized by sharp and typically global competition, continuous improvement, total customer satisfaction, and advanced technology. Companies operating in an advanced manufacturing environment should use new strategies to achieve excellence. The cost accounting system used to charge a fee must be changed with a system compatible with the environment by using ABC. If the cost system is not altered, there will be too high distortion (cost overstated or cost overrun) for large-volume products and low cost (cost understated or cost under run) for a product with a small volume

Definition of Activity Based Costing

According to (Armanto 2012: 237) ABC is "a method of measuring the cost of products or services based on the cost accumulation of activities or activities arising in relation to the production or service. Cost calculations based on activity are product cost calculations based on actual activity of input sacrifice to obtain output. (Purwanti and Darsono Prawironegoro, 2013: 43).

Activity Based Costing system is an activity-based costing system, in general ABC uses a two-stage approach that is almost the same but more common than the system of traditional cost. Traditional cost systems use departments and actual cost centers to define a set of costs to accumulate and distribute costs. The ABC system does not use cost centers, but uses its activities to accumulate costs. The development of ABC begins by asking what activities are being carried out by the department's resources. It then allocates the resource load to the activity based on some of the many resources used by each of those activities. The ABC system not only increases the thoroughness of costing, but also provides information on the cost of

various activities to enable management to focus on activities that provide opportunities for cost savings by simplifying activities, carrying out activities with more efficiently, and eliminates non value-added activities.

According to Stephanie (2008: 5) steps in development of an ABC system there are four steps to implementing ABC: 1) Identify activities, 2) Assign resource cost to activities, 3) identify outputs, 4) Assign activity costs to outputs. In the first stage, costing based on activity involves the following four steps: (1) classification of various activities, (2) associating various costs with various activities, (3) determination of homogeneous cost pools, and (4) determination of pool rate.

Difference between ABC system with Traditional system

As mentioned before, a conclusion can be drawn about the difference between ABC systems and traditional cost accounting. In general, the difference between ABC systems and traditional cost accounting is the number of measures of activity level. ABC uses more than one measure of activity level whereas traditional cost accounting uses only one measure of activity level ie the unit level measure as a basis for allocating overhead to output.

According to Riki (2011: 6) conventional cost system is less able to meet management needs in an accurate cost calculation, especially if it involves considerable indirect production costs and product diversity. Traditional accounting systems are used to determine product costs for extension financial statements. ABCsystem is used to determine the product and cost for a special report to the manager

Hospital Definition and Hospital Accounting

Understanding the hospital according to Regulation of the Minister of Health of the Republic of Indonesia No. 340 / MENKES / PER / III / 2010 are: "Hospitals are health services institutions that provide full range of personal health services providing inpatient, outpatient and emergency care services". From the above understanding, the hospital conducts several types of services including medical services, medical support services, care services, rehabilitation services, prevention and improvement of health, as a place of education and or medical training and medical, as a place of research and development of science and technology in health as well as to avoid the risks and health disturbances as intended, so that it is necessary condut healthy hospital environment in accordance with health requirements. Based on its ownership, Law No. 44 of 2009 on Hospital in Indonesia into two types, namely:

1. Public hospitals that are government-run hospitals (including local government) and other non-profit legal entities include:
 - a. The hospital belongs to the Ministry of Health
 - b. Hospital owned by Provincial Government
 - c. Hospitals belonging to Regency / City Government
 - d. The hospital belongs to the Indonesian National Army (TNI)
 - e. The hospital belongs to the Police of the Republic of Indonesia (Polri)
 - f. Hospitals belonging to Departments outside the health department (including state-owned companies such as Pertamina).
2. Private hospitals, ie hospitals run by legal entities with the purpose of profit in the form of limited companies or company, include:
 - a. The hospital belongs to the foundation

- b. Hospitals belong to the company
- c. Hospital owned by Investment (domestic and abroad)
- d. Hospitals belong to other legal entities.

In terms of service, private hospitals should also be recognized as having the role of creating a healthy Indonesia in 2010. If the quality and the system of private hospital services are reviewed in terms of fulfilling the demands and desires of consumers or patients, many private hospitals prioritise the services. Besides the quality of service, medical support equipment is also more sophisticated and modern compared to government hospital has. Hartono (2010: 5). To achieve all of them need a very much funds. Therefore, the better quality and service in private hospitals, the more expensive the patient should pay. But with that alone sometimes the hospital has not been able to cover its operational needs.

So the management of private hospitals should seek other alternative to increase revenue and allocate funds as needed. Fund accounting applications can also be seen in accounting practices in the hospital. However, it should be realized that not all hospitals are non-profit organizations. Some hospitals are operated as earnings-seeking companies, some even selling their shares in the stock market. In the case of profit-oriented hospitals, the accounting standards followed are the financial accounting standards used for the commercial sector

RESEARCH METHODS

The type of research used by the authors is qualitative research. which are descriptive and tend to use analysis and further highlight the process and meaning. Population is the whole subject of research, Arikunto (2010: 173). In this study population is the tariff of operational actions that are distinguished according to the risks of small operations, moderate operations and major operations in classes VIPs, I, II, and III.

The sample used by the researcher is a purposive sample that is the technique of determining the sample with certain considerations (Sugiyono, 2011: 68). That is the operational action tariff that is distinguished according to the risks, that is small, medium and major operations in class III

Activity Based Costing System is the information system that is oriented on providing complete information about activities to enable companies to manage activities to determine the cost of products accurately.

Traditional accounting system is an information system that calculates the cost of the production stage as a component the product cost and focuses on the cost of production. The operating tariff is a nominal amount or price in rupiah that has been made in accordance with the standard of tariff determination in such a way, based on the Law and the Minister of Health's decree. Then it is the obligation to be paid by the patient who has performed the surgery

RESEARCH RESULT

Calculation of the cost of providing operating room services using traditional cost accounting

To determine the cost of operating room service provision, Royal Hospital Surabaya uses the traditional cost, that is by using direct labor hours for each operation handling, as the cost driver for the indirect costs incurred in the operating room unit. The calculation of the cost is done by adding up all indirect costs to the operating room unit, then dividing the total indirect costs by direct labor hours for each type of operating action. The direct labor hours used are

less than 1 hour, over 2 hours and over 3 hours, for each type of small, medium, and major operation. The number of direct hours spent for 2014 is 3,427 hours. The amount is obtained from the calculations presented in the following table

Table 4.1 Rating of direct labor hours In operating room units for 2014

No	catagory	Number istimation	Labor hour	Labor hour numerr
	Operation	Pasient (A)	Diretc (B)	Direct (AxB)
1	Minor operation	608	1	608
2	Medium operation	832	2	1.664
3	Major operation	385	3	1.155
	Total	1.825		3.427

Source : Royal Hospital Data

The indirect cost allocated to the operating room units for 2014 is Rp. 1,061,300,105. Details of these costs can be seen in the following table

Table 4.2 Indirect cost budget in operating room units for 2014

No	Kinds of cost	total
1	Salary & allowance	460,460,494
2	Overtime	6.300.000
3	Office uniform	2.100.000
4	Employees' treatment	2.520.000
5	Consumption/snack	10.950.000
6	pension cost	31.000.000
7	Lebaran day allowance	30.000.000
8	Electricity	18.069.810
9	Water	4.542.120
10	Telephone, fax & internet	7.347.674
11	Stationery & printing	2.284.591
12	Household material	30.456.158
13	Reduction of assets	98.463.067
14	Maintenance for assets	121.675.900
15	Maintenance for building	125.360.920
16	Incentive	4.200.000
17	Appraisal	1.000.000
18	Training	25.000.000
19	Office travel	36.615.880
20	Recreation	7.743.696
21	To entertain guest/meeting	1.830.500
22	Oxygen	33.379.295
	Total	1.061,300,105

Source : Royal Hospital Surabaya.

From the above data, the cost of providing operating room services, can be calculated as follows:

$$\text{Indirect tariff} = \text{Rp} \frac{1.061,300.105}{3.427}$$

$$= \text{Rp. } 309.697.8$$

Table 4.3 Indirect cost calculations on operating room units for 2014

No	Kinds of operation	Indirect Cost	TKL	Total
1	Minor Operation	309.687.8	1	309.687.8
2	Medium Operation	309.687.8	2	619.375.6
3	Major Operation	309.687.8	3	929.063.4

Calculation of the cost of providing operating room services using ABC

The ABC system is a cost calculation system that charges the cost to products or services based on resource consumption caused by activity. Implementation of the ABC system will result to the burden of cost to products or services more accurate than conventional accounting, since the ABC system uses more cost drivers The cost of providing operating room service by using the ABC system is done by stages as the following:

1. Activity identification

After identifying activities that incur indirect costs on the operating room unit, the next step is to classify the activities into a level of group activity. The level of activity in operating room unit, among others:

a) Unit-level activity

Unit-level activity is an activity performed every time unit of operation action service is performed. The amount or cost caused by this activity is influenced by the number and duration of one unit of operation performed. Indirect costs groups caused by unit level activities, among others: overtime costs, water costs, incentive costs and oxygen costs.

b) Facility level activity

Facility level activity is an activity undertaken to sustain the process of providing operational action services. Big or small of the costs incurred by this activity is not influenced by the number or duration of one unit of operation services carried out by indirect cost groups that caused by the facility level activity, among others: salary and allowances, clothing costs, employee treatment, Lebaran day fees, consumption / snack fees, severance costs, telephone expenses, stationery and printing costs, and so on. To clarify the above description, the following table presents an indirect cost budget summary of the operating room units for 2014

Table 4.4 Summary of indirect cost budget on operating room units for 2014

The cost based on activity level	Total
Activity unit level	
Overtime	6.300.000
Electricity	18.069.810
Water	4.542.120
Incentive	4.200.000
Oxygen	33.379.295
Activiti level facility	66.491.225
Salary allowance	460.460.494
Clothing	2.100.000
Employees' treatment	2.520.000
Consumption/snack	10.950.000
Pension cost	31.000.000
Lebaran allowance	30.000.000
Water	4.542.120
Telephone	7.347.674
Stationery and printing	2.284.591
Household material	30.456.158
Reduction of asseets	98.463.067
Maintenance for assets	121.675.900
Maintenance for building	125.360.920
Recreation	7.743.696
Appraisal	1.000.000
Training	25.000.000
Office traveling	36.615.880
Indirect cost total	

2. Determination of the homogeneous cost pool, and the cost driver of each group of homogeneous costs

The homogeneous cost group is a set of indirect costs related to the activities performed, and the various costs can be explained by a single cost driver. Based on the activities identified in the previous stage, at this stage cost groupings can be grouped into homogeneous cost groups, as well as the determination of cost drivers for each group of homogeneous costs. Determination of the homogeneous cost group, along with the cost drivers of each homogeneous cost group, can be seen in the following table:

Table 4.5 Determination of homogeneous cost groups
Homogeneous cost groups and the cost driver

Homogeneous cost groups	Cost driver	Total	
Cost pool 1			
overtime		6.300.000	
Electricity	The number of Labor hour	18.069.810	
Water		4.542.120	
Oxygen		33.379.295	
Total of cost pool 1		62.291.225	
Cost pool 2			
Salary allowance			460.460.494
Clothing	The number Of employees	2.100.000	
Employees' treatment		2.520.000	
Consumption/snack		10.950.000	
Pesion cost		31.000.000	
Lebaran allowance		30.000.000	
Training		25.000.000	
Appraisal		1.000.000	
Recreation		7.743.696	
Office traveling		36.615.880	
Total of cost pool 2		607.390.079	
Cost pool 3			
Telephone		7.347.674	
Stationery and printing	The number of patients	2.284.591	
Household material		30.459.158	
Reduction of assets		98.463.067	
Maintenance of assets		121.675.900	
Maintenance of building		125.360.920	
Incentive		4.200.000	
Entertaining guest/meeting		1.830.500	
Total of cost pool 3		391.618.810	
Total of indirect cost		1.061.309.105	

Source : Data obtained by writer

3. Determination of cost group tariff (cost pool tariff)

The cost group rate is the indirect cost rate per unit cost driver, which is calculated for a group of activities. The cost group tariff is calculated by the formula: the total indirect cost of a particular activity group, divided by the cost driver of the activity group. The following table presents the calculation of cost group tariff.

Table 4.6 calculation of cost group tariff

Cost pool	Total cost every cost pool	Total cost driver	Cost pool rate
	(A)	(B)	(A.B)
1	Rp 62.291.225	3.427	18.176.60
2	Rp. 607.390.070	3.650	166.408.24
3	Rp. 391.618.810	1.825	214.585.65

Source : Data obtained by writer

Value of Total cost driver in the above table, obtained by the calculation presented in the following table

Table 4.7 Calculation Total cost driver

Catagory of Operation	Total Patients estimation	Direct Labor Hour	Total hours Of direct labor	employees	Total of employees
	(A)	(B)	(AXB)	(C)	(AXC)
Minor operation	608	1	608	2	1.216
Medium operation	832	2	1.664	2	1.664
Major operation	385	3	1.155	2	770
Total	1.825		3.427		3.650

Source : Data obtained by writer

Table 4.7 in column (B) indicates that in order to perform one minor operation, medium operation, and major operation, 1 hour, 2 hour and 3 hours direct labor is required. In column (C), it indicates that to perform one minor, medium and major operation action required each of the 2 employees who acted as a nurse for minor operating room or an operations assistant.

4. Cost tracking of each group

At this stage, the cost of each cost group is traced to each service provider for operation action, using the formula: cost of group tariff, multiplied by the total cost driver consumed. The calculation of the cost of providing operating room services, for the category of minor, medium, and major operations can be seen in each table below

Table 4.8 Calculation of cost of services for operating room

No	Operation service	Cost pool rate	Total cost driver	Total Indirect cost
		(A)	(B)	(AXB)
1		18.176.60	1	18.176.60
2	Minor operation	166.408.24	2	332.816.48
3		214.585.65	1	214.585.65

The cost of providing operation room service 565.578.73

1		18.176.60	2	36.353.2
2	Medium operation	166.408.24	2	332.816.48
3		214.585.85	1	214.585.65

The cost of providing operation room service 583.755.33

1		18.176.60	3	54.529.80
2	Major operation	166.408.24	2	332.816.48
3		214.585.65	1	214.585.85

The cost of providing operation room service 601.931.93

Source : Data made by writer

DISCUSSION

Based on the results of the previous analysis, then compared the results of the calculation of the cost of operating services operations according to traditional cost accounting and calculation results according to ABC system. Comparison between the calculation results

according to traditional cost accounting, with the calculation results according to ABC system, can be seen in the following table:

Table 5.1 Comparison of cost of operation service for operational action according to traditional cost of accounting, and ABC system.

Category of operation	Traditional	ABC System	difference
Operation cost	Accounting cost (Rp)	(Rp)	(Rp)
Direct cost	555.493	555.493	0
The cost of material used			
The cost of doctor's service	2.112.500	2.112.500	0
Anesthesia & nurse fo M.O			
Indirect cost	309.687.8	565.576.73	(255.890.93)
Every operation action cost	2.977.680.8	3.233.571.73	(255.890.93)
Total patients	608	608	0
The cost per action			
Operation in 2014	1.810.429.925.4	1.966.001.611.84	(155.581.685.44)
Medium operation			
Direct cost			
The cost of material used	826.936	826.936	0
The cost of doctor's service	3.970.500	3.970.500	0
Anesthesia & nurse fo M.O			
Indirect cost	619.375.6	583.755.33	35.620.27
Every operation action cost	5.416.811.6	5.381.191.33	35.620.27
Total patients	1.664	1.864	0
The cost per action			
Operation in 2014	9.013.574.502.4	8.954.302.373.12	59.272.129.28
Major operation			
Direct cost			
The cost of material used	1.083.423	1.083.423	0
The cost of doctor's service			
Anesthesia & nurse fo M.O	5.896.500	5.896.500	0
Indirect cost	929.063.4	601.931.93	327.131.47
Every operation action cost	7.910.986.4	7.583.854.93	327.131.47
Total patients	1.156	1.155	0
The cost per action			
Operation in 2014	9.137.189.292	8.759.352.444.15	377.836.847.85
total cost per operation action,			
Minor,Medium and major	19.961.193.726.8	19.679.666.430.11	281.527.290.89
Operation in 2014			

Source : made by writer

CONCLUSION AND SUGGESTION

Based on the description and discussion of the previous chapter, it is concluded that:

1. Cost information generated by the conventional cost accounting used by Royal hospital Surabaya in setting the tariff of operational action services is a distorted cost information, conventional cost accounting imposes an indirect cost to one operation, based on only one

tariff, improper charge charges, as each type of service consumes indirect costs with different consumption ratios.

2. Activity based costing system (ABC) differentiates the indirect costs to one service operation action, based on the activities that incur indirect costs required in the operation of such operations. Indirect charge loading is done using three cost drivers, which are the number of hours of direct labor, the number of employees, and the number of patients. The ABC system improves the costing of the traditional cost accounting system by considering that each product or service consumes indirect costs with different consumption ratios. By using more cost drivers, the cost of charging for products or services becomes more accurate
3. Traditional cost accounting that has been used by Royal hospital Surabaya needs to be considered further. This is because the current cost information is less accurate. The ABC system can be considered as a better attenuation to analyze costs, as it allows management to make more correct decisions.
4. Royal Hospital Management understands that in implementing the new system requires additional cost, more time and high commitment. Therefore, the management should analyze the costs and benefits first before implementing the ABC system

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