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Research Article

Comparative Analysis of Activity-Based Costing Methods in Determining Medical Device Use Rates CT-Scan at Prima Husada Hospital Pasuruan Regency

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Abstract: *This study aims to compare the determination of the tariff for the use of CT-Scan medical devices at Prima Husada Hospital, it is more appropriate to use the Activity Based Costing method compared to the traditional method. The results of the study can increase knowledge in making tariffs by developing an analysis of the review of calculating health service tariffs for further researchers and providing input in compiling tariffs at Prima Husada Hospital. This research was conducted at the Prima Husada Hospital located on Jl Raya Malang.–Surabaya KM 54 Sukorejo District Pasuruan Regency East Java. In the form of quantitative descriptive research, the data analysis required is about cost activities; after the collection of data sources is complete, a comparison of cost calculations using the Activity Based Costing method with traditional tariff determination methods is carried out. Research data were obtained from observations, interviews, and consultations with hospital directors. The results of this research show that the calculation results using the Activity Based Costing System get a larger difference when compared to the calculation rate of the traditional method against the provisions of the CT-scan action tariff inacbg's Rp 1,404,000. The indirect cost component in the calculation of the cost of goods does not get the right results; a significant difference in the Activity Costing method charges overhead costs to each cost driver, while in the traditional method, overhead costs are charged to only one cost driver. Overhead costs on each product are charged to many cost drivers. In the ABC method, costs are allocated to each activity to calculate the cost of goods and the selling price of services more precisely and accurately.*

Keywords: *Activity-Based Costing System, Outpatient Installation, CT-scan.*

I. INTRODUCTION

Seeing the current conditions in the JKN (National Health Insurance) era illustrates the changes in the hospital business environment that have an impact on the shift in patient visits, the majority of which are BPJS Kesehatan guarantors. The government also supports the achievement of health facilities for all Indonesian people to experience the benefits of Health insurance managed directly by the local government known as Universal Health Coverage (UHC). The implementation of UHC in Pasuruan Regency has been proven successful through a joint commitment between the government and the Prima Husada Hospital, Pasuruan Regency. kesepakatan UHC. Peraturan Daerah. 1339/RSPHS/EPKS/DIR/VII/2022, (2022) Agreement Number 1339/RSPHS/EPKS/DIR/VII/2022. The major impact of implementing UHC is the increase in the population of new residents who previously did not have access to health insurance, who can easily obtain health services at hospitals with the requirement of showing an ID card for those domiciled in the Pasuruan area.

Facing changes in the era of National Health Insurance is not easy, especially for Private Hospitals. Hospital management requires a strategy to survive by considering opportunities and threats. The number of patients increased before and after the implementation of UHC; this shows that the management at Prima Husada Hospital is able to adapt to current conditions; in accordance with the concept of JKN, there was a significant increase in the number of visits to BPJS patients, especially CT-Scan procedures which increased from the previous year according to the following productivity data.

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Table 1. CT-Scan action report 2023 & 2024 Prima Husada Hospital, Sukorejo

Month	YEAR			
	2023		2024	
	Outpatient	Inpatient	Outpatient	Inpatient
January	158	39	193	39
February	154	34	168	43
March	151	37	150	44
April	138	38	159	41
May	186	46	184	42
June	157	28	185	45
July	127	25	68	12
August	212	39	211	47
September	133	25	205	43
October	143	41	199	46
November	144	46	212	44
December	140	40	213	48
Total	**1,843**	**438**	**2.147**	**494**

Source: *Annual report of Prima Husada Sukorejo Hospital 2023 & 2024*

Based on Table 1 above, the basis for this study is the population of outpatient CT-Scan patients with a ratio that is 4 times higher than the number of inpatient CT-Scan patients.

Hospital business actors realize the income earned in the JKN era in accordance with Case-Based Groups, hereinafter referred to as Inacbg's Tariff. Determination of hospital service rates provides services, activities caused, and human resources involved so that it can be used as a cost analysis and known as Unit Cost as a monitoring tool as well as determining efficient services and clarifying the amount of service fees. The method of determining the rates in this study reflects the activities that have been provided to patients in the hospital, so it is necessary to apply a rate preparation system based on activity with a complex cost component being an action that uses a CT-Scan medical device.

Reflecting on the situation at the Prima Husada Hospital in Pasuruan Regency, a recalculation of the tariff is needed because the calculation of the tariff using the traditional method is considered no longer competitive and has not included indirect cost components in the preparation of the tariff; moreover, the tariff currently used is the tariff that was prepared and approved by the director in 2019 and has not been changed. Based on the research results, Muchlis & Ikhtiar (2020) proved that the results of the comparison of hospital tariff calculations that were already running using the ABC (Activity Based Costing System) method could determine unit costs and compare them with the INA-CBGs tariff with higher differences so that hospitals could find out that the income obtained in one service could cover operational costs.

Based on research Tandah et al. (2021) showed the difference in costs between real costs and Inacbg's rates. The average total real cost of ischemic stroke therapy treatment was IDR 7,360,196.70, and Inacbg's cost was IDR 7,427,251.65. The conclusion is that stroke therapy is proven to be significantly different compared to BPJS payments.

The difference between this study and previous studies is that this study was conducted specifically with the scope of outpatient services for the use of CT-scan medical devices and comparing two tariff methods, the results of which will be analyzed with the difference in Inacbg's.

CT-Scan is an important instrument in medical methods as a support for X-rays and ultrasound with the results of obtaining a more detailed picture of the condition of the body. This examination is one of the leading examinations in the Radiology unit because it is needed by doctors to establish a diagnosis.

According to Yarahmadi et al. (2020), "Development of improvement interventions, especially regarding human resources and consumables in the use of CT-Scan devices. Due to limited resources, cost control and effective service delivery processes are needed. Therefore, having knowledge and information about service cost allocation methods is a very important role in today's era".

Seeing the condition of the hospital, not yet understanding the grouping of costs charged to each service unit is an important point that must be considered by the board of directors; one example is damage to the equipment used for CT-Scan procedures, equipment repairs, spare part costs and bringing in special technicians require costs that should increase maintenance costs and can be included in the tariff-making component.

II. LITERATURE REVIEW

A) Activity-Based Costing Theory

The activity based costing method is a modern way that can provide better cost information and can help hospital management to calculate rates effectively. This method can be used as an instrument in presenting cost information carefully and accurately for the benefit of management, especially the financial unit. Activity-based costing is recognized as an effective costing system. This costing system provides data from all supporting units so that the cost allocation can be calculated and taken from the units that can generate revenue. Activity-based costing can be applied in service companies.

According to Mulyadi (2007), Activity Based Costing is an activity-based cost information system designed to motivate personnel to reduce costs in the long term through activity management. Meanwhile, according to Ummah (2019), Activity Based Costing is an accounting system that focuses on activities carried out to produce products or services.

Activity Based Costing (ABC) is a method of costing performance, activities, and cost objects (Fei & Isa, 2010). This method charges costs to activities based on resource consumption. The next step is to allocate costs to cost objects based on the activities required. According to Sujarweni (2015), Activity Based Costing is a system of accumulating costs and charging costs to products by tracing costs from activities and tracing costs from activities to products.

B) Activity Based Costing for Service Companies

Activity-based Based Costing applications have often been found in service businesses. The application of this method is adjusted to the policies of each company; basically this method is more towards activity-based costing, which is expected to increase the reliability of cost data. The case study in this research was conducted for a fundamental reason in accordance with the conditions in the hospital environment: lack of understanding in compiling and calculating rates is a major obstacle because it affects the hospital's cash flow.

How much income is earned, with the amount of expenditure that cannot be controlled because hospital management is unable to analyze the source of costs in hospital service activities, creating one of the leakage gaps that causes hospital losses in the current JKN era, hospital income is determined by the mechanism for determining the package action rate, so that hospitals are required to be more careful in managing their financial management.

This Activity Based Costing method allows for the creation of a feasible tariff-setting strategy because it involves cost items obtained from the financial report data sources, such as Doctor's Salary Costs, medical/non-medical staff salary costs, Bmhp (consumable medical materials) costs used, asset depreciation costs, and supporting unit costs involved in hospital activities.

C) Benefits of Activity Based Costing

According to Dunia & Abdullah (2012), Activity Based Costing can provide several benefits, including:

1. Helps identify inefficiencies in the manufacturing process by department, product, or activity. Given that the implementation of this system must be done by analyzing activities that occur throughout the company.
2. It is very helpful in decision-making because costing for cost objects is getting better because costing for cost objects is becoming more accurate; this is because the company is more familiar with the behavior of factory overhead and can help allocate company resources to more objects.
3. Helps control costs (especially overhead) at the individual and departmental levels. This can be done considering that the activity-based costing method focuses more on unit costs than total costs.
4. Provides more accurate information to manage capacity costs so management can make better decisions and generate profits.
5. Calculations the activity-based costing method can calculate the cost of a product or service that management uses as an alternative to determine the selling price.
6. Cost
   Calculation of the cost of goods sold in the activity-based costing method is one of the objectives of understanding overhead and cost allocation. Activities that occur in the hospital environment are the direct cause of costs; types of costs are divided into:
   a. Direct costs
   b. Indirect costs

The competition in the health business world has an impact on the pattern of similar companies in managing finances, the pattern in the current JKN era has caused many hospitals to review the hospital tariff structure. The many problems with claim administration have caused many hospitals to want to get the highest income by keeping costs as low as possible.

According to Hidayat et al. (2021) "With the development of technology, traditional cost systems are starting to be felt to be unable to produce accurate calculations anymore. This is because the global environment raises many questions that cannot be answered by traditional cost accounting systems."

According to Horngren (2005), the advantages of traditional cost calculations are that they are easy to apply, so they are easier for workers to understand, provide management reports that show the costs incurred, and are in accordance with generally accepted accounting principles.

Weaknesses of the traditional cost system, according to Carter & Ursy (2006), are traditional cost accounting systems designed for manufacturing, service and trading companies; they cannot use cost accounting to plan and implement cost reduction programs and calculate the value of objects accurately. Focus only on production costs, non-production costs, such as marketing, administration and general costs, which are starting to become significant, do not get proper attention from management.

Traditional cost systems attribute costs to responsible managers, compare actual costs to budgeted costs by the responsibility center, and analyze the resulting cost variances, failing to reveal the causes of the resulting cost variances.

D) Comparison of Traditional Accounting with Activity Based Costing System Accounting

The difference between traditional accounting and Activity Based Costing, according to Carter & Ursy (2006), is:

1. The number of cost objectives and distribution bases is usually larger in the cost-benefit method activity-based costing.
2. Activity-based costing using overhead cost pools tends to be more numerous, whereas traditional cost systems only use one or two pools.
3. Homogeneity of costs in a cost center in the method of activity-based costing requires the calculation of activity cost centers as well as the identification of activity drivers for relevant activities.
4. The activity-based costing method uses two-stage costing, while the traditional system can be a one- or two-stage costing system.

E) Conditions that Support the Implementation of the Activity Based Costing System

According to Supriyono (2002), there are two main tasks that must be done before implementing the activity-based costing method, namely:

1. Non-unit costs are expected to represent a significant percentage of overhead costs. Activity costing is better applied to companies whose overhead costs do not depend solely on production.
2. The consumption ratio between unit and non-unit activities must be different activity-based costing impractical because the system only bills for products using unit cost drivers and non-unit cost drivers; thus, companies with homogeneous production (less diversified) can use the traditional system without any problems.

Conditions in the application of the Activity Based Costing method according to Harmana (2020) Production costing recognizes that the unit of product is not the only important cost object. To understand and improve a product or process, the costs of activities must be determined and traced to the appropriate cost objects.

F) Advantages and Disadvantages of Activity Based Costing

The advantages of implementing the Activity Based Costing method, according to Dunia & Abdullah (2012) as follows:

1. Helps identify inefficiencies in manufacturing processes, be it departments, products, or activities.
2. Assists in making better decisions through more accurate cost object costing.
3. Assists in controlling costs, especially factory overhead, at the individual employee and department level.

The Activity Based Costing system is far from perfect. The use of the Activity Based Costing system in calculating the cost of goods sold also has weaknesses Harmana et al. (2020), including:

1. Requiring managers to radically change the way they think about costs, Activity Based Costing was initially difficult for managers to understand.
2. More effort is required to collect the data needed to calculate costs because the Activity Based Costing system requires data that the company cannot collect, such as the number of installations, the number of checks, and the number of orders received.
3. The application of the Activity-Based Costing System is not widely known, so the level of rejection of this system is quite high.

G) Browse Hospital Rates

Based on the Decree of the Minister of Health Number 1165/MENKES/SK/X/2007, one of its articles states that the cost of service facilities from medical support services is determined by the hospital leadership with the approval of the

supervisory board on the basis of unit costs by considering the level of sophistication. Management's understanding of the rules that have been stated in the state apparatus regulations is used as a guideline for service.

Seeing the conditions in hospitals that need to improve tariff calculations by comparing traditional methods with more modern methods, namely activity-based costing, in its implementation, a tariff determination can be evaluated to assess whether the tariff used can still be said to be competitive so that it can compete with hospital business competitors.

One of the factors that caused researchers to move to conduct a tariff analysis at Prima Husada Hospital is the existence of medical devices that require maintenance; in this situation, maintenance is a periodic activity that requires costs, and the cost burden itself is included in one of the indirect cost components used in determining the formation of a tariff for action.

Basically, medical devices are one of the supporting instruments for the continuity of activities in hospitals; from the many patients who visit the hospital and are examined by doctors, to strengthen the analysis of a diagnosis, a doctor needs a referral for his examination to a production unit called a radiology unit.

One of the supporting examinations that is often requested by service units is a CT-Scan examination; the determination of the procedure fee is based on the procedure cost plus supporting costs in the radiology unit.

One of the evaluations found during the hospital tariff investigation was that the maintenance costs of health equipment had not been identified in the CT-Scan examination tariff. The burden of maintenance costs greatly affects the amount of the tariff, so researchers conducted research on calculating the tariff for CT-Scan health equipment.

H) Cost Analysis Using Activity Based Costing Method

One of the factors that need to be considered in the competition of the service world is the tariff and quality of service provided, so service companies must pay attention to production costs. One of the functions of Activity Management is to be able to identify costs that are not needed in the preparation of tariffs, considering after knowing the results of tracing inefficient activities.

Basically, the core of cost accounting is recording, measuring, clarifying, and presenting costs to management; these activities are divided into:

1. Value added activities
2. Non-value added activities

Efforts made by management in evaluating costs and rates by eliminating costs arising from non-value-added activities, for example:

1. The process stage is too long and too long
2. Waiting time
3. Excessive action service
4. Tool Transfer
5. Idle equipment
6. Excess space

Management must understand a business process from initial planning to the actions given to patients and generate revenue, and cost chain analysis will determine management decisions to reduce costs by considering the time needed in the service process to patients. According to Tandah et al. (2021).

According to Sujarweni (2015), calculating production costs using the Activity Based Costing System consists of two stages, including:

1. First stage procedure

   The first stage in determining the cost of goods sold based on the Activity Based Costing System consists of five steps, namely:

   a. Classification of various activities
   b. Associating various costs with various activities.
   c. Determine the right cost driver.
   d. Determination of homogeneous cost groups.
   e. Determination of group rates (pool rates).

2. Second stage procedure

   The second stage, to determine the cost of goods sold by separating the cost of each group of overhead costs is randomized to various types of services. This is done using the groups consumed by each service. This measure is a

simplification of the quantity of cost drivers used by each product.

III. RESEARCH METHODOLOGY

A) Research Design

The research design explains the type of research to determine the research method used. The form of research carried out is the Quantitative Descriptive method which aims to provide empirical evidence about a particular phenomenon, accompanied by quantitative and qualitative data that are excavated from a particular object (Chandrarin, 2017). This study presents more case study results that explain the results of observations about problems that occur in the hospital environment.

B) Scope of Research

The scope of this research, especially in the Finance and Accounting Manager section, can analyze the calculation of rates using the Activity Based Costing method, starting by calculating the Unit Cost of an activity related to the use of CT-Scan Health equipment at Prima Husada Hospital by considering direct costs and indirect costs and comparing it with the calculation of rates using the traditional method. The results of the analysis in this study are useful for decision making for managerial leaders in calculating rates that have an impact on the effectiveness and efficiency of the hospital.

C) Research Location

The location of this research is Prima Husada Hospital, Pasuruan Regency, a private type C hospital. This hospital offers health services for the people of Pasuruan Regency and its surroundings, especially Sukorejo District. This hospital is located on Jl Raya Malang - Surabaya KM 54, Sukorejo District, Pasuruan Regency, East Java.

D) Data Types and Sources

The types of data used in this study are:

1. Primary data, namely data collected directly from research subjects by researchers. This type of data comes from observations, interviews, and consultations with hospital directors.
2. Secondary data, namely data obtained from sources obtained from the Prima Husada Hospital, Sukorejo Regency, in 2024, consists of:
   a. Hospital Profile
   b. Radiology Support Tariff Data for CT-Scan Examination
   c. Asset Data
   d. Inventory Data in the Radiology Unit
   e. Visitor Number Data
   f. Salary and HR Expense Data
   g. Financial statements
   h. Maintenance Data, building depreciation costs, building maintenance costs and facility maintenance costs
   i. Data on Cleaning Costs and B3 Waste
   j. Electricity Cost, Water Cost, and Telephone Cost Data
   k. ATK usage data
   l. Productivity Report
   m. BMHP (Consumable Medical Materials) data in CT-Scan procedures

E) Population and Sampling Techniques

Population, according to Chandrarin (2017) is a collection of elements that have certain characteristics that can be used to make conclusions. So the population to be studied is supporting data in the action of the CT-Scan tool in the radiology unit of outpatient services at Prima Husada Hospital.

F) Data collection technique

Data collection is done to obtain information to achieve research objectives. Data collection begins with the documentation of financial reports with components of sales expenses and operational expenses, which are finally traced using the following methods:

1. Interview

   The interview involves 5 parts, namely (CT-Scan device user, Medical Device Technician, Head of Medical Support, Head of Finance, and Director. The type of interview is planned and structured by sending meeting invitations, preparing a schedule and place for the meeting, meeting discussions and meeting minutes.
2. Observation

   Direct observation by researchers in the field with the results of knowing the accuracy of information related to the use of CT-Scan equipment, the activities of CT-Scan equipment and HR in service units, and the time required for HR to carry out CT-Scan actions.

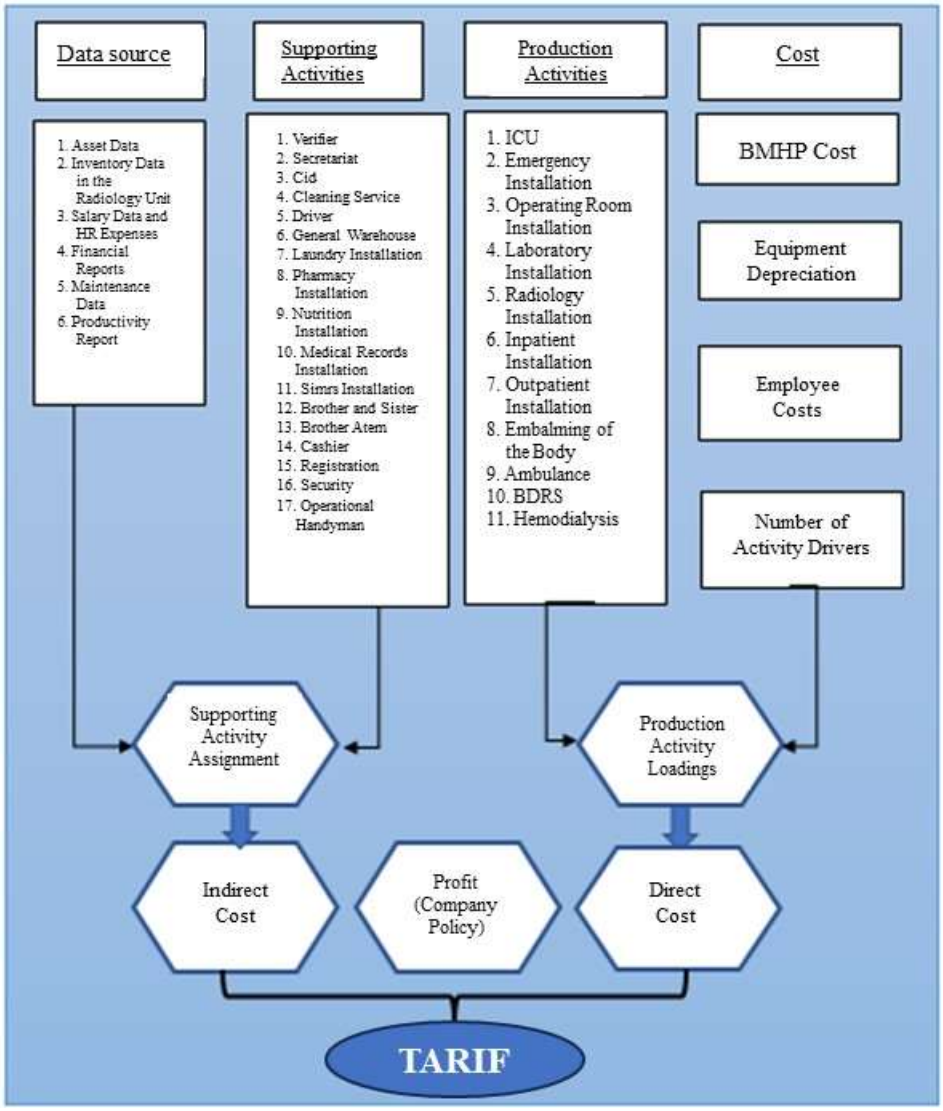
3. Documentation

This data collection was carried out to obtain a collection of data and documents related to research that will be done.

4. Data Analysis Techniques

The data analysis technique required is about cost activities after the collection of data sources is complete, cost calculations are carried out using the Activity Based Costing method through the following cost calculation process framework:

Figure 3: Framework for the cost calculation process using the activity-based costing method



Data source: *Mulyadi (2007), activity based cost system, which is processed.*

The conclusion drawing and verification stage is the last stage, namely, drawing conclusions and verification. The conclusion drawing carried out by the researcher is by comparing the calculation of the activity based costing method with the traditional method. The initial conclusion will be temporary and can change if not accompanied by strong evidence and understanding of hospital management about the activity-based costing method according to environmental conditions; with a better understanding of cost analysis, hospitals can optimize activity processes and improve overall operational efficiency. However, this study has several limitations, including limited case studies. The implication of this study is how important it is for hospitals to consider implementing ABC as a tool to improve cost management, productivity and operational efficiency to gain a competitive advantage in the health business world.

IV. RESULTS AND DISCUSSION

A) Research Result

1. Hospital Description

Prima Husada Hospital, Pasuruan Regency, is a private type C hospital owned by individuals located in Pasuruan Regency. This hospital highly upholds its vision and mission and is instilled in every employee who works in the hospital to always provide excellent service to patients who visit the hospital.

The facilities in this hospital are very complete including outpatient services, inpatient services, emergency installations, laboratories, pharmacies, operating rooms, radiology, physiotherapy services, C-arms, and medical check-up services. The average number of outpatients per month in this hospital is 11,319, consisting of 22 outpatient clinics, and visits are dominated by internal medicine clinics.

Based on the results of interviews conducted by researchers with CT-scan technicians, heads of medical support, heads of finance, and hospital directors, it was obtained that the rates used for hospital services based on policies in 2019, the determination at that time only referred to direct costs and margins set by the hospital director. The finance department compared hospital rates with other type C hospitals to find out whether the rates were competitive.

2. Presentation of Research Results

The presentation of research results is carried out to present the results of observations and tariff calculations so that the comparison of the traditional method with the Activity Based Costing method in outpatient services using CT-scan medical devices is known.

This research is in accordance with the procedures presented in Chapter 3 on data analysis techniques. Calculations with activity-based costing consist of stages, including:

a. Identifying activities

Identification of activities at the Prima Husada Sukorejo Hospital according to Table 2.

Table 2. Activity identification

No	Code	Unit
1	C001	Verifier
2	C002	Secretariat
3	C003	Cssd
4	C004	Cleaning service
5	C005	Driver
6	C006	General Warehouse
7	C007	Laundry Installation
8	C008	Pharmaceutical installation
9	C009	Nutrition installation
10	C0010	Medical records installation
11	C0011	simrs installation
12	C0012	Ipsrs
13	C0013	Ipsrs atem
14	C0014	Cashier
15	C0015	Registration
16	C0016	Security
17	C0017	Operational Handyman

Data Source: processed organizational structure of Prima Husada Sukorejo Hospital

Table 2 shows 17 (seventeen) supporting activities that charge their costs to units that can produce or generate income.

b. Calculate the total cost of each activity as overhead costs.
c. Distributing overhead costs that are facility activity to all existing production units based on cost drivers. Types of cost drivers in Prima Husada Hospital are presented in Chapter 3, Table 1.
d. Determining the work unit (production unit) in this research, the production unit to be calculated is the Radiology unit.
e. The unit cost calculation in this research refers to the health services in question, namely supporting actions using CT scan equipment.
f. Identify activities consisting of:
   i. Determining the activity categories that exist in supporting examinations using CT-scan equipment
   ii. Determining the type of need for each activity in supporting examinations using a CT scan tool
   iii. Identify the time of each activity in the service and the total service time.

Table 3. Identification of CT-Scan Action Activities

Service: Inpatient, Work Unit: Radiology

No	Type of Service	Activity	Activity Classification	Activity Categories	Time
1	Physical examination	IEC and informed consent	Primary	UA 1	2 minutes
		Preparation of tools	Secondary	UA 1	2 minutes
		Patient preparation	Secondary	UA 1	1 minute
		Nurse Examination	Primary	UA 1	2 minutes
		Medical record keeping	Secondary	UA 1	2 minutes
				Amount	**9 minutes**
2	CT-Scan Action	Patient positioning	Secondary	UA 2	2 minutes
		Scanning process	Primary	UA 2	12 minutes
		Data management	Primary	UA 2	2 minutes
		Reading the results	Primary	UA 2	7 minutes
		Results delivery	Primary	UA 2	2 minutes
				Amount	**25 minutes**
Total Service Time					**34 minutes**

Data source: *Clinical practice guide for CT scan procedures at Prima Husada Sukorejo Hospital, processed*

g. Combining all activities of the types of services in a production work unit is shown in Table 6. Consisting of 2 types of services, starting from a physical examination and then a CT scan, the total time required for the action is 34 minutes.
h. Identify and calculate direct costs used in each service in a production work unit, including costs of disposable medical materials, costs of medical human resources salaries (including paramedics and health workers), and costs of medical equipment.
i. Identify indirect costs (overhead costs) that will be charged to each cost driver.
j. Distribution of total indirect costs to all activities in the production unit. So that the overhead cost burden for radiology, especially CT-scan services, can be known.
k. Calculating the unit cost of each product or service. Based on the data analysis technique, the formula for determining unit cost is the sum of direct costs and indirect costs.

Table 4. Adding Unit Cost with Profit

CS-Scan Action Service Products	Amount
A. Direct Costs	
1. Cost of Medical Consumables	4.638
2. Medical HR Costs	108,271
3. Medical Equipment Costs	101,773
B. Indirect Costs	
1. Overhead Cost Charging	47,377
2. Indirect Costs of CS-Scan Actions	492,406
C. Unit Cost	754,465
D. Profit (30% x Unit Cost)	226,339
E. Total Unit Cost + Profit	980,804
F. Service Fee (20% x INACBG's)	280,800
G. INACBG'S Tariff	1,404,000
H. Hospital Rates (E+F)	1,261,604
I. Difference	142,396

Data source: *Working paper for calculating rates for processed CT scans*

l. Determining Profit according to hospital policy. In accordance with the policy of the Prima Husada Sukorejo Hospital, the profit determination for Outpatient CT-scan services is 30% of the unit cost, with the following calculation results:

Unit cost = IDR. 754,465
Profit = 30% from unit cost
Profit calculation = IDR. 754,465 x 30%
Profit = IDR. 226,339
So, the profit generated from all CT-Scan actions is IDR. 226,339

m. Adding unit cost with Profit

After adding up the unit cost with the profit, adjust the policy of the Prima Husada Sukorejo Hospital by adding a service fee for the doctor in charge of reading the CT-scan results of 20% of the INACBG's rate, with the following calculation:

Table 5. Adding Unit Cost with Profit

CS-Scan Action Service Products	Amount
A. Direct Costs	
1. Cost of Medical Consumables	4.638
2. Medical HR Costs	-
3. Medical Equipment Costs	-
B. Indirect Costs	
1. Overhead Cost Charging	75,500
2. Indirect Costs of CS-Scan Actions	-
C. Unit Cost	79,638
D. Profit (30% x Unit Cost)	950,701
E. Total Unit Cost + Profit	1,030,338
F. Service Fee (20% x INACBG's)	280,800
G. INACBG'S Tariff	1,404,000
H. Hospital Rates (E+F)	1,311,138
I. Difference	92,862

Data Source: *Working paper for processing CT-scan rates*

Table 5 shows that hospital rates are lower than INACBG's rates; the difference of Rp. 142,396 is allocated for the prescription of drugs for outpatients.

Comparison of Activity Based Costing method calculations with traditional methods, as follows.

Table 6. Comparison of ABC and Traditional Method Rates

Information	I. Activity Based Costing Method	II. Traditional Methods
A. Direct Costs		
1. Cost of Medical Consumables	4.638	4.638
2. Medical HR Costs	108,271	-
3. Medical Equipment Costs	101,773	-
B. Indirect Costs		
1. Overhead Cost Charging	47,377	75,500
2. Indirect Costs of CS-Scan Actions	492,406	-
C. Unit Cost	754,465	79,638
D. Profit (30% x Unit Cost)	226,339	950,701
E. Total Unit Cost + Profit	980,804	1,030,338
F. Service Fee (20% x INACBG's)	280,800	280,800
G. INACBG'S Tariff	1,404,000	1,404,000
H. Hospital Rates (E+F)	1,261,604	1,311,138
I. Difference	142,396	92,862

Data Source: *Working paper for calculating rates for processed CT scans.*

B) Discussion of Research Results

After comparing the two methods, when applying the calculation with the traditional method reflects the conditions in the field do not understand cost accounting, so activities in the unit cannot be monitored by management because the preparation of the tariff does not include activities in it, some differences can be analyzed as follows:

1) Traditional method The cost of medical equipment in the traditional method is not charged, significantly different from the ABC method for each use with a unit of minutes, where this charge is a direct cost when the use of the device is allocated for the cost of maintenance and calibration of the device so that the device can be used properly.
2) The traditional method of overhead cost allocation is set at IDR 75,000, based on the results of interviews with the finance department and the hospital director with information that the 75,000 cannot be traced for data sources and calculations. The determination is taken as 5% of the INACBG's rate with the assumption that it can meet the operational needs of the hospital, because the rate evaluation has never been carried out, so far the hospital management has not known whether 75,000 is appropriate and can meet operational needs.

3) The results of the unit cost calculation using the traditional method are too small, so the hospital concludes that CT-scan services get high profits; this can result in misinterpretation / wrong decision-making for hospital management when they are going to expand because the preparation of tariffs is not yet perfect.
4) Profit in the traditional method is set at 60% of the INACBG's rate, based on the results of interviews with the finance department and hospital director; this was set because it was believed that the CT-scan service left a high amount of profit calculation before hospital management knew about the indirect costs that had to be charged to the production unit.
5) The difference between hospital and INACBG's rates using the traditional method is smaller at IDR 92,892; this has an impact on the provision of drugs for patients who are discharged that can be given with this ceiling.
6) *Activity Based Costing*costing activities and calculating overhead costs so that they are included in the tariff structure, but produce smaller hospital tariffs with a larger difference in INACBG tariffs compared to using the traditional method.

V. CONCLUSION

A) Conclusion

This study analyzes the comparison of the activity based costing method with the traditional method for determining the tariff for CT-scan procedures. The research was conducted at the Prima Husada Hospital, Pasuruan Regency, with the results of the analysis being concluded as follows. The results of the analysis in determining the tariff for the use of CT-scan medical devices at Prima Husada Hospital resulted in the calculation of the tariff using the activity-based costing system obtaining a greater difference when compared to the calculation tariff using the traditional method for the provisions of the CT-scan action tariff of INACBG's Rp. 1,404,000. The difference occurs because, in the activity-based costing method, overhead costs are charged to each tariff component. The traditional method of overhead costs for each product is only charged to one cost driver, namely the indirect cost component so that the calculation of the cost price does not get the right results. ABC method, overhead costs on each product are charged to many cost drivers. So, the ABC method has been able to allocate activity costs to each activity to calculate the cost of goods sold and the selling price of services more precisely and accurately.

B) Research Implications

The results of this research show that there are several shortcomings in calculating rates using traditional methods; researchers expect that there will be policies that will be made immediately by the finance department and hospital director to create a rated team and prepare a Decree (SK) in preparing rates so that an evaluation of hospital rates can be carried out immediately.

C) Limitations

This research has several limitations in the source of research data; the accuracy of the data used as a reference by the researcher affects the calculation results and the preparation of rates, and the researcher is not able to make more detailed observations because several data sources can be updated every 1 year, one example is asset data. Therefore, the results of this study need to be interpreted carefully, and further research needs to be carried out with a larger sample and a more comprehensive research design.

VI. REFERENCES

[1] Carter, & Ursy. (2006). *Akuntansi Biaya Edis 13*. SALEMBA EMPAT.
[2] Chandrarin, G. (2017). Metode Riset Akuntansi Pendekatan Kuantitatif. In *Metode Riset Akuntansi Pendekatan Kuantitatif*. Jakarta: Salemba Empat.
[3] Dunia, F. A., & Abdullah, W. (2012). *Akuntansi Biaya*. SALEMBA EMPAT.
[4] Fei, Z. Y., & Isa, C. R. (2010). Factors Influencing Activity-Based Costing Success: A Research Framework. *International Journal of Trade, Economics and Finance*, *1*(2), 144–150. https://doi.org/10.7763/ijtef.2010.v1.26
[5] Harmana, I. M. D. (2020). Penerapan Metode Activity Based Costing System Dalam Menentukan Tarif Rawat Inap. *Journal of Public and Business Accounting*, *1*(2), 54–63. https://doi.org/10.31328/jopba.v1i2.120
[6] Hidayat, R., Wti, D., Ardila, N., & Hinggo, H. T. (2021). Analisis Perbandingan Metode Biaya Tradisional Dan Metode Activity Based Costing Dalam Perhitungan Harga Pokok Produksi Perusahaan Konveksi Firman. *Research In Accounting Journal*, *1*(2), 261–266.
[7] KESEPAKATAN UHC. PERATURAN DAERAH. 1339/RSPHS/EPKS/DIR/VII/2022 (2022).
[8] Muchlis, N., & Ikhtiar, M. (2020). Perbandingan Tarif Rumah Sakit Dengan Hasil Perhitungan Biaya Berdasarkan Pendekatan Activity Based Costing (ABC) Di Poliklinik Interna (Studi Kasus Pada Rumah Sakit Sumantri Parepare). *Journal of Muslim Community Health*, *1*(3), 56–64.
[9] Mulyadi. (2007). *Activity Based Cost Sistem*. UPP STIM YKPN.
[10] Sujarweni., V. . (2015). *Metodologi Penelitian Bisnis dan Ekonomi*. Pustaka Baru Press.
[11] Supriyono. (2002). *Akuntansi Biaya dan Akuntansi Manajemen*. BPFE.
[12] Tandah, M. R., Mukaddas, A., Angriani, D., & Mangoting, G. N. A. (2021). COST EVALUATION OF STROKE THERAPY COMPARED TO INA-CBGs ON INPATIENTS AT ANUTAPURA HOSPITAL. *Indonesian Journal of Public Health*, *16*(2), 285–296. https://doi.org/10.20473/ijph.v16i2.2021.285-296
[13] Ummah, M. S. (2019). No 主観的健康感を中心とした在宅高齢者における 健康関連指標に関する共分散構造分析Title. *Sustainability (Switzerland)*, *11*(1), 1–14.
[14] Yarahmadi, F. B., Faraji-Khaiavi, F., & Torabipour, A. (2020). Costs of CT Scan and Ultrasound Services Using the Activity-Based Costing Method. *Health Technology Assessment in Action*, *4*(4). https://doi.org/10.18502/htaa.v4i4.6865