

# Application In Activity Based Costing (ABC) Calculation Of Home Development Cost (Study on Housing in Sidoarjo)

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## Application In Activity Based Costing (ABC) Calculation Of Home Development Cost (Study on Housing in Sidoarjo)

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### ABSTRACT

Activity based costing (ABC) is an improved system of the traditional one. This system is calculating costs that provide accuracy and relevance in allocating overhead costs. This system has an overall cost tracking compared to traditional systems. This research uses a descriptive method of case study approach, which can describe the existence of a variable, symptom or condition. Using this method adjusts the ability to answer the problem under study and hopes to be able to provide clear results and answers. The results of the calculation of housing construction cost using the ABC system on housing in Sidoarjo are able to describe results more accurately and do not cause distortion of costs.

Keywords : production cost, traditional systems and ABC systems

### INTRODUCTION

Every company always calculates profit in production. To achieve company goals in general need to pay attention to company policy. To be able to achieve the company's goals in increasing profits, companies must properly pay attention to the costs incurred for production and determining the selling price. Mismatched selling prices can affect the company's finances. Marketing is not optimal and the amount of inventory will have an effect on company revenue. The role of production cost is very important in determining the selling price of the product. Calculating production cost is all production costs used to process raw materials into finished goods within a certain period. The cost of production is the basis for determining selling prices and profits and as a measurement tool.

Activity based costing is an improved system of the traditional one, this system is calculating costs that provide accuracy and relevance in allocating overhead costs. This system has an overall cost tracking compared to traditional systems. The growing business as it is today is not only limited to the benefits of ABC for information on production costs but also as a concept that is broadly interpreted as information to motivate personal in improvising the process to produce products or services for customers. This system is useful for overcoming the weaknesses of traditional systems made specifically by industrial companies in Martusa et al. (2010).

Research conducted by Joseph et.al. (2019) had given result, that modern costing such as Activity Based Costing systems can optimize the benefits of techniques that enable them to identify, accumulate and manage the costs of company activities to ensure accuracy in decision making and produce business excellence and customer satisfaction. Al-Saidi's research (2014) results are the need for multi item success steps because they capture individual perceptions more efficiently, unlike single item sizes that do not measure the complex nature of ABC system

success, multi items use composite scores to measure and analyze success by providing the biggest explanation of the factors determining the application of ABC. There is also research by Farzaneh et.al. (2010) show the results that cost of goods sold is not consistent with the rigidity of the cost model, but in general, administrative and sales costs are inherent in changes in the level of sales. Furthermore, Haneda and Azizah's research (2018) shows the results that the room rent cost determined by management is determined by allocating operating costs to each room type based on the percentage of income.

At present, in calculating goods manufactured cost, the company uses a traditional system, where all costs are not directly allocated to the product on an allocation basis. All allocations are costs that are triggered due to the relationship of production volume. Based on the explanation above, it can be understood how important it is to use the ABC system in calculating the cost of production.

According to Mulyadi (2012) cost accounting is an information system that produces company operating costs and information that is used as a basis for measuring, analyzing, reporting and making decisions. According to Supriyono (2012) accounting cost is a cost information generated by company management as a basis for management decisions in achieving company goals (Wiguna, 2017).

Costs are the basic price or part of which is used or consumed to obtain income (Sunarto, 2004 & Rahmadani et.al. 2016). Costs represent the sacrifice of economic resources to obtain goods / services that are useful for the present or the future (Siregar, 2013 & Siby et.al. 2018).

The grouping of costs over all existing cost elements into certain groups that are more concise and can provide more concise and important information is called cost classification. Commonly used in the classification of costs related to products, production volumes, departments and cost centers, accounting periods, decision making (Siby et.al. 2018). According to Carter (2102) the cost classification is based on (Palupi et.al. 2016): (1) costs with products that include manufacturing costs and commercial costs; (2) production volumes which include variable costs, fixed costs and semi-variable costs; (3) production department which includes the department of production, services, joint and joint costs; and (4) accounting period and a decision.

The method of determining the production cost is how to calculate the cost element into the cost of production (Mulyadi, 2012). The production cost includes all direct materials, direct labor, factory overhead incurred to produce goods / services (Lasena, 2013).

Activity Based Costing System is an approach to determining product costs that impose costs on products / services based on resource consumption caused by activities (Blocher et.al., 2011). The basis of this approach is that the company's products / services are carried out by the required activities and activities using resources that cause costs. Resources are charged to cost objects based on their usefulness (Haneda et al. 2018).

## METHODS

This study is using a descriptive method of case study approach, which can describe the existence of a variable, symptoms or circumstances. Using this method adjusts the ability to answer the problem under study and hopes to be able to provide clear results and answers. This study focuses on the housing construction cost according to management and calculation of the cost of housing construction using the ABC system.

## RESULTS AND DISCUSSION

### Calculation of the Building Cost a House by Company

Determination of development cost carried out by the company that is using a traditional system, this system uses unit-level drivers. The calculations are as follows:

Table 1. Land and Construction Costs (Main Costs)

| Number | House Type             | Land Cost   | Construction Costs | Total       |
|--------|------------------------|-------------|--------------------|-------------|
| 1      | Home Office Type-58/90 | 77.647.208  | 133.400.000        | 211.047.208 |
| 2      | Type-38/90             | 77.647.208  | 95.000.000         | 172.647.208 |
| 3      | Type-50/91             | 78.509.955  | 125.000.000        | 203.509.955 |
| 4      | Type-70/120            | 103.529.611 | 210.000.000        | 313.529.611 |
| 5      | Type-70/135            | 116.470.812 | 210.000.000        | 326.470.812 |

Source: housing data in Sidoarjo

Table 2. Utility Costs (Overhead Costs)

| Number                                  | Cost Type                           | Total                 |
|---|-------------------------------------|-----------------------|
| 1                                       | Land Planning Costs                 | 17.557.029.500        |
| 2                                       | Infrastructure Costs                | 11.000.000.000        |
| 3                                       | Electricity cost (PLN)              | 1.228.000.000         |
| 4                                       | Environmental Facility Fee          | 2.640.000.000         |
| 5                                       | Building Planning Costs             | 100.000.000           |
| 6                                       | Licensing Fees                      | 983.200.000           |
| 7                                       | Project Office Administration Costs | 3.840.000.000         |
| <b>Total cost</b>                       |                                     | <b>37.348.229.500</b> |
| Number of housing units and Home Office |                                     | 564 Unit              |
| <b>Total Cost per Unit</b>              |                                     | <b>66.220.265</b>     |

Source: housing data in Sidoarjo

Table 3. Calculation of Cost of Building Houses

| Number       | Cost Type          | Home Office Type-58/90 | Type-38/90         | Type-50/91         | Type-70/120        | Type-70/135        |
|--------------|--------------------|------------------------|--------------------|--------------------|--------------------|--------------------|
| 1            | Land Cost          | 77.647.208             | 77.647.208         | 78.509.955         | 103.529.611        | 116.470.812        |
| 2            | Construction Costs | 133.400.000            | 95.000.000         | 125.000.000        | 210.000.000        | 210.000.000        |
| 3            | Utility Costs      | 66.220.265             | 66.220.265         | 66.220.265         | 66.220.265         | 66.220.265         |
| <b>Total</b> |                    | <b>277.267.473</b>     | <b>238.867.473</b> | <b>269.730.220</b> | <b>379.749.876</b> | <b>392.691.077</b> |

Source: housing data in Sidoarjo

### Calculation of the Cost of House Construction Based on the ABC System

Determination of housing construction basic cost with the traditional system as stated above does not provide accurate information because it causes distortion between types of houses. ABC system is one method that can produce accurate information because there is a charge for each activity. The calculations are as follows:

Table 4. Utility Costs (Overhead Costs)

| Number | Cost Type                  | Total          |
|--------|----------------------------|----------------|
| 1      | Land Planning Costs        | 17.557.029.500 |
| 2      | Infrastructure Costs       | 11.000.000.000 |
| 3      | Electricity cost (PLN)     | 1.228.000.000  |
| 4      | Environmental Facility Fee | 2.640.000.000  |
| 5      | Building Planning Costs    | 100.000.000    |

| Number            | Cost Type                           | Total                 |
|-------------------|-------------------------------------|-----------------------|
| 6                 | Licensing Fees                      | 983.200.000           |
| 7                 | Project Office Administration Costs | 3.840.000.000         |
| <b>Total Cost</b> |                                     | <b>37.348.229.500</b> |

Source: housing data in Sidoarjo

Table 5. Activity Identification

| Number | Cost Type                           | Activity      |
|--------|-------------------------------------|---------------|
| 1      | Land Planning Costs                 | Batch Level   |
| 2      | Infrastructure Costs                | Batch Level   |
| 3      | Electricity cost (PLN)              | Batch Level   |
| 4      | Environmental Facility Fee          | Batch Level   |
| 5      | Building Planning Costs             | Product Level |
| 6      | Licensing Fees                      | Product Level |
| 7      | Project Office Administration Costs | Product Level |

Source: processed data

Table 6. Grouping of Costs to Activities

| Number | Cost Type                           | Total                 |
|--------|-------------------------------------|-----------------------|
| 1      | Unit Level Activity Costs           |                       |
|        | Electricity cost (PLN)              | 1.228.000.000         |
|        | <b>Total</b>                        | <b>1.228.000.000</b>  |
| 2      | Batch Level Activity Costs          |                       |
|        | Land Planning Costs                 | 17.557.029.500        |
|        | Infrastructure Costs                | 11.000.000.000        |
|        | Environmental Facility Fee          | 2.640.000.000         |
|        | <b>Total</b>                        | <b>31.197.029.500</b> |
| 3      | Product Level Activity Costs        |                       |
|        | Land Planning Costs                 | 100.000.000           |
|        | Licensing Fees                      | 983.200.000           |
|        | Project Office Administration Costs | 3.840.000.000         |
|        | <b>Total</b>                        | <b>4.923.200.000</b>  |

Source: processed data

Table 7. Determination of Drivers for Activities

| Number | Cost Type                           | Activity        |
|--------|-------------------------------------|-----------------|
| 1      | Land Planning Costs                 | Land area       |
| 2      | Infrastructure Costs                | Land area       |
| 3      | Electricity cost (PLN)              | Number of units |
| 4      | Environmental Facility Fee          | Land area       |
| 5      | Land Planning Costs                 | Building Area   |
| 6      | Licensing Fees                      | Building Area   |
| 7      | Project Office Administration Costs | Building Area   |

Source: processed data

Table 8. Calculation of Activity Group Rates

| Number | Cost Type                  | Cost          | Driver   | Pool Rate |
|--------|----------------------------|---------------|----------|-----------|
| 1      | Unit Level Activity Costs  |               |          |           |
|        | Electricity cost (PLN)     | 1.228.000.000 | 564 unit | 2.177.305 |
| 2      | Batch Level Activity Costs |               |          |           |

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|   |                                     |                |                       |         |
|---|-------------------------------------|----------------|-----------------------|---------|
|   | Land Planning Costs                 | 31.197.029.500 | 60.541 M <sup>2</sup> | 515.302 |
|   | Infrastructure Costs                |                | Effective             |         |
|   | Environmental Facility Fee          |                | Land Area             |         |
| 3 | Product Level Activity Costs        |                |                       |         |
|   | Land Planning Costs                 | 4.923.200.000  | 28.040 M <sup>2</sup> | 175.578 |
|   | Licensing Fees                      |                | Effective             |         |
|   | Project Office Administration Costs |                | Building Area         |         |

Source: processed data

Table 9. Calculation of the Cost of Building Houses with the ABC System

| Number | Total Cost         | Home Office<br>Type-58/90 | Type-38/90         | Type-50/91         | Type-<br>70/120    | Type-<br>70/135    |
|--------|--------------------|---------------------------|--------------------|--------------------|--------------------|--------------------|
| 1      | Land Cost          | 77.647.208                | 77.647.208         | 78.509.955         | 103.529.611        | 116.470.812        |
| 2      | Construction Costs | 133.400.000               | 95.000.000         | 125.000.000        | 210.000.000        | 210.000.000        |
| 3      | Utility Costs      |                           |                    |                    |                    |                    |
|        | Unit Level         | 2.177.305                 | 2.177.305          | 2.177.305          | 2.177.305          | 2.177.305          |
|        | Batch Level        | 46.377.222                | 46.377.222         | 46.892.524         | 61.836.296         | 69.565.833         |
|        | Product Level      | 10.183.509                | 6.671.954          | 8.778.887          | 12.290.442         | 12.290.442         |
|        | <b>Total</b>       | <b>269.785.244</b>        | <b>227.873.689</b> | <b>261.358.671</b> | <b>389.833.654</b> | <b>410.504.392</b> |

Source: housing data in Sidoarjo

Table 10. Comparison of Company Calculations with ABC systems

| Number | House Type             | Traditional | ABC System  | Gap         | Percentage |
|--------|------------------------|-------------|-------------|-------------|------------|
| 1      | Home Office Type-58/90 | 277.267.473 | 269.785.244 | -7.482.229  | -3%        |
| 2      | Type-38/90             | 238.867.473 | 227.873.689 | -10.993.784 | -5%        |
| 3      | Type-50/91             | 269.730.220 | 261.358.671 | -8.371.549  | -3%        |
| 4      | Type-70/120            | 379.749.876 | 389.833.654 | 10.083.778  | 3%         |
| 5      | Type-70/135            | 392.691.077 | 410.504.392 | 17.813.315  | 4%         |

Source: housing data in Sidoarjo

## CONCLUSION

The results of the calculation of housing construction cost using the ABC system on housing in Sidoarjo are able to describe the results more accurately and do not cause distortion of costs. This system can improve decision making planning so that it can help management in improving its financial planning.

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