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Applying the Activities Base Cost Method in Product Pricing

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Abstract

The Activities Base Cost method is a method of determining costs by identifying cost centers or activity centers within an organization and determining costs for products and services based on the number of events, event or transaction related to the provision of a product or service. Product costs are calculated according to the Activities Base Cost method with an appropriate allocation criteria system, so the product price is determined more appropriately and the product price determined according to the Activities Base Cost method is the basis for Activity Based Management. Activity Based Management are methods implemented by administrators to

improve profits, based on research into the system of determining costs by activity. The article presented the theory of Activities Base Cost including four steps to perform pricing in businesses. The article has applied the theory of Activities Base Cost to determine product prices for each batch of products in animal feed processing enterprises, in order to more accurately determine the cost of each batch of products for control. costs, product pricing and cost management decision making, helping to strengthen cost management in businesses.

Keywords: Product Pricing, Activities Base Cost, Activity Based Management, Cost Management, Activity Cost Group

1. Theoretical basis

Determining costs for cost objects is an important part of cost accounting work in manufacturing enterprises, closely related to the functions of corporate governance. Methods for determining costs for cost objects are the determination and collection of production costs for different cost objects, for the purpose of calculating the cost of products and services to serve operations. Production and business management activities such as product selling price, inventory valuation, determining results, making business decisions and the purpose of checking and controlling costs... In which accounting Modern costing has developed the Activities Base Cost (ABC) method. In the mid-1980s, Robert Kaplan and Robin Cooper introduced the Activities Base Cost method. Activities Base Cost is a method of determining costs by identifying cost centers or activity centers within an organization and assigning costs to products and services based on the number of events or activities transaction involves the process of providing a product or service. The essence of this method is the allocation of common costs to cost objects based on the level of cost resource use of each activity. According to this method, except for direct costs such as direct material costs, direct labor costs are costs that can be directly determined for the product, so there is no need to apply Activities Base Cost. The work of determining costs by activity is carried out specifically in 4 steps:

Step 1: Determine the operating cost group and the activity measurement unit of each cost group. This is the first and important step in building Activities Base Cost in a unit. This work begins by listing the unit's activities, then the business will group similar activities into a group at the appropriate level (unit level, order level, product level), customer level, organizational maintenance level - does not arise from product manufacturing activities so it is not allocated to products) to reduce the number of operating groups.

Step 2: Determine costs and account for common costs for cost groups. Calculating common costs for cost groups is done on the basis of direct interviews with employees to determine the level of use (% of use) of costs of cost groups. From there, the costs for each group of activities can be calculated, with the activities as the main cost objects. The activity of calculating common costs for groups of activities is called initial cost allocation activity.

Step 3: Calculate costs for each activity and determine the cost allocation for each activity measurement unit. Based on the level of resource use, costs of each activity are allocated.

Step 4: Allocate common costs to cost accounting objects. General costs will be allocated to each type of product and each customer. The activity of calculating the cost of each activity group for each product and customer is called the second cost

allocation activity, which is based on the level of use of the activity (number of times, time, intensity) to allocate to products, customers... to calculate the cost of each product, each customer.

The activity based costing method has many advantages. First, the system of allocation criteria is appropriate. The ABC method uses a system of allocation criteria to allocate common costs to cost objects. The difference here is that there is a system of allocation criteria based on the cause-and-effect relationship between costs incurred and the level of participation of each type of activity in the production process. Only products and customers that consume cost resources can allocate those costs to products and customers. Second, about the scope of cost calculation. General costs in the ABC method include not only general production costs, but also general costs of the entire enterprise, that is, including sales costs and business management costs. The cost object here is also understood in a broad sense, not just the product but also including activities and customers. Therefore, the ABC method has allocated costs across the enterprise to products and customers, thereby not only calculating costs for products and operations but also for each customer serving the business. Determine the profit brought by each customer. By deducting product costs and the costs of serving each customer, the profit of each specific product or customer can be determined.

Third, the ABC method is the basis for Activity Based Management. Activity Based Management are measures taken by administrators to improve profits, based on research into the Activity Based Cost determination system. Among these measures are re-pricing products that are not profitable for the company, in order to improve production efficiency. Activity Based Management was developed to provide more accurate cost information about business processes and activities, the products, services and customers they serve. The ABC method divides the entire enterprise's activities into groups of activities with the same allocation criteria to calculate costs for those activities. That work also brings benefits to the cost management of the business.

However, besides the benefits, applying the initial ABC system also has certain limitations. First, applying the system in practice costs a lot of money to make and maintain improvements. Second, the cost allocation in the ABC method may not be accurate. Third, it is difficult to update the ABC system. ABC system still requires at least one other cost accounting system to provide information to users outside the enterprise. The traditional cost accounting system has the purpose of calculating the cost for each unit of product to value inventory, determine cost of goods and prepare financial reports, serving mandatory information purposes outside the business. In contrast, operating cost accounting calculates costs for each product unit and customer for the purpose of managing general production costs and making decisions for business administrators.

2. Actual situation

Through a survey and research on the current status of cost accounting in animal feed processing enterprises, it shows that cost accounting has certain advantages and limitations. Regarding financial accounting, cost accounting information has met the needs of financial accounting information to serve the provision of information outside the enterprise, ensuring compliance with state regulations. current.

Regarding management accounting, some businesses have initially implemented cost management accounting to serve management and decision-making activities at the business but have not yet really met the need for detailed information. Fees for the decision-making process of animal feed processing enterprises. In the operating conditions of the animal feed market as well as input materials for animal feed production, prices are constantly changing, influenced by the world market and government policies. country as well as the epidemic situation, determining the price of the product quickly and accurately plays an important role in determining the selling price of the product, as well as orienting the production and consumption of the product. However, no business has applied the ABC method. The reason why animal feed processing enterprises have not applied the ABC method is because the ABC method requires dividing activities into activity groups, then calculating costs for activity groups and then calculating costs for objects. bear the cost. Those jobs take a lot of time and money. At the same time, because the number of accountants and the qualifications of accountants, especially the cost management accounting knowledge of animal feed processing enterprises is not high, many accountants have not been updated. Updating modern methods of determining costs of management accounting, the accountant's initiative in providing information from many angles for managers to make decisions is not high. In addition, the awareness of cost accounting information to serve corporate governance of administrators is still low, administrators have not made requirements for general accounting information and information. Cost information in particular to serve corporate governance activities for accounting. This is the reason why the ABC method of cost determination has not been applied to provide multi-dimensional information for administrators to make decisions appropriate to each situation in choosing a specific business plan. Therefore, cost accounting information does not meet the information requirements for cost management in animal feed processing enterprises.

3. Solutions

Activity costing is a method of determining costs by identifying cost centers or activity centers within a business and determining costs for products and services based on The number of events or transactions involved in providing a product. The ABC method uses a system of allocation criteria to allocate common costs to cost objects. The difference here is that there is a system of allocation criteria based on the cause-and-effect relationship between costs incurred and the level of participation of each type of activity in the production process. This article proposes to apply the ABC method with adjustments suitable for animal feed processing enterprises within the production workshop to calculate the production cost of a batch of products. The cost of each batch of products will be calculated based on ABC theory to allocate general production costs at the factory to each batch of products.

The production characteristics of animal feed processing enterprises are to produce products in batches of products, after producing this batch of products, they can move on to the next batch of products. Animal feed processing businesses need to calculate costs for each batch of product because there are batch-level costs that need to be calculated for each batch to ensure the accuracy of product costs, such

as raw material costs. Direct materials, direct labor costs, and testing costs arise for each batch of products. At the same time, in case a batch of products does not meet quality standards, that batch of products will be put back into production, requiring costs of raw materials, labor costs and other costs, thus The cost of that batch of products is different from other batches of products. Calculating separate costs for each batch of products helps prevent product costs from being spread evenly between batches of damaged products and batches of non-damaged products during the period, thus allowing you to see the limitations in the production process. production of each batch of products to find the cause and fix it for the following batches of production. Calculate the production cost of each batch of product using the ABC method as follows:

For direct costs, direct costs are calculated directly and entirely for each batch of product, including direct material costs and direct labor costs. Direct materials costs can be calculated for each batch of products based on the Raw Materials *Delivery Note* for each batch of products. Packaging costs should also be included in the direct materials costs. Currently, packaging costs are included in general production costs by businesses. According to the author, packaging costs should be included in direct materials costs because it is a component of the product, creating the physical entity of the product. Direct labor costs are also calculated for each batch of product. Enterprises need to create a *labor time tracking sheet* to calculate the labor time and workload of each worker, for each type of job, for each batch of products, to serve salary calculation and cost determination. Direct labor for each batch of products.

For general production costs, apply the ABC method in determining the cost of a batch of products by identifying activities that create costs in the production process, grouping activities with the same source. costs, then determine the costs of those activity groups and select the unit of measurement for each cost group's activities to allocate costs to the appropriate batch of products. Researching practical production and business activities of animal feed processing enterprises, the article proposes the application of the ABC method in allocating general production costs to each batch of products determined as follows:

Step 1: Determine the operating cost group and the activity measurement unit of each cost group. All activities generating costs within the production workshop (except activities generating direct material costs and direct labor costs) are divided into operating cost groups and corresponding allocation criteria. The response of each activity group is as follows:

- Product testing activities with the activity measurement unit being the number of testing times.
- Machine running activities with the unit of operation measurement being the number of machine running hours.
- Product transportation activities with the unit of

measurement being the number of kilograms of finished products produced.

- General maintenance activities at the workshop with the unit of measurement of activity being the number of machine running hours.

Step 2: Determine costs and account for general production costs for cost groups. Accountants determine general production costs for operating cost groups as follows:

- Product testing activities: includes costs of the product testing department, depreciation costs of product testing machines, salary costs and deductions based on salaries of the testing department, raw materials, and labor. Tools of the testing department and other costs of the product testing department...
- Machine running activities: includes depreciation costs of production lines, electricity costs, gasoline costs, coal costs, machinery repair costs, engine oil change costs, compressor pump costs gas.
- Product transportation activities: includes salaries and deductions based on the salary of shipping staff, tool costs, depreciation costs of forklifts and tractors used to transport products.
- General maintenance activities at the factory: includes all remaining general production costs such as factory depreciation costs, salary costs and deductions based on the salary of factory management staff, Air conditioner refilling, oxygen tank replacement costs, antiseptic and disinfectant pump costs, trash transportation costs, security service costs, workshop stationery costs, bamboo broom costs.

Step 3: Calculate costs for each activity and determine the allocation level for each activity measurement unit. Based on the costs collected for each activity cost group, divided by the number of activity measurement units, the cost allocation level for one activity measurement unit will be calculated. To calculate the testing cost for one product testing session, it is calculated by dividing the cost of product testing activities by the number of times the product testing is performed during the period. Similarly, businesses will calculate the cost of running the machine for one hour of machine running, the transportation cost for one kilogram of product and the general maintenance cost at the factory for one kilogram of finished product.

Step 4: Allocate general production costs to a batch of products.

Apply the ABC method to allocate RTD Company's general production costs to each batch of products. First, accountants identify costs and group allocations into cost activity groups. From there, the costs for each cost activity group will be calculated as follows:

- Cost of product testing activities: 42,000,000 VND.
- Operating costs for running the machine: 900,000,000 VND.
- Product transportation costs: 72,000,000 VND.
- General maintenance operating costs at the workshop: 348,350,000 VND.

Table 1: Grouping overhead costs into activity cost groups

Content	Operating expense group				
	Test	Run	Transport	General maintenance	Total
Depreciation costs in the testing department	24,000,000				24,000,000
Salary and deductions based on the salary of the testing department	18,000,000				18,000,000
Production line depreciation costs		425,000,000			425,000,000
Cost of electricity, coal, gasoline, oil		320,000,000			320,000,000
Machine repair costs, engine oil change costs, air compressor pump costs		155,000,000			155,000,000
Salaries and deductions based on the salary of transportation staff			30,000,000		30,000,000
Tool costs, depreciation costs of forklifts and tractors used to transport products			42,000,000		42,000,000
Factory depreciation expense				275,000,000	275,000,000
Salary costs and deductions based on the salary of factory management staff				48,000,000	48,000,000
Cost of refilling air conditioner gas, cost of exchanging oxygen tanks, cost of pumping antiseptics and disinfectants, cost of trash transportation, cost of security services, stationery in the workshop, cost of bamboo brooms...				25,350,000	25,350,000
Total:	42,000,000	900,000,000	72,000,000	348,350,000	1,362,350,000

After determining the costs for each operating cost group. Accountants determine the total number of activity measurement units for each activity cost group. The enterprise has tested finished products 936 times, had 780 hours of machine running, and completed production of 2,237,000 kg of finished products. The cost for each activity measurement unit is calculated by dividing the total cost of each activity cost group by the corresponding number of activity measurement units.

Table 2: Allocation of overhead costs into activity cost groups

Cost group	Total cost	Number of units of measurement	Cost per unit of measurement
Test	79,000,000	936 (times)	44,872/ 1 time
Run	900,000,000	780 (machine hours)	1,153,846/1 hour
Transport	72,000,000	2,237,000 (kg)	32/ 1kg
General maintenance	348,350,000	780 (machine hours)	446,603 / 1 hour

From there, businesses can determine the general production costs allocated to each batch of products by multiplying the number of units of measurement for each type of activity in that batch of products by the cost for each unit of measurement. For example, an enterprise produces a batch of super high protein pork products (5kg/bag) with product code B52V.05, total weight is 3,000 kg. The general production costs allocated to this batch of products are 1,741,878 VND.

Table 3: General costs allocated to batches of products producing 3,000 kg of super high protein pork products (5kg/bag)

Cost content	Unit	Number of units measure	Cost per unit of measurement	Total
Test	Time	first	44,872	44,872
Run	Hour	first	1,153,846	1,153,846
Transport	kg	3000	32	96,558
General maintenance	Time	first	446,603	446,603
Total				1,741,878

Adding the cost of direct materials and direct labor costs to produce a batch of Super high protein pork products (5kg/bag) of 21,942,080 VND and 1,200,000 VND, the business will calculate the total cost. The production cost of this batch of products is 24,883,958 VND. If divided by the

number of kg of finished product, which is 3,000 kg, the production cost for 1 kg of finished product will be calculated at 8,295 VND/kg.

Table 4: Batch cost calculation table for super high protein pork products (5kg/bag)

Expense	Total
The cost of materials directly	21,942,080
Direct labor costs	1,200,000
Test	44,872
Run	1,153,846
Transport	96,558
General maintenance	446,603
Total	24,883,958

Applying the adjusted ABC method to calculate the production cost of a batch of products as above can be applied to animal feed processing enterprises of all sizes. When animal feed processing enterprises develop at a higher level, product production activities are diverse and the level of accounting apparatus is more modern, the ABC method can be applied in calculating prices for animal feed. Products, customers, and branches within the scope of common costs for the entire enterprise.

4. Conclusion

The ABC system can help businesses make short-term decisions such as taking advantage of idle capacity to increase revenue or cut down on idle resources; make strategic decisions such as not producing unprofitable products, or ending relationships with unprofitable customers. The ABC method gives better cost calculation results, more accurate cost allocation, provides more accurate cost information, helps administrators properly evaluate costs, revenue and profits, and helps identify costs. Opportunities to improve and enhance the competitive advantage of businesses. Applying the ABC method in calculating the cost of a batch of products to more accurately determine the cost of a batch of products serves to control costs, determine product selling prices and make cost management decisions, helping to Strengthening cost management in animal feed processing enterprises. Determining the cost for each product, for each customer, for each branch creates the basis for preparing business results reports for each product, for each customer, for each

branch.

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