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USE OF ACTIVITY BASED COSTING FOR IMPROVING PERFORMANCE IN KOLHAPUR FOUNDRIES



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ABSTRACT

Today per kg cost of casting is the basic platform that uses as a measure to cost of casting. In foundry industries die casting is a versatility process of producing engineered metal parts which is used in automobile and many other industries. These components are made through forcing molten metal under high pressure into reusable steel molds. The product produced under die casting is high volume and mass-produced items. In today's competitive situation every industry has try to update quality management system to make themselves top in business. The purpose of this article is to focus on the top management and operational team can receive

the benefits from adoption of activity based costing system.

KEYWORDS : *Activity Based Costing , Improving Performance , basic platform , mass-produced items.*

INDUSTRIAL BACKGROUND

The Indian foundry industry is a leading engineering sector producing more than 7 million tones of casting, which is about 8 to 9% of total castings produced in the world. Kolhapur is situated in southwest corner of Maharashtra and shares its eastern and southern border with the State of Karnataka. Kolhapur was traditionally agro-based economy and increasing demand for oil engines and agricultural equipment is basic cause to emerge the foundry in Kolhapur in 1960s. Today Kolhapur is a leading foundry cluster for manufacturing quality casting. There are approximately 300 foundry units located in Kolhapur and Sangli districts. Foundries in Kolhapur are spared in eight industrial estates i.e. Kolhapur Engineering Association, Shirol MIDC, Gokul Shirgaon MIDC, Kagal 5-star MIDC, Ichalkaranji Industrial Estate, Jaisingpur Industrial area, Laxmi Industrial area and Hatkanangale Industrial area. Total production of these industrial estate is approximately 6,00,000 tonnes per annum. Also casting produced in these foundries is exported to several countries. Various types of casting is produced in Kolhapur foundries i.e. ferrous, non-ferrous, alluminium alloy, graded cast iron and steel casting. The casting produced form above material is mainly used in automobiles, railways, pumps, compressors and valves, diesel engines, cement industries, electrical industry, textile machinery, power generation and construction machines etc.

Factors Causing Mislead of Per Kg Cost of Casting

Today the foundries are became customer driven and these customers demand every time to reduce the price of casting. But the basic factors behind the misleading the cost of casting are.

- Continuous growth in prices of raw material like aluminum and steel etc.
- Pattern modification made on customer demand.
- Different products require different types of fettling and finishing.
- Cost of labour goes on.
- Competition from the global competitors.
- Production quality control varying from firm to firm.

Concept of Activity-Based Costing

Activity based costing is a simple concept that is used to develop the accurate and relevant cost information needed to support types of business decisions. The fundamental concept underlying activity based costing is as follows.

- The jobs, products and services an organization provides require it to perform activities, and those activities cause it to incur cost.
- Costs that cannot be directly attributable to a job, product or service are associated with the activities that made them necessary.
- Each activity's accumulated cost is then associated with the jobs, products, or services that make the activity necessary.

The concept is as simple as that, costs are either assigned directly to a job, product or service, or they are assigned to the various activities performed by the organizations. Activity based costing allows to identify the policies, systems or processes that trigger the activity, thereby creating cost. Activity based costing traced out what really drives costs and allows the business organization to attack and reduce the so-called fixed costs, such as sales force expenses, engineering, planning and depreciation. Activities link planning and control at an optimum level. Activities help to integrate financial and non-financial performance measures.

CLASSIFICATION OF ACTIVITIES

In the activity based costing system there is need to classify the all the activities in a systematic manner to link this activities to each other for the cost calculation purpose. This will help to reduce the wastage. The following mentioned process is generally adopted in manufacturing industries.

- **Process activities:** these are those activities that relate directly to the products or services provided by the organization. This process can be effectively identified using process mapping techniques. Under this criterion activities are divided in two sub-set i.e. unit level activities and batch level activities. Melting is a process level activity and holding metal for correction of composition is a process level batch activity.
- **Process support activities:** these are those activities that directly not related with the product but support to other activities. Such as quality assurance, maintenance and production control etc.
- **Organization and Facility support activities:** these are general management activities which providing a facility to other activities. Such as planning, administration etc.

•**Customer / Market related activities:** these activities are existing to support sub sets of the organization's customer base.

•**Product / Product-line activities:** these are those activities that exist to support sub-sets of the organization's product base. Such as pattern modification.

Important Terms in Activity Based Costing

•**Cost center:** A cost center means the each and every event of the manufacturing firm for which costs are calculated and reported. A department having operational responsibilities which is lie upon its manager independently and number of workers assigned to that department. A cost center also represents the purpose of an expense as different to the nature of the expense which is recorded by the natural account. In activity based costing the activity cost centre must be identity within the firm.

•**Cost driver:** Cost drivers are the systematic calculation of the cost of each activity, showing any interrelationships that affect on it – M. Porter. According to CIMA, cost driver is any aspect which causes a change in the cost of an activity. Cost driver is an aspect that contributes to the expenses of certain business operations. In activity based costing, an activity cost driver is something that drivers the cost of a particular activity. A cost driver is the unit of an activity that causes the change in activity's cost, i.e. in marketing, cost drivers are number of advertisements, number of sales personnel etc.

•**Cost pool:** A cost pool is a group of independent costs, usually by department. Cost allocations are then made from a cost pool. For example, the cost of the maintenance department is accumulated in a cost pool and then allocated to those departments using its services. As per the managerial accounting method, cost pool means a sum of all costs items which are operated when any specific activity are performed in the organization.

Implementation of Activity Based Costing System

•**Formation of ABC team:** for the successful implementation of activity based costing system the ABC team must be there. This team includes the engineer who should working in strategic planning group, cost accountant of the firm who has knowledge of existing accounting system, production supervisor and industrial engineer.

•**Defining major activities in organization:** the basic focus is required while defining activities to production department because administrative and selling and distribution activities are broadly identified. Hence production activities are classified in primary activities includes 1) furnace related 2) machine related 3) fettling 4) shot blasting and support activities includes 1) die design and procurement 2) die and machine maintenance 3) machine setting 4) inspection.

•**Assigning cost to each activity:** it is important to assign the overheads costs to each activity by using first stage cost driver. The technical issue is that how to decide what is the first stage cost driver. The expenses captured in the firm's general ledger to perform the activity are called a first stage cost driver.

•**Allocating cost of activities to product:** in this stage activity based costing multiplies the usage amount of cost driver in performing an activity by the unit cost of the driver to determine the total cost of that activity for an individual product.

Benefits of Implementing Activity Based Costing

•**Different rates of overhead allocation:** instead of single labour hour rate the firm can use different rates to allocate the overhead at each activity. Because factors like weight of casting, surface area and machine utilized is not visible earlier but which is clearly made impact on final cost which is now identified.

•**Pricing decision:** it is stated that accurate product or service costs are essential, without it a firm

cannot know whether it is quoting prices for products at a profit. Accurate cost information is necessary but it must be understood that neither the market nor the cost determine price of job or product. A firm needs accurate and relevant cost information to determine whether it want to “play the game” at the market price.

- Capacity utilization:** the cost driver rate will help to look into details capacity utilization during the specific period to the plant team. This will help to calculate down time of machines and their reasons like due to preventive maintenance, breakdown, line stoppage due to shortage of material.

- Make / Buy decision:** cost is playing important role in outsourcing decision. In this situation the firm compares its cost of manufacturing a component part with the price it would pay to a supplier for manufacturing that component part for them, here fully absorbed manufacturing cost and piece price are compared. But activity based costing pointed out that only price of the component must not be taken into consideration, along with price cost of additional purchasing, receiving, accounts payable, material control or qualified staff might be added. Another major point raised in activity based costing system is maintaining higher inventory cost for smooth conduct of the operation regular supply of the material is require and hence to maintain high inventory also increases the cost of the component. In all of these situation the ability to accurately determine incremental costs, such as can be done with a properly designed activity based costing model, is a prerequisite in an organization is to make rational outsourcing decision.

CONCLUSION

Form the above discussion it is concluded that traditional costing system is incapable to provide accurate cost of the product. In activity based costing costs are allocated to the different activities which are necessary for producing the product and cost of activities are allocated to the final product on the bases of unit level and batch level. Activity based costing system alone helps in production decision, cost control, outsourcing decision, pricing decision and performance measurement. Also it point out loss making activities and try to reduce these loss. Hence by using activity based costing system the Kolhapur foundries can improve its performance.

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