

A study of the cylinder manufacturing company



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The cylinder manufacturing company is a large producer of oil tanks and located in the North of Buckinghamshire in the United Kingdom. It was started as a company in 1970 and has enjoyed steady growth in both sales and profits.

From 1970 to up to 1998 company producing the products using standard accounting system. In 1998, the founder's daughter Davina Brinkwater joining the company after completing the graduation from the university in accounts and finance. After the joining she analyse the company current accounting system and recommend to revise the accounting system as there was a demand for more accurate product cost information to support the firm's strategy of offering keen price in a highly competitive market where a few firms dominated.

Problem

After joining the company she analyse the company accounting system which is using "Traditional Accounting System". With The support of his powerful and influential father, Davain succeeded to implement the New System, Which is "Abstract-Based Costing ABC". But she faces the problem by the members of the firm that she is trying to change the organization. Some members of the firm are happy who to accept the challenge and understand how new system working. After the retirement of his father, she is conscious that she must prove herself.

The Real Problems

Davina is aware that disruption due to the implementation of the new system can be upsetting. And that happening, when the accountant saying

her that the profits are down below of the budget. He is very critical about the current costing system saying that it is out of line with the updated manufacturing systems as well as way behind current theoretical ideas on product costing. According to the accountant, they are still absorbing overheads on labour hours and that they have an artificially high overhead absorption rate of £150 per labour hour. He claims that they are pricing themselves out of the market on their established product line. He suggests that product costs would be more meaningful if absorbed on the basis of machine hours.

On the other hand, Davina decides that she herself investigate the problem over the past five years. And she got the following results.

Overhead cost had risen to £599300 per month , which is 46% increase
direct labour hours have risen from £168200 to £170000

Direct labour hours are 4000 compared with machine hours of 6500

Davina asks the manufacturing manager about the rise in overhead cost, he gives the explanations as below.

23 Different versions of a single product

Cost of a product is high

materials handling is an increasing headache

overtime is going through the roof

lack of skilled peoples

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Davin then decides to talk with the marketing manager, who says

We are facing fierce competition for our high volume lines, just can't match the low price in market

However we have successfully increase our sales

We are meeting our overall sales target

OBSERVATION

After the study of the firm's history and launching a new activity base system over traditional method, In my point of view that every manager / employee just blaming and blaming. They did not realise the exact problem even they have increase in the sales and achieving the sales target. And also there is more demand of the special product in the market.

I considered that the firm is using both method simultainusly. Especially firm is focused on Standard product production rather than the Special product production. Using standard method they are rendering the more service over labour cost and result the overhead increase. They did not utilized and increase the machine labour. And which is more demanding product in the market.

“ Realisation that overheads do not just occur, but are caused by activities, such as holding products in store, that ‘ drive’ the cost is at the heart of Activity-based costing (ABC). The traditional approach is that direct labour hours are a cost driver, which probably used to be true. It is now recognised to be no longer the case.

Traditionally, we tend to think of overheads as rendering a service of cost units, the cost of which must be charged to those units.

ABC sees overheads as being caused by cost units, and that those cost units must be charged with the costs that they cause.” (Accounting and finance by Peter Atrill and Eddie Mclaney)

ABC is the one and only solution for the problem and implanting the new activity cost based system is the big challenge. After implementing the new accounting system we will able to calculate the actual cost of the both products Standard and Specialised product.

Budgeted overhead cost per month

Machines 279500

Set-up and engineering support 200200

Materials handling 119600

Total overheads 599300

Direct labour 170000

Total manufacturing cost excluding direct materials 769300

Solution:

Here we will simply calculate the machine hours which tells the overheads recovery base by the ABC method.

Formula:

$(\text{Machine Hour} / \text{Total Hours}) * \text{Total Over heads}$

Standard Product: $(3500 / 6500) * 599300 = 322700$

Specialised Product: $(3500 / 6500) * 599300 = 276600$

After calculating machine hour with ABC system we have actual cost of both products. Where we can easily indentify that standard product is using more hours than the specialised product. Because there are already 23 different versions of standard products in the market, and there demand is also less so we cannot increase the price of standard product due to the market competition.

Although on the other hand the scope for the specialised product is available in the market and its demand is also high. Specialised product driving the cost more than the standard product. Only the company needs skilled labour, increase the no of setups and store orders than the standard product.

Standard product is absorbing the cost of Specialised product.

Standard Product is not giving more profit, so we need to improve our new specialised product which has the market and giving more profit. Specialised product giving gaining the profit targets.

Only the reason behind is this, that the company using less machine hours and still depending over the labour, which caused to increase the overheads and also the graph of the profit is going down.

Recommendation

As I mentioned before that there is demand of specialised product in the market is high and this product is giving more profit. So there is the need to increase the price of the product.

According with the Market Manager firm is meeting the Overall sales target, and there is more demand available. There is the need to increase the Machine hours, so that production of the specialised product increase and also need to increase the product price. This will generate the more profit and help to overcome the overhead margin. We can increase the machine hours which can increase the production and to adjust labours we can run the manufacturing department in different shifts to use maximum numbers of labour and machine hours to our profitable product.

SECTION II: – Show how an activity based system would change the analysis of the costs between the standard and specialist products.

First we can analysis the problem and after that we will be working through these data. Firstly to see how traditional cost accounting methods might deal with them; secondly to look at the ABC method itself. Of these approaches we will be looking at, only ABC will be using all of the data in any great detail. This is consistent with the general nature of the traditional method.

(ref: <http://business.fortunecity.com/discount/29/abcworkex.htm>)

Analysis

The firm is using the old accounting system is which they have a single pool for the overheads through which they cannot calculate actual drive of the

cost, where the “ ABC system is a technique for more accurately relating the overheads to specific production or provision of a service. It is based on acceptance of the fact that overheads do not just occur but are caused by activities, such as holding products in store products in store, which drive the cost”.(Ref: Accounting An introduction by Eddie McInaney and Peter Atrill. Forth Edition)

By calculating the cost between standard and specialised product with ABC system we can see difference.

Traditional Direct Labour Hours

Formula:

$(\text{Labour Hour} / \text{Total Hours}) * \text{Total Over heads}$

Formula:

$(\text{Machine Hour} / \text{Total Hours}) * \text{Total Over heads}$

Standard Product: $(3500 / 6500) * 599300 = 322700$

Specialised Product: $(3500 / 6500) * 599300 = 276600$

After calculating the cost of standard and specialised product we have machine hours and labour hours, where we can easily analysis that standard product is absorbing more labour hours as the results Machine hours are producing less products. As far manufacturing manager is also worried about the standard product, because he is keeping the cost low because there are 23 other versions of the product are in the market. Because of the low price and Standard product competition it is not giving profit to the firm.

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Alternatively, specialised product has the market and running very smoothly in the market. According to the marketing manager is meeting the targets and the sale is increased and still there is demand for the specialised product. But manufacturing manager is worried about the cost of manufacturing it. He needs more skill labour, machine set-ups and the cost of material handling.

Cost Analysis:

Activity based costing (ABC) assigns manufacturing overhead costs to products in a more logical manner than the traditional approach of simply allocating costs on the basis of machine hours. Activity based costing first assigns costs to the activities that are the real cause of the overhead. It then assigns the cost of those activities only to the products that are actually demanding the activities.

Activity based costing recognizes that the special engineering, special testing, machine setups, and others are activities that cause costs-they cause the company to consume resources. Under ABC, the company will calculate the cost of the resources used in each of these activities. Next, the cost of each of these activities will be assigned only to the products that demanded the activities. In our example, Standard Product will be assigned some of the company's costs of standard engineering, Standard testing, and machine setup. Other products that use any of these activities will also be assigned some of their costs. Specialised Product will not be assigned any cost of special engineering or special testing, and it will be assigned only a small amount of machine setup.

<http://www.accountingcoach.com/online-accounting-course/35Xpg01.html#ixzz0IBWYUcTr&D>

In our case study, The Cylinder manufacturing company is using a single pool for the overheads, the cost of standard and specialised product is not calculated by their activities. Budgeted overheads cost per month shows the total of overheads so it is not possible to check which product is absorbing the cost, and how we can generate profit from it. The old accounting system is showing the Machine, Set-ups and materials handling as a total for both products.

Machines 279500

Set-ups 200200

Material 119600

Total overheads 599300

This is a single pool of overheads through which we cannot calculate the actual cost of the product. This firm is manufacturing two products Standard and Specialised product. So we have to calculate the cost of each product. Now we look these figures in a more advanced way by using ABC system and see the changes.

APPLYING ABC SYSTEM:

Machine hours

Standard Product $(3500/6500 * 279500)$ 150500

Specialised Product $(3000/6500 * 279500)$ 129000

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Set-Ups

Standard Product (80/280 * 200200) 57200

Specialised Product (200/280 * 200200) 143000

Material Handling

Standard Product (160/460 * 119600) 41600

Specialised Product (300/460 * 119600) 78000

By using ABC system now we have activity based costs of the products now we can analysis these changes. According to these new figures Standard product is absorbing the cost and the main cost driver is our specialised product. We can take few steps to generate profit from our products. Specialised product is our profit making product and meeting the target sales in the market its mean there is a demand of this product

What Company to do?

There is the need to Increasing the Specialised product price in the market

Increasing the Machine Setups

Increase the Machine hours and labour Hours

Hire the Skilled Labour

Increase the manufacturing of specialised product

Need to control the store order cost

As above we mentioned that Company needs more skilled labour and need to increase in setups. Its mean that specialised product have more ratio in the total overheads. By charging the specialised product according to its activity we can calculate the actual cost.

Conclusion and advice:

Using the activity based costing method is more accurate in reflecting the actual efforts associated with production. As company began measuring the costs of activities (instead of focusing on the accountant's departmental classifications), they began using ABC cost information to practice activity based management.

<http://www.accountingcoach.com/online-accounting-course/35Xpg01.html#activity-based-costing-two#ixzz0IBdJkQPx&D>

The above figures show that under the traditional approach, the margins are broadly equal between the two products. However, the ABC approach shows that the specialised product is far more profitable. Hence the firm should reconsider its manufacturing department and try to increase the production of the product and in marketing department they try to switch customers to specialised product, with a increase in price.

The main target is specialised product which can change the firm's financial conditions by increasing the profit margin. It is high cost product which is running the big portion of the overheads so by increasing the numbers of machine hours and labour hours it is possible to overcome the overhead and increase the Specialised product manufacturing and marketing department can try to sell it with a high price in the market and earn the high ratio profit.

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Manufacturing and marketing department have to work together to get the profit margins by increasing the manufacturing of special product with more labour in overtime shifts and fulfill the market demand.

SECTION III: – Advise on the implementation of an ABC system. How can Davina's fears be lessened?

You will find implementing Activity Based Costing is a powerful tool in measuring performance. Activity-based costing is used to identify, describe, assign costs to, and report on agency operations. Traditional accounting is not as accurate for use as a cost management system. Activity based costing identifies opportunities to improve the business process and efficiency by determining the 'true' cost of a product or service.

You can use activity based costing to focus management attention on the total cost to produce a product and to determine the basis for full cost recovery. You will find that support services are well suited for activity based resourcing because they produce measurable units of output.

Activity-Based Costing is:

- Is a management tool that provides better allocation of resources
- Is applicable to both appropriations and revolving funds
- Relates total cost (resources consumed) to work accomplished (outputs produced)
- Aligns costs to outputs, thereby increasing cost visibility
- Is useful in forecasting financial baselines

Implementation of ABC

Activity based costing assigns costs to resources and products to produce units of cost. A unit cost is the “ average total cost” of producing one unit of output. You calculate the unit cost by dividing the total cost of production by the total number of units of output produced.

When you make a clear connection between the costs and outputs you have a true financial picture. You will see the costs are more visible and explicit which will help you make good decisions when allocating resources.

Total cost visibility takes into account all of the costs associated with producing or delivering a product. For example, if you have a family member working in your business

And you pay them by providing them a vehicle. Your family member’s labor is not free and you must calculate the cost of the vehicle into your total costs.

You have four steps in activity based costing:

1. Identify activities-perform an analysis of the operating process of each segment used to create the product. You may need to be very detailed depending on your business.
2. Assign costs to activities-you must determine all the costs in each activity. You must include administrative costs all the way to materials and labor.
1. Direct-costs that can be traced directly to one output. For example, the material costs (varnish, wood, and paint) to build a chair.

2. Indirect-costs that cannot be allocated to an individual output; in other words, they benefit two or more outputs, but not all outputs. Examples: maintenance costs for the saws that cut the wood, storage costs, other construction materials, and quality assurance.)

3. General & Administrative-costs that cannot reasonably be associated with any particular product or service produced (overhead). These costs would remain the same no matter what output the activity produced. Examples: salaries of personnel in purchasing department, depreciation on equipment, and plant security.

3. Identify outputs-identify all of the outputs for each segment in the operating process. Outputs can be products, services, or customers.

4. Assign activity costs to outputs-assign activity costs to outputs using activity drivers. Activity drivers assign costs to outputs based on the outputs' use of resources. For example, a driver may be the number of times an activity is performed (transaction driver) or the length of time an activity is performed (duration driver). Activity based costing encourages managers to identify which activities are add value. Those activities that will best accomplish a mission, deliver a service, or meet a customer demand. Activity based costing improves efficiency and improves the decision making process by focusing on the actual costs.

Davina's panic:-

After winning the argument over the traditional accounting method, Davain's facing the real problems. Because she knows that in practical its bit difficult to implement the new system and but she going to panic when everyone

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who are not happy with this system is blaming her. After getting the analysis she got upset that where is the actual problem? She is succeeded to implement new system but failed because she have no skilled labour and also she don't have the skilled management. Who can understand and run the ABC system.

My Advice to Davina is that:-

There is the need to Increasing the Specialised product price in the market

Increasing the Machine Setups

Increase the Machine hours and labour Hours

Hire the Skilled Labour

Increase the manufacturing of specialised product

Need to control the store order cost

As above we mentioned that Company needs more skilled labour and need to increase in setups. Its mean that specialised product have more ratio in the total overheads. By charging the specialised product according to its activity we can calculate the actual cost.

As above, if Davina take some bold steps, according to my opnion she will succeed to overcome the overhead ratio, and also she proves herself in front of them who are pointing her. And after that the company again starts a value profit by its specialised product selling.