

Destin brass products CO.

Business



Problem Statement: Destin Brass president Roland Guidry is concerned with the competitive trends of the company products. He and his staff are worried that company profits are falling in regards to these competitive problems.

Analysis: Destin Brass Company manufactures three items dealing with water purification systems: valves, pumps, and flow controllers. The company has been seeing some problems dealing with competition within some of the product markets they produce. Ronald Guidry had two basic questions they wanted answered dealing with this case: 1.

Why was it so difficult for the company to stay competitive in the pump market? 2. Why has the company not seen any competition in the flow controller market even with a recent raise in their price to consumers? These questions aroused from Guidry when he realized that the company wasn't making the standard 35% gross profit margin in pumps. This was the case because the company was forced to reduce the selling price in pumps away from the target price (\$97. 10 to \$81. 26) due to stiff competition.

Management also realized the excessive gross profit margin of 42% in flow controllers even after a recent 12. % increase in price. [pic] The answer to the questions raised by management is directly related to how the company is accounting for their overhead relating to each product. The company had been using a traditional way of allocating overhead. (Exhibit 2) This was a simple and inexpensive way for the company to accomplish this task.

However, it really didn't accurately assign overhead to each product. Destin realized this and had it controller, Peggy Alford, design a revised way for allocating overhead. Exhibit 3) This revised system didn't seem to answer any questions or alleviate any problems that Destin was having. Activity

Based Costing (ABC) was another possibility to allocate overhead and helps answer the questions above. (Exhibit 4) Traditional Cost system: The traditional cost system that was currently being used was a fairly inexpensive way for the company to allocate overhead cost. This system was used to generate a standard unit cost that was then used to produce a target selling price based on the 35% profit margin set by the company.

The structure used to assign overhead to each product to arrive at a standard cost was a very inappropriate method for the company to use.

There are a number of reasons that this way was inappropriate. First, the only way overhead is allocated using this system is by assigning overhead to production to each product on the basis of production-run labor costs. [pic]

The table above shows how the overhead rate was generated for use in the traditional cost system. Using this rate it allocates \$4.39 of overhead for every \$1.00 of run labor used in the product which the labor was applied.

This per unit overhead rate is then added with a material and direct labor per unit cost. Adding these three cost up will give you the standard unit cost for producing each product. (Exhibit 2) This system basis all overhead on labor and therefore is not a very accurate way to distribute overhead cost to each product. Take for instance the flow controllers which have a labor usage of .40 hours per unit. Using the overhead rate above of 439%, overhead allocated to each flow controller is \$28.10. This only takes into account direct labor and nothing else.

This creates a problem because even though Flow Controllers take .40 hours to produce they only use .20 hours of machine usage. Compare this

machine usage to . 50 machine hours to produce each valve which uses . 25 labor hours and . 50 hours to produce each pump which uses . 50 labor hours. This shows that flow controllers are incurring more cost than needed when dealing with machine usage. This problem of over allocating overhead to certain products is also true when dealing with machine depreciation. Machine depreciation accounts for \$270, 000 of the total overhead, a large percentage.

With the overhead rate being determined by labor using this traditional system, machine depreciation is being determined by how much labor is being used to produce each product. In reality machine depreciation should be allocated to overhead using how many machine hour it took to produce each product. With 4, 000 flow controllers being produced at a machine usage of . 20 hours they accounts for 800 total machine hours. This number is very small in comparison to valves and pumps which take 3, 750 and 6, 250 total machine hours to produce, respectively.

This means that flow controllers should be allocated less machine depreciation overhead due to the relative small number of total machine hours used. However, since the overhead rate is only calculated using labor in the traditional system Flow controllers are being over allocated. The table below shows how much machine depreciation is being allocated to overhead using the traditional method based on labor hours. [pic] The table below shows what machine depreciation would be if it were calculated using the number of machine hours used produce each product line. [pic]

Based on the previous two tables allocating machine depreciation based on direct labor hours can give the company a false cost on how much it cost to produce each unit of a particular product. Pumps are being allocated \$19,350 (\$175,600-\$156,250) too much machine depreciation. With the company producing 12,500 pumps that's a per unit over charge of \$1.55. While this is only showing the differences in machine depreciation, the other overhead cost associated with Destin producing its products also vary. With these overhead cost being miss-allocated for, there is the potential for Destin to be using bad data to price its products.

This could help explain the competition problem the company is facing and will be discussed later in the paper. A second way that this traditional cost system is inappropriate for Destin to use is because it only gives the company one option in dealing with a price change. Since all overhead is figured using direct labor hours if Destin wanted to change its cost associated with overhead, then the only way would be to change the direct labor dollars. This severely limits the company by having only one "pool" to change prices. Revised Unit Cost System:

Destin Brass Products controller Peggy Alford put together a revised cost allocating system in an attempt to better allocate overhead based on activities. This system separates material related overhead and labor related overhead and determines corresponding rates to plug into your unit costs. (Exhibit 3) The table below shows the separation of the two types of overhead used in the revised method. [pic] The revised system is better than the standard system that Destin Brass currently uses to allocate overhead. It takes into account the problem in the standard system which based all

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allocation of overhead only from direct labor dollars. In correcting this problem the revised structure now takes into account material related overhead which has no relationship to the labor costs of machining. While this dilemma was corrected in the revised system other problems arose questioning the accuracy of the system allocating overhead to the right products. When looking at the “ other overhead” section in the table above packing and shipping overhead is included. This creates a problem when the overhead rate for this group of cost is determined using machine hours.

Let’s use flow controllers again to better understand the problem that is created. In the revised cost system all overhead not dealing with materials is allocated to products using \$42. 59 per machine hour used. With flow controllers taking . 20 hours of machine time to produce the “ other overhead” is assigned to the standard cost at \$8. 52 per unit. With valves and pumps both using machine time of . 50 hours to produce each unit, this system creates an advantage for the flow controllers. Although flow controllers use less machine time they require more shipping and packing cost.

Flow controllers require a total of 22 shipments to its customers compared to only seven for pumps and one for valves. With this being true the majority of the \$60, 000 assigned to packing and shipping overhead should be allocated as cost to flow controllers. Despite this fact the allocation can’t be done because of how overhead is assigned based machine hours used. The following table shows the current overhead assigned to packing and shipping based on the revised system of using machine hours as the basis for overhead allocation. [pic]

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The next table shows what packing and shipping overhead would be based on a percentage of total shipments company wide. [pic] The second way shown is the better way to allocate overhead based on packing and shipping costs because it takes into account how many shipments and necessary of each product line. Looking at flow controllers again you can see that this product line requires 22 of the 30 shipments. This is a cost of \$44, 000 that is directly related to the flow controllers. With the current revised system represented in the first table, flow controllers only were allocated \$4, 430. 0 of cost associated with packing and shipping. This is only 10. 1% of the cost that should be allocated. With this Revised System for costs Destin Brass would still be using bad data to set prices of it products. This could be one possible answer to the questions asked in the beginning by the company. Another problem that arises if this revised system is put into place is one that is similar to the previous problem. Destin Brass manufacturing manger John Scott is quoted in the case as saying “(the company) probably spends one-half of our engineering effort on flow controllers.

If this is the case, then like before flow controllers aren't being allocated enough overhead with regards to engineering cost. This is shown in the following two tables. The table on the left shows the amount of engineering overhead being currently allocated to flow controllers. The table on the right shows what the allocation of engineering cost should be to flow controllers based on the estimated number of 50% of total engineering. [pic] [pic] This again is another possible reason for the competition and price problems that Destin Brass is facing.

Both of the above methods really restrict the company from implanting changes in price and/or cost. The methods have few "pools" for management to implement changes using and result gives poor data. A System with the possibilities to implement changes easily is activity based costing. Activity Based Costing A system that would benefit Destin Brass greatly would be to implement activity based costing as a means to allocate the overhead costs associated with its products. This method traces the costs of resources to the activities consumed.

The problem identified in the two previous systems would all be eliminated if ABC were used at Destin. The ABC method is used by applying all direct cost (direct labor and materials) towards the product cost based on the cost summary. (Exhibit 1) Indirect cost (Indirect labor and materials and depreciation) are then applied to each product at a rate that set by the amount of the activity used to produce the good. The amounts used in this case are estimated based on how many transactions occur in total and are caused by each product. Exhibit 5) This way of allocating overhead better illustrates how much cost goes into each product based on the amount of components and runs is needed to complete each product. With this being true flow controllers now have representation to the cost being occurred and the overhead allocated to them. Flow controllers numbers are now more accurate because of the fact the all transactions needed to complete the product are used in generating an allocation rate. Each flow controller is made up of 10 components and that are being produced in 10 runs.

This will account for the company to have 100 transactions (10x10) in order to produce the good. The numbers that Destin came up with using this <https://assignbuster.com/destin-brass-products-co/>

method are shown in Exhibit 4. With each overhead cost being rated by itself for each product, the company has better data to make sound decisions with. They also have better control on implementing changes. As with the previous methods management could only change labor or machine hours to effectively change cost. With the ABC method each cost is rated separately and therefore a change to a cost would be easily done.

When comparing the product unit cost obtained from the three methods discussed in this paper, the companies' problems dealing with competition and price are easily reasoned with. The following table shows these unit costs for each product line using each of the three methods: This comparison table shows that Destin Brass was allocating its overhead in a way that gave decision makers faulty data. By looking at the numbers obtained using the ABC method and comparing them to the two other methods answers to the two questions raised by the president can be answered.

The first question of why was it so difficult for the company to stay competitive in the pump market is explained by the above chart. Destin had believed its production cost for pumps to be \$63.12. With this being said when Destin had to lower their price due to stiff competition the company felt they were no longer going to be able to obtain the desired 35% profit margin. However if Destin knew the true cost of producing each pump unit was \$37.70 then lowering the price to stay competitive would have been no longer an issue because the company would still be over the 35% mark.

The second question raised by management at Destin Brass dealing with why the company has not seen any competition in the flow controller market

is also easily answered using the above table. Destin believed that its standard unit cost for producing flow controllers was \$56. 50. Using this cost number the company set a target selling price of \$86. 96 to obtain the desired 35% profit margin for the company. When potential competitors looked at this price they felt there was no way they could make a profit in this product line.

The potential competitors most likely had a cost of producing a flow controller some where around the price we obtained using the ABC method of \$100. 91. Even when Destin raised the price of flow controllers by 12. 5% to \$97. 07 competitors would still not want to enter the market based on our selling price. These questions are also easily answered by looking at the following table which take the unit cost obtained using the ABC method and comparing them with last months selling prices: This table shows that the flow controllers were priced to low based our current cost.

The company would have incurred a loss of 4% gross margin if this were the unit cost we used last month. Again this shows why now competition was forming because any other company using the ABS method would incur a loss as well. If Destin where however to make a 35% margin at its new unit cost of \$100. 91 it would need to sell the flow controllers at \$155. 25. This increase in price might fuel some competition. Potential competitors might see this new price Destin is selling at and feel it is a favorable market to get into now competition can sell above their production cost.

Pumps are also easily analyzed using this table. Now that the company has an ABC unit cost of \$48. 79 they can better compete in the price wars the

take place in the pump market. At the price Destin was selling pumps at last month of \$81.26 the company would now be making a 40% gross margin using the ABC cost. This leaves Destin the option of lowering the price in pumps \$75.06 in order to stay competitive and maintain market share. At this price Destin would still be making the company desired 35% profit margin.

Net income would not change in the following month if the ABC method were to be implemented. This is assuming there are no changes in production, sales, or costs. This is strictly saying that the way you account for overhead has no impact on net income. The ABC method total overhead costs, it only changes how those costs are allocated for internal purposes. With this information shown the ABC method for allocating overhead to products is far superior to anything Destin Brass had used before. The ABC method takes into account all overhead cost and the components involved in each product.

In summary a company's profitability of a product depends on the allocation rules used internally. Recommendations: I would recommend to Destin Brass president Roland Guidry to implement the ABC method for allocating overhead. This method alleviates the two problems he had at the beginning of the case dealing with the question of competition and price. The ABC method will also let Mr. Guidry better control his cost and prices by providing him with a way that's easier and more effective. I would recommend to Mr. Guidry that he lower the price of the pumps in order to remain competitive in that market.

He should lower pump prices as long as he stays at or above the 35% gross margin he wants. I would also recommend that he slowly raise the prices of flow controllers. With the unit cost a lot higher than where it was this price needs to raise and try to obtain the 35% margin. Mr. Guidry should keep a close eye on the competition in this market. As the price is increase potential competitors might enter the market. He should raise the price for flow controllers as long as competition stays to a minimal to retain the market share Destin has already obtained. [pic] [pic] [pic] [pic] [pic]