

Unit 13 Implications of ABC Method

ILO1. Product and Customer Margins Using ABC

ILO2. Comparison of Traditional and ABC Product Costs

ILO3. Targeting Process Improvements

ILO1. Product and Customer Margins Using ABC

If we expand on the last step from Unit 12 we can analyze product margins. We begin by preparing the management reports by calculating the product margins by using sales and direct cost data. We have illustrated this below.

	Beams	iWaves	Total
Sales	\$ 31,300,000	\$ 18,700,000	\$ 50,000,000
Direct costs			
Direct material	9,000,000	6,000,000	15,000,000
Direct labor	7,000,000	5,000,000	12,000,000
Shipping	2,000,000	1,000,000	3,000,000

Fig 13.1 Product Margins

The second step is to assign the activity based cost to each product. This value was also calculated in Unit 12 exercise.

	Beams	iWaves	Total
Sales	\$ 31,300,000	\$ 18,700,000	\$ 50,000,000
Direct costs			
Direct material	9,000,000	6,000,000	15,000,000
Direct labor	7,000,000	5,000,000	12,000,000
Shipping	2,000,000	1,000,000	3,000,000
ABC cost assignments			
Customer orders	1,808,000	2,712,000	4,520,000
Design changes		3,040,000	3,040,000
Order size	3,120,000	2,080,000	5,200,000

Fig 13.2 Product Margins Continued

The next step is to calculate the margins, by taking the sales figures and subtracting the direct and indirect costs. For Beams the product margins is \$8,372,000, and a \$1,132,000 loss for iWaves.

	Beams	iWaves
Sales	\$ 31,300,000	\$ 18,700,000
Costs		
Direct material	\$ 9,000,000	\$ 6,000,000
Direct labor	7,000,000	5,000,000
Shipping	2,000,000	1,000,000
Customer orders	1,808,000	2,712,000
Design changes		3,040,000
Order size	3,120,000	2,080,000
Total cost	<u>22,928,000</u>	<u>19,832,000</u>
Product margin	<u>\$ 8,372,000</u>	<u>\$ (1,132,000)</u>

Fig 13.3 Product Margins Continued

We can see with the table below how the product margins and net operating income are reconciled.

	Beams	iWaves	Total
Sales	\$ 31,300,000	\$ 18,700,000	\$ 50,000,000
Total costs	22,928,000	19,832,000	42,760,000
Product margins	<u>\$ 8,372,000</u>	<u>\$ (1,132,000)</u>	\$ 7,240,000
Less costs not assigned to products:			
Customer relations			3,080,000
Other			6,160,000
Total			<u>9,240,000</u>
Net operating loss			<u>\$ (2,000,000)</u>

Fig 13.4 Product Margins Continued

For our second analysis; customer margin, we start by preparing the sales and direct cost values from our example.

Acme Computer	
Sales	\$ 29,200
Direct costs	
Direct material	7,500
Direct labor	6,700
Shipping	1,700

Fig 13.5 Customer Margin Calculation

The next step is to assign the activity based cost to each product. This value was also calculated in Unit 12 exercise.

Acme Computer	
Sales	\$ 29,200
Direct costs	
Direct material	7,500
Direct labor	6,700
Shipping	1,700
ABC cost assignments	
Customer orders	5,424
Product design	3,040
Order size	2,912
Customer relations	1,540

Fig 13.6 Customer Margin Calculation Continued

The final step is to calculate the customer margins, by taking the sales figures and subtracting the direct and indirect costs. For Acme Computer its \$384 (29,200 – 28,816).

ILO2. Comparison of Traditional and ABC Product Costs

We can investigate the product margins of both traditional and absorption based costing systems and see how they compare. If we begin with the traditional system then step one involves preparing the product sales and direct cost data.

Second is to compute the overhead rate. We do this by dividing the manufacturing overhead found on the income statement by the number of machine hours. If we substitute 14,000,000

for manufacturing overheads and 800,000 machine hours, then the overhead rate is \$17.50 per machine hour.

The third step is to assign manufacturing overhead for each product. If we assume 480,000 machine hours (Beams) were used it results in 8,400,000 ($480,000 \times 17.50$) of overhead allotted to the product. For our other company iWaves we allocate 5,600,000 to manufacturing overhead ($320,000 \times 17.50$).

The final step in this process is to find the product margins. Beams is 6,900,000 and iWaves amount is 2,100,000. Keep in mind that selling and administrative expenses are not assigned as they are considered period expenses.

With this in mind, can we identify a number of differences between traditional product costs and absorption based costing. The traditional system overcosts company Beams in our example thereby inaccurately lowering the product margin. In contrast, the traditional system undercosts iWaves and produces a higher product margin.

We can explain these differences in three ways as the absorption based costing system only allocates manufacturing overheads costs used by products to those specific products. The traditional approach assigns all manufacturing overhead costs to products. Secondly, the absorption based costing uses volume and nonvolume assignments for manufacturing overheads. In this regard the traditional system assigns all overhead costs based on a volume based system only. The last difference is the absorption based costing system traces logistics costs to products, it also assigns nonmanufacturing overhead costs to products. The traditional system ignores selling and administrative expenses as period expenses.

ILO3. Targeting Process Improvements

There are a number of reasons why the traditional based system is favoured by industry for external reporting, we have reported these below.

- External reports are less detailed, and only disclose cost of goods sold and ending inventories. In cases of over or under costing, these distortions eliminate each other.
- Computer based systems facilitate the traditional based cost approach better.
- The traditional based costing approach complies with GAAP standards, the absorption based system does not.
- Component of absorption based costing relies on subjective data from personnel rather than raw data required for accurate cost allocations.

As such there's a number of distinct disadvantages towards the absorption based approach.

- Using the absorption based system is more expensive, and this additional cost may not outweigh the benefits of increased cost accuracy.
- Managers more often than not, are more familiar with the traditional approach, and may find the figures from the absorption method contradicting the figures from the traditional one.
- The absorption based system does not fully assign costs to products.
- Absorption system fails to trace decisions based on relevant costs, leading to possible errors in interpretation and ultimately application.
- Industries generally only use one system, and the absorption system is regarded as only a supplement to the traditional method.

References:

1. Managerial accounting, Ray Garrison-Eric Noreen-Peter Brewer - McGraw-Hill Education, 16 ed., 2018
2. Managerial accounting, John Wild-Ken Shaw - McGraw-Hill Education, 7ed, 2019
3. Management accounting, Will Seal-Carsten Rohde-Ray Garrison-Eric Noreen - McGraw-Hill Education, 6ed. - 2019

