



## Business Management Toolkit

### 14. Contribution (HL)

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#### 14. Contribution - Introduction

**Contribution per unit** = selling price of a product less variable costs per unit

**Total contribution**= total revenue from sale of a product less total variable costs of producing it

*e.g. If the selling price of a product is 100\$ and the variable cost per unit is 60\$ then the contribution per unit= 100-60=40\$. If 200 units have been produced then the Total contribution =40X200=8,000\$*

**Exam tip!** Contribution is NOT the same as Profit

**Profit** = Sales Revenue – [Direct Costs + Indirect Costs (Overheads)]

OR

**Profit**= Total Contribution - Indirect Costs (Overheads)

To reach profit, the firm still needs to pay Indirect Costs (Overheads).

## 14. Contribution

**EXAMPLE**

The selling price of product A is 50\$ and its variable cost per unit is 20\$. The business sells 500 units and has overheads = 10,000\$

Contribution per unit =  $50 - 20 = 30$ \$

Total contribution =  $500 \times 30 = 15,000$ \$

What do you observe?

The Total Contribution is higher than the overheads and therefore the business makes profit.

Profit =  $15,000 - 10,000 = 5,000$ \$

If Total contribution was lower than overheads then the business would make a loss.



## 14. Costing products

**It is important for a business to be able to calculate the cost of the production of a product.**

In this chapter we are going to investigate the following methods:

1. **Contribution costing**
2. **Absorption costing**
3. **Make or buy analysis**



## 14.1. Contribution Costing

The contribution costing method only allocates direct costs to cost/profit centres not overheads.

- This costing method solves the problem of how to divide overhead costs between products, **as it does not take them at all into account.**
- It takes into consideration the contribution to fixed costs and profit.
- It avoids apportioning fixed costs (Indirect Costs, overheads) between different products. In other words, all products that the business produces contribute towards paying the fixed costs.
- The contribution costing is also called contribution margin



## 14.1. Contribution Costing

- A product will be worth producing if it has a positive contribution to fixed costs.
- The concept of contribution costing is one of the fundamental keys in break-even analysis.
- The contribution costing helps to separate out the fixed cost and profit components coming from product sales and can be used to determine the selling price range of a product, the profit levels that can be expected from the sales, and structure sales commissions.

**Remember!** Fixed costs have to be paid regardless of the level of output, so any positive contribution helps to pay off the firm's overheads! Revise cost / profit centres in Chapter 3.9. Budgeting



## 14.1. Contribution Costing - Exam style question

**EXAMPLE**

	Product A	Product B
Sales Revenue	150,000\$	250,000\$
Direct Labor costs	70,000\$	80,000\$
Direct Raw material costs	40,000\$	100,000\$
Fixed Costs for both products	50,000\$	

1. Calculate the Total contribution of each product
2. Calculate based on the contribution costing method if the business makes profit or loss
3. Calculate based on the contribution costing method if the business would make a profit or loss if Product B stopped being produced.

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## 14.1. Contribution Costing - Exam style question

**EXAMPLE**

1. Calculate the Total contribution of each product

Total contribution Product A=  $150,000 - 70,000 - 40,000 = 40,000\$$

Total contribution Product B=  $250,000 - 80,000 - 100,000 = 70,000\$$

2. Calculate based on the contribution costing method if the business makes profit or loss

$(40,000 + 70,000) - 50,000 = 60,000\$$  Profit

3. Calculate based on the contribution costing method if the business would make a profit or loss if Product B stopped being produced.

$40,000 - 50,000 = -10,000\$$  In this case the company has a loss

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## 14.1. Contribution Costing - Evaluation

Advantages	Disadvantages
<ul style="list-style-type: none"><li>- Easy to use</li><li>- Useful for business with various products as fixed costs do not need to be allocated per product</li><li>- It shows the relative contributions of each product to profit</li><li>- Useful for decision making, budgeting and pricing</li><li>- It helps management in the selection of a suitable product mix for profit maximisation</li></ul>	<ul style="list-style-type: none"><li>- In certain cases total costs cannot be separated easily into variable and fixed</li><li>- Fixed costs and variable costs are different in the short run; but in the long run, all costs are variable</li><li>- Assumption of sale price will remain the same at different levels of operation. In real life, they may change and give unrealistic results.</li></ul>



## 14.2. Absorption Costing

The Absorption costing method (also called “full costing”) takes into consideration total costs, meaning direct and indirect costs.

- Absorption costing is required by generally accepted accounting principles (GAAP) for external reporting.
- It differs from contribution costing because it allocates fixed overhead costs to each unit of a product produced in the period.
- It allocates fixed overhead costs to a product whether or not it was sold in the period.



## 14.2. Absorption Costing - Exam style question **EXAMPLE**

	Product A	Product B
Sales Revenue	150,000\$	250,000\$
Direct Labor costs	70,000\$	80,000\$
Direct Raw material costs	40,000\$	100,000\$
Fixed Costs for both products	50,000\$	
Allocation of fixed costs per product	40%	60%

1. Calculate the profit or loss made by each product using absorption costing
2. Calculate the impact on the total profit of the business if production of product A is stopped. (Do not forget that the overhead costs allocated to product A will still have to be paid.)



## 14.2. Absorption Costing - Exam style question **EXAMPLE**

1. Calculate the profit or loss made by each product using absorption costing

Product A =  $150,000 - 110,000 - 20,000 = 20,000\$$

Product B =  $250,000 - 180,000 - 30,000 = 40,000\$$

Total Profit for the business =  $60,000\$$

2. Calculate the impact on the total profit of the business if production of product A is stopped. (Do not forget that the overhead costs allocated to product A will still have to be paid.)

$250,000 - 180,000 - 50,000 = 20,000\$$  would be the profit of the business without product A.



## 14.2. Absorption Costing - Evaluation

Advantages	Disadvantages
<ul style="list-style-type: none"><li>- It complies with generally accepted accounting principles (GAAP)</li><li>- It recognizes all costs involved in production (fixed and variable) and therefore is more realistic</li><li>- It is suitable for small businesses that have a single product</li></ul>	<ul style="list-style-type: none"><li>- It is not suitable if a company wishes to compare different product lines' potential profitability.</li><li>- Absorption Costing unlike contribution Costing cannot be used as an effective monitoring tool to evaluate profitability of a product. This is because the absorption costing includes fixed costs in the cost of the product, which will be fixed irrespective of the output or production</li></ul>



## 14.3. Make or buy analysis

A make-or-buy analysis is a method of production costing in order to make a choice between manufacturing a product in-house or purchasing from an external supplier.

It arises when a producing company faces a diminishing capacity, experiences problems with the current suppliers, or sees changing / fluctuating demand.

- $\text{Cost-to-buy} = \text{Quantity} \times \text{Cost per unit}$
- $\text{Cost-to-make} = \text{Fixed Costs} + (\text{Quantity} \times \text{Variable Cost per unit})$

Exam tip! In the case of cost-to-buy the business needs also to take into consideration the advantages and disadvantage of outsourcing.



## 14.3. Make or buy analysis

**EXAMPLE**

- **Cost-to-buy= Quantity X Cost per unit**
- **Cost-to-make= Fixed Costs + (Quantity X Variable Cost per unit)**

**Example - exam style:** a bakery wants to enrich its product with the introduction of gluten free sweets. Should they produce them by themselves or outsource the production to a specialized gluten free pastry shop?

The quantity estimated to be produced is 200 sweets. If they make them in-house the additional fixed costs will be  $FC=1,500\$$  and the VC per unit is  $5\$$  per unit. If they choose to buy them the Cost per unit= $9\$$ .

Cost-to- make=  $1,500+(200\times 5)=2,500\$$

Cost-to-buy= $9\times 200=1,800\$$

It will cost them less if they buy them from the specialized pastry shop.

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## Are you ready for the quizz?

- **Do the quiz in the ibGenius platform**
- **You need 70% to pass!**
- **Then you are ready to move on to the next Business Management Tool!**



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# Contribution - References

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