

Profit definition and calculation

(Theory)

1. Profit definition

- The term profit has distinct meaning for different people, such as businessmen, accountants, policymakers, workers and economists.
- Profit simply means a positive gain generated from business operations or investment after subtracting all expenses or costs.

Profit can be classified into two types:

- In **accountancy**, profit implies excess of revenue over all paid-out costs. **We will focus on this definition.**
- In **economic terms** profit is defined as a reward received by an entrepreneur by combining all the factors of production to serve the need of individuals in the economy faced with uncertainties.

2. Accounting profit calculation

- Refers to the total earnings of an organization.
- It is a return that is calculated as a difference between revenue (quantity x price) and costs, including both manufacturing and overhead expenses.
- The costs are generally explicit costs, which refer to cash payments made by the organization to outsiders for its goods and services. In other words, explicit costs can be defined as payments incurred by an organization in return for labour, material, plant, advertisements, and machinery.
- The accounting profit is also called gross profit

The accounting profit is calculated as:

$$\text{Accounting Profit} = (Q \times P) - (W + R + I + M) = \text{Total Revenue} - \text{Explicit Costs}$$

Total Revenue = Price (P) x Quantity (Q)

Explicit Cost = Wages and Salaries (W) + Rent (R) + Interest (I) + Cost of Materials (M)

3. What is the profit calculation used for?

- The accounting profit is used for determining the taxable income of an organization and assessing its financial stability.
- The expectation of earning higher profits of business organizations induces them to invest money in new ventures.

Accounting profit calculation with Excel

1. Why is Excel useful for calculating profits?

- Excel is a spreadsheet program from Microsoft and component of its Office product group for business applications. Microsoft Excel enables users to format, organize and calculate data in spreadsheet.
- By organizing data using software like Excel, data analysts and other users can make information easier to view as data is added or changed.

2. How can we use Excel to calculate profits?

- Open the Microsoft Excel program and choose the “New blank workbook” option to create a new file. You can name the file according to your preferences.

2.1. Now you can create a table with the data required to calculate revenues and costs.

- Add the relevant data for columns A, B, C... Each cell in column A represents the different products sold. In column B, input the sale price of the corresponding product in column A. In column C, input the quantity sold of each product. In column D, input the cost of each product.
- For columns B and D choose the option “coin” for cells.

	A	B	C	D
1	DATA PRODUCTS			
2	PRODUCT	PRICE (P)	QUANTITY (Q)	COST (C)
3	Eco cup	4,00 €	54	1,80 €
4	Honey Soap	6,00 €	40	4,50 €
5	Soap Holder	8,50 €	8	6,00 €
6	Key chain	2,50 €	25	1,80 €
7	Olive oil	9,00 €	46	6,00 €
8	Cork bag	5,50 €	58	4,00 €
9	Collar dog	30,00 €	6	13,00 €
10	Candle	21,00 €	5	4,00 €
11	TOTAL		242	

- In column E and F, we will calculate the revenues and the costs as it follows:

Example: Eco cup revenue = (Price x Quantity) = B3*C3

Example: Eco cup cost = (Cost x Quantity) = D3*C3

	A	B	C	D	E	F
1	DATA PRODUCTS					
2	PRODUCT	PRICE (P)	QUANTITY (Q)	COST (C)	TOTAL REVENUE (P x Q)	TOTAL COST (C x Q)
3	Eco cup	4,00 €	54	1,80 €	=B3*C3	97,20 €
4	Honey Soap	6,00 €	40	4,50 €	240,00 €	180,00 €
5	Soap Holder	8,50 €	8	6,00 €	68,00 €	48,00 €
6	Key chain	2,50 €	25	1,80 €	62,50 €	45,00 €
7	Olive oil	9,00 €	46	6,00 €	414,00 €	276,00 €
8	Cork bag	5,50 €	58	4,00 €	319,00 €	232,00 €
9	Collar dog	30,00 €	6	13,00 €	180,00 €	78,00 €
10	Candle	21,00 €	5	4,00 €	105,00 €	20,00 €
11	TOTAL		242		1.604,50 €	976,20 €

	A	B	C	D	E	F
1	DATA PRODUCTS					
2	PRODUCT	PRICE (P)	QUANTITY (Q)	COST (C)	TOTAL REVENUE (P x Q)	TOTAL COST (C x Q)
3	Eco cup	4,00 €	54	1,80 €	216,00 €	=D3*C3
4	Honey Soap	6,00 €	40	4,50 €	240,00 €	180,00 €
5	Soap Holder	8,50 €	8	6,00 €	68,00 €	48,00 €
6	Key chain	2,50 €	25	1,80 €	62,50 €	45,00 €
7	Olive oil	9,00 €	46	6,00 €	414,00 €	276,00 €
8	Cork bag	5,50 €	58	4,00 €	319,00 €	232,00 €
9	Collar dog	30,00 €	6	13,00 €	180,00 €	78,00 €
10	Candle	21,00 €	5	4,00 €	105,00 €	20,00 €
11	TOTAL		242		1.604,50 €	976,20 €

- Repeat the same process for each product:
- In cell E11 and F11, we will calculate total revenue and total cost as it follows:

Total revenue = E3+E4+E5+E6+E7+E8+E9+E10 or SUMA (E3:E10)

Total cost = F3+F4+F5+F6+F7+F8+F9+F10 or SUMA (F3:F10)

	A	B	C	D	E	F
1	DATA PRODUCTS					
2	PRODUCT	PRICE (P)	QUANTITY (Q)	COST (C)	TOTAL REVENUE (P x Q)	TOTAL COST (C x Q)
3	Eco cup	4,00 €	54	1,80 €	216,00 €	97,20 €
4	Honey Soap	6,00 €	40	4,50 €	240,00 €	180,00 €
5	Soap Holder	8,50 €	8	6,00 €	68,00 €	48,00 €
6	Key chain	2,50 €	25	1,80 €	62,50 €	45,00 €
7	Olive oil	9,00 €	46	6,00 €	414,00 €	276,00 €
8	Cork bag	5,50 €	58	4,00 €	319,00 €	232,00 €
9	Collar dog	30,00 €	6	13,00 €	180,00 €	78,00 €
10	Candle	21,00 €	5	4,00 €	105,00 €	20,00 €
11	TOTAL		242		=SUMA(E3:E10)	976,20 €
12					SUMA(número1; [número2]; ...)	

2.2. Now you can calculate the profit.

- Use the revenue and cost data of each product as it follows:

$$\text{Profit} = \text{Total Revenue} - \text{Total Cost} = (\text{Price} \times \text{Quantity}) - (\text{Cost} \times \text{Quantity})$$

$$\text{Example: Eco Cup Profit} = E3 - F3$$

	A	B	C	D	E	F
1	DATA PRODUCTS					
2	PRODUCT	PRICE (P)	QUANTITY (Q)	COST (C)	TOTAL REVENUE (P x Q)	TOTAL COST (C x Q)
3	Eco cup	4,00 €	54	1,80 €	216,00 €	97,20 €
4	Honey Soap	6,00 €	40	4,50 €	240,00 €	180,00 €
5	Soap Holder	8,50 €	8	6,00 €	68,00 €	48,00 €
6	Key chain	2,50 €	25	1,80 €	62,50 €	45,00 €
7	Olive oil	9,00 €	46	6,00 €	414,00 €	276,00 €
8	Cork bag	5,50 €	58	4,00 €	319,00 €	232,00 €
9	Collar dog	30,00 €	6	13,00 €	180,00 €	78,00 €
10	Candle	21,00 €	5	4,00 €	105,00 €	20,00 €
11	TOTAL		242		1.604,50 €	976,20 €
12						
13	PROFIT CALCULATION					
14	PRODUCT	PROFIT				
15	Eco cup	=E3-F3				
16	Honey Soap	60,00 €				
17	Soap Holder	20,00 €				
18	Key chain	17,50 €				
19	Olive oil	138,00 €				
20	Cork bag	87,00 €				
21	Collar dog	102,00 €				
22	Candle	85,00 €				
23	TOTAL	628,30 €				

- In cell B23, we will calculate total profit as it follows:

Total Profit = B15+B16+B17+B18+B19+B20+B21+B22 or SUMA (B15:B22)

	A	B	C	D	E	F
1	DATA PRODUCTS					
2	PRODUCT	PRICE (P)	QUANTITY (Q)	COST (C)	TOTAL REVENUE (P x Q)	TOTAL COST (C x Q)
3	Eco cup	4,00 €	54	1,80 €	216,00 €	97,20 €
4	Honey Soap	6,00 €	40	4,50 €	240,00 €	180,00 €
5	Soap Holder	8,50 €	8	6,00 €	68,00 €	48,00 €
6	Key chain	2,50 €	25	1,80 €	62,50 €	45,00 €
7	Olive oil	9,00 €	46	6,00 €	414,00 €	276,00 €
8	Cork bag	5,50 €	58	4,00 €	319,00 €	232,00 €
9	Collar dog	30,00 €	6	13,00 €	180,00 €	78,00 €
10	Candle	21,00 €	5	4,00 €	105,00 €	20,00 €
11	TOTAL		242		1.604,50 €	976,20 €
12						
13	PROFIT CALCULATION					
14	PRODUCT	PROFIT				
15	Eco cup	118,80 €				
16	Honey Soap	60,00 €				
17	Soap Holder	20,00 €				
18	Key chain	17,50 €				
19	Olive oil	138,00 €				
20	Cork bag	87,00 €				
21	Collar dog	102,00 €				
22	Candle	85,00 €				
23	TOTAL	=SUMA(B15:B22)				
24		SUMA(número1; [número2]; ...)				

Profitability indicators: theory and calculation

1. **Cost/Revenue (%)**: The cost revenue ratio is a measure of efficiency that compares a company's expenses to its earnings. It considers the cost of revenue and the total revenue. The cost of revenue includes all the expenses of manufacturing, including marketing and shipping costs. The total revenue counts the total earnings from sales.

A lower cost revenue ratio means a business can produce more revenue using fewer costs. Professionals consider a low ratio to be a positive sign of efficiency.

$$\text{Cost/Revenue (\%)} = \text{Total Cost} / \text{Revenues}$$

2. **Unit Margin (Price)**: It represents the incremental money generated for each product/unit sold after deducting the variable portion of the company's costs. The concept of unit margin is one of the fundamental keys in break-even analysis.

$$\text{Unit Margin (Price)} = \text{Selling Price} - \text{Unit Cost}$$

3. **Gross Margin (%)**: with this indicator, it is possible to know the profitability of a business's sales in comparison with the cost of sales and the company's ability to cover operating expenses. Indicates whether or not the business or the product is profitable, in itself, regardless of how it has been financed. It is the opposite to the Cost/Revenue indicator.

$$\text{Gross Margin} = (\text{Revenues} - \text{Cost}) / \text{Revenues}$$

A higher ratio is more favourable. There are typically two ways of increase this ratio:

- 1) Buy products at a cheaper price: if companies can get a large purchase discount when they purchase products or find a less expensive supplier, their ratio will become higher because the cost of products sold will be lower.
 - 2) Selling goods at a higher price would result in a higher ratio. However, this must be done competitively, otherwise, the products would be too expensive and fewer customers would purchase from the company.
4. **Contribution to profit per product (%)**: It offers the profit generated by a specific product with respect to the total profit of the company.

This ratio allows us to know which products are the ones that bring the greatest benefit to the company.

$$\text{Contribution to profit per product (\%)} = \text{Profit product} / \text{Total profit}$$

Profitability study of our project: total profits & indicators

Profits

PRODUCT	REVENUE	COST	PROFIT
Eco cup	216,00 €	97,20 €	118,80 €
Honey Soap	240,00 €	180,00 €	60,00 €
Soap Holder	68,00 €	48,00 €	20,00 €
Key chain	62,50 €	45,00 €	17,50 €
Olive oil	414,00 €	276,00 €	138,00 €
Cork bag	319,00 €	232,00 €	87,00 €
Collar dog	180,00 €	78,00 €	102,00 €
Candle	105,00 €	20,00 €	85,00 €
TOTAL	1.604,50 €	976,20 €	628,30 €

COMMENTS

- The total revenue for all the countries has been 1.604.5 euros.
- **Once the costs have been deducted, the global profit has been 628.3 euros.**
- The best-selling product has been the cork sleeve with a total of 58 units.
- However, the product that has contributed the most benefits has been olive oil with a total of 138 euros.
- On the other hand, the least sold product has been the candle (5 units).
- The product that has provided the least benefits has been the key chain with a total of 17.5 euros.

Indicators

PRODUCT	COST/REVENUE (%)	UNIT MARGIN (€)	GROSS MARGIN (%)	CONTRIBUTION TO PROFIT (%)
Eco cup	45%	2,2€	55%	19%
Honey Soap	75%	1,5€	25%	10%
Soap Holder	71%	2,5€	29%	3%
Key chain	72%	0,7€	28%	3%
Olive oil	67%	3€	33%	22%
Cork bag	73%	1,5€	27%	14%
Collar dog	43%	17€	57%	16%
Candle	19%	17€	81%	14%
TOTAL	61%	-	39%	100%

COMMENTS

- The costs of the products have represented 61% of its income.
- **Therefore, the total gross margin of the products has been 39%.**
- The products with the highest unit margin were the dog collar and the candle (17€ per product sold).
- On the other hand, the products with the lowest unit margin was the key chain 0,7€ per product sold).
- The product that has contributed most of the benefits has been olive oil (22%).
- For their part, the products that have contributed a smaller part of the benefits have been key chain and soap holder (3% each).