Effect of factors on Profitability

Q↑× P↑ = Revenue ↑ [Q = Quantity or Volume; P= Price]

C ↓ [C = Cost]

Profit ↑

Price can be increased (or charging Premium price) if quality can be improved, while containing the cost; and Cost can be reduced by improving productivity and with economy of scale. Volume (based on increased demand) can be increased with better quality.

Following are the Dimensions of Quality:

Performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality

Question:

Typical breakup of cost and profit for Manufactured Products

Material- 60%
Labour – 10%
Overhead - 20%
Profit – 10%

Now, (An example Problem): What will be the impact on profitability due to the following:

Increases Price – 2%
Increase Quantity – 10%
Decrease Material cost – 5%
Increase process productivity – 5%
Increase Overheads – 2%

Find the net percentage(%) change in profit.

Solution:

Let the initial price (P) be 100 for quantity (Q) of 1000 units.

Category	Initial	After Change	Reason
Price per unit	100	100 ×(1+0.02) = 102	Price goes up by 2%
Quantity	1000	1000×(1+0.1) = 1,100	Quantity goes up by 10%
Revenue (R)	100000 (or 1L)	102×1100=1,12,200	R= Q×P
Material Cost (C)	60000 (60% of 1L)	60,000×(1-0.05)x (1+0.1) =62,700	Material cost goes down by 5% Quantity goes up by 10%
Labour charges (L)	10,000 (10% of 1L)	10,000 ×(1+0.1-0.05) = 10,500	Quantity goes up by 10% but process productivity also increase by 5%
Overheads (O)	20000 (20% of 1L)	20,000 ×(1+0.02) =20,400	Overheads go up by 2%
Profit	10,000	18,600	Profit increases by 86%

* Profit = Revenue – Material Cost – Labour charges - Overhead