

# LIFE CYCLE BUDGETING

Q.1. JK Ltd., is following Life Cycle Costing. Its four products P<sub>4</sub>, P<sub>3</sub>, P<sub>2</sub> and P<sub>1</sub> are in the market respectively in Introduction, Growth, Maturity and Decline stages (phases). The Management wants to analyse the marketing challenges faced by the products to take strategic measures to stabilise the products in the market. For this purpose the Board directed the Secretary to get a product-wise report from the marketing chief of each product. The chiefs were asked to give one characteristic possessed by the product because of which the product is being classified in the respective stage and two strategic measures to be taken to overcome the market challenges faced at that stage (phase). The Secretary received the report from all the chiefs and handed them over to the computer operator to get it printed in a tabulated form. But the operator, without understanding the significance of the products, phases, characteristics and strategies, mixed all the twelve items [(1 + 2) x 4] and got it printed as a list as given below:

- (i) Over capacity in the industry.
- (ii) The company can continue to offer the product to our loyal customers at a reduced price.
- (iii) Few competitors produce basic version of our product.
- (iv) Product features may be improved or enhanced to differentiate our product from that of the competitors.
- (v) Attracting customers by raising awareness about our product through promotion activities.
- (vi) High volume of business and increase in competition.
- (vii) Use the present product as replacement product for launching another new product successfully in the market.
- (viii) Value-based pricing strategies may be considered.
- (ix) Profits start declining and at times become negative.
- (x) Maintain control over product quality to assure customer satisfaction.
- (xi) Strengthening or expanding channel and supply chain relationships.
- (xii) Prices may have to be reduced to attract the price-sensitive customers.

The items are required to be tabulated as in the format given below :

**Required:**

- (i) Complete the table given below by entering the twelve items under appropriate category columns. You need not rewrite the items. Write the serial numbers of the items only in columns (3) and (4).

Products (1)	Phases (Stages) (2)	Characteristics (3)	Strategies (4)
P <sub>4</sub>	Introduction		
P <sub>3</sub>	Growth		
P <sub>2</sub>	Maturity		
P <sub>1</sub>	Decline		

- (ii) List down the importance (any four) of Product Life Cycle Costing.
- (iii) State the benefits (any four) of Product Life Cycle Costing. [(20 Marks) CA Final Nov 2018]

Solution:

**Required:**

- (i) Complete the table given below by entering the twelve items under appropriate category columns. You need not rewrite the items. Write the serial numbers of the items only in columns (3) and (4).

Products (1)	Phases (Stages) (2)	Characteristics (3)	Strategies (4)
P <sub>4</sub>	Introduction	(iii)	(v), (viii)
P <sub>3</sub>	Growth	(vi)	(x), (xi)
P <sub>2</sub>	Maturity	(i)	(iv), (xii)
P <sub>1</sub>	Decline	(ix)	(ii), (vii)

- (ii) Refer Chapter Theory – Uses of Product Life Cycle  
 (iii) Refer Chapter Theory – Benefits of Product Life Cycle

- Q.2. MNP Co. Ltd. makes digital watches. The company is preparing a product life cycle budget for a new watch. Development on the new watch is to start shortly. Estimates for new watch are as under:

Life Cycle Units Manufactured and Sold	2,40,000
Selling Price Per Watch	(₹) 500
<b>Life Cycle Costs:</b>	
R&D and Design Cost	(₹) 80 Lakh
<b>Manufacturing:</b>	
Variable Cost Per Watch	(₹) 120
Variable Cost Per Batch	(₹) 4,000
Watches Per Batch	300
Fixed Costs	(₹) 112 lakh
<b>Marketing:</b>	
Variable Cost Per Batch	(₹) 24
Fixed Costs	(₹) 8 Lakh
<b>Distribution:</b>	
Variable Cost Per Watch	(₹) 240
Watches Per Batch	96
Fixed Costs	(₹) 45 Lakh
Customer Service Cost Per Watch	(₹) 10

**Required**

- (i) CALCULATE the budgeted life cycle operating income for, the new watch.  
**OR**  
SUGGEST the strategies to be adopted by the MNP Co. Ltd. to develop a new watch.
- (ii) What percentage of the budgeted total product life cycle costs will be incurred by the end of the R&D and design stage?
- (iii) An analysis reveals that 75% of the budgeted total life cycle costs of new watch will be locked in at the R&D and design stage. What are the implications for managing costs of the new watch?

[(15 Marks) CA Final May 2018]

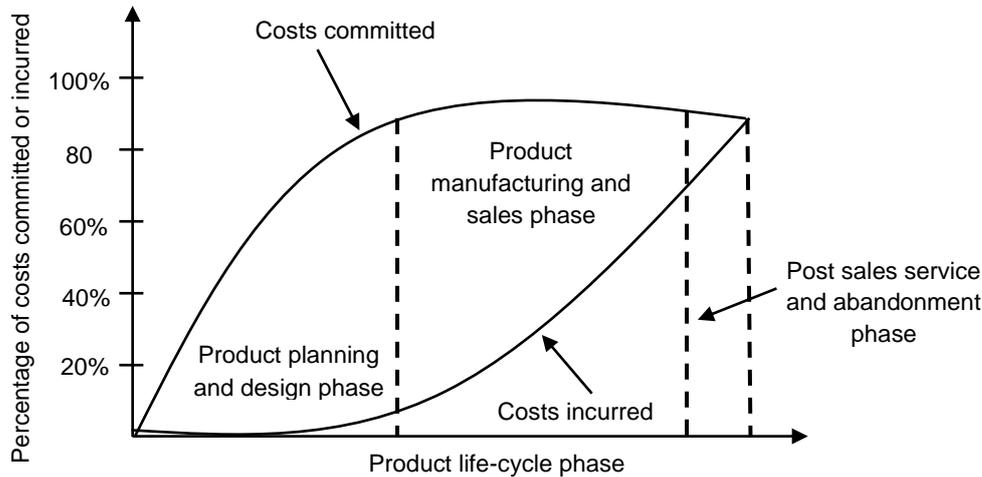
Solution:

(i)

**Statement Showing Budgeted Life-Cycle Operating Income**

Particulars	(₹)
Revenues (₹500 x 2,40,000 units)	12,00,00,000
Less: R&D and Design Costs	80,00,000
Manufacturing Costs:	
Variable (₹120 x 2,40,000 units)	2,88,00,000
Batch $\left(2,40,000 \times \frac{₹4,000}{3,000}\right)$	32,00,000
Fixed	1,12,00,000
Marketing Costs:	
Batch (₹24 x 2,500* batches) *Assuming 1 Batch = 96 Pcs.	60,000
Fixed	8,00,000
Distribution Costs:	
Variable (₹240 x 2,40,000)	5,76,00,000
Fixed	45,00,000
Customer Service Cost (₹10 x 2,40,000)	24,00,000
Total Costs	11,65,60,000
Operating Income	34,40,000

Or



We can see from the above figure that approximately 80% of a product's cost are committed during the planning and design stage. At this stage product designers determine the product's design and the production process. In contrast, the majority of costs are incurred at the manufacturing stage, but they have already become locked in at the planning and design stage and are difficult to alter.

The pattern of cost commitment and incurrence will differ based on the industry and specific product introduced. For developing a watch, MNP Co. Ltd. needs to commit around 80,00,000 for its R&D and design Cost. So, Cost Management of MNP Co. Ltd can be most effectively exercised during the planning and design stage of its new watch and not at the manufacturing stage when the product design and processes have already been determined and costs have been committed. At this latter stage the focus is more on cost containment rather than on Cost Management. An understanding of life-cycle costs and how they are committed and incurred at different stages throughout a product's life cycle of the watch will also led to the emergence of target costing, a technique that focuses on managing costs during a product's planning and design phase.

- (ii) **% of Budgeted Total Product Life-Cycle Costs incurred till the R & D and Design Stages:**

$$\left( \frac{₹80,00,000}{₹11,65,60,000} \times 100 \right) = 6.86\%$$

- (iii) **Implications:**

An analysis reveals that 75%` of the total product life-cycle costs of the new watch will be locked in at the end of the R&D and design stages when only 6.86% of the costs are incurred (as calculated in the above case). The implication is that it will be difficult to alter or reduce the costs of MNP digital watches once the design is finalised. To reduce and manage total costs, MNP must act to modify the design before costs get locked in. (Question states 75%, hence 75% is taken)

Note: This question can be solved by taking appropriate assumption in respect of **Marketing Costs and Distribution Costs.**