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Week 2 – Costs Basics

Definition

Resources given up to achieve a particular objective, measured in monetary terms.

Importance of Studying Costs

Customer value is made up of costs, time and quality. Shareholder value is based on profits from customers. To increase shareholder value, we need to increase customer value – and thus exploit costing decisions.

Cost Classification

1. Behaviour patterns
2. Traceability
3. Functions
4. Controllability (for accountability purposes – performance of manager/department)
 - a. Controllable Costs:
 - b. Uncontrollable costs:
5. Costs across the value chain (analyses strategy – measures performance)
 - a. Upstream costs
 - b. Manufacturing
 - c. Downstream

Cost Behaviour

The relationship between a cost and its driver (level of activity) to estimate and thus manage costs. A good cost driver must have:

- Cause and effect
- Correlation between cost and cost driver
- Time frame (longer timeframe = more costs become variable)
- Chosen after cost/benefit analysis

Cost Estimation

The process of determining the cost behaviour of a particular item.

Ways to estimate costs:

1. Managerial judgement

Using experience and knowledge rather than formal analysis.

Adv: Cheap, Seniors have more experience

Disadv: subjective, human error

2. Engineering Approach

Studying processes that result in the incurrence of costs, using time and motion studies to focus on relationships that should exist between inputs and outputs.

Adv: useful when there is no reliable past data

Disadv: expensive, time consuming

3. Quantitative Analysis

Formal analysis of past data to identify the relationship between cost and activities.

a. Scatter Diagrams

Adv: visual assessment, identifies outliers

Disadv: human error in judging the best line of fit, only 1 cost driver

Week 4 – Activity Based Costing

Definitions

Resources: inputs required to produce an output.

Activity: a unit of work performed.

Bill of Activities : list of activities performed

Cost driver: a factor or activity that causes cost to be incurred (LS p331)

Resource drivers are used to estimate the cost of the resources consumed by an activity.

Activity driver are used to estimate the cost of an activity consumed by cost objects.

Consumption Ratio: proportion of activity drivers consumed by each product.

Importance of product costing

Unit cost information is used for multiple purposes such as:

1. Product pricing
2. Competitive bidding
3. Keeping or scraping a product/service (is it profitable?)
4. Introducing new product/services
5. Make or buy decisions

The cost allocation methods we've learnt before are all based on the number of units products i.e. volume based costing. But this means that non-volume driven MOH are increased unnecessarily and non-manufacturing costs also increase. ABC identifies that certain activities use different resources and thus should be identified accordingly.

Activity Based Costing

A methodology used to measure both the cost of cost objects and the performance of activities.

Hierarchy of Costs and Activities

Unit level costs: relate to the costs for each unit

Batch Level costs: related to the costs of each batch /group of product units

Product level costs: activities performed for specific products

Facility level costs: costs incurred to run the business as a whole

Assigning OH Costs using ABC

- Step One: First identify resource drivers and their rate
 - $\text{Resource Driver Rate} = \text{Resource OH} / \text{Resource Driver}$
- Step Two: Find Activity Cost
 - Each activity with have a few resources involved, so calculate the total activity cost using the rates
 - $\text{Activity Cost} = (\text{resource rate} \times \text{resource quantity} + \text{resource rate 2} \times \text{resource quantity 2})$
- Step Three: Find Activity Rate
 - $\text{Activity Rate} = \text{Total Activity Cost} / \text{Number of Units}$
- Step Four: Find MOH costs of each product
- Step Five: Add prime costs (DM and DL) to find total manufacturing costs for each product
- Step Six: Compare the difference with VBC to see if ABC is viable (>10% if viable)

Difference between ABC and VBC

- VBC only includes manufacturing costs in the product costs, whereas ABC includes manufacturing and non-product related non-manufacturing costs.

Week 6 – Costing and Tactical Decisions

Life-cycle cost analysis (LCCA) is a tool to determine the most cost-effective option among different competing alternatives to purchase, own, operate, maintain and, finally, dispose of an object or process, when each is equally appropriate to be implemented on technical grounds. This sort of cost management reduces cost to a greater extent than cost control (ABC, VBC etc).

Stages of a product life cycle

- Product planning and initial concept
- Product design and development (prototyping phase)
- Mass production for the market
- Distribution and customer support

Usually the first two phases are when costs are *committed* and they're *incurred* in the later two stages. A good tactic to maximise committed costs over incurred costs, as there are no surprises and hidden costs.

Advantages of Life Cycle Costing

- Considers upstream and downstream costs – whereas traditional costing systems only consider manufacturing costs.
- Facilitates cost management
 - Recognising trade-offs between pre-production costs and costs involved when production begins

Disadvantages of Life Cycle Costing

- Difficulty in deriving life cycle costs and budgets
 - Lack of information in traditional systems
 - Difficult to provide accurate forecasts to derive life cycle budgets

Target Costing

A system of profit planning and cost management that determines the life cycle cost at which a proposed product must be produced to generate the desired level of profit.

$$\text{Target Selling Price} = \text{Target Cost} + \text{Target Profit Margin}$$

From this we can derive the cost reduction objective:

$$\text{Cost reduction objective} = \text{current cost} - \text{target cost}$$

Value Engineering is a systematic approach used to analyse product and process design to eliminate non-value adding elements to achieve target costs, while maintaining or increasing customer value.

Key features of Target Costing

- It's price led
- Focuses on the customer and customer expectations
- Powerful tool when combined with life cycle costing
- Cross functional – involving managers throughout the value chain
- Costs can be reduced using value engineering

Tactical Decisions

Tactical decision making consists of choosing among alternatives with an immediate or limited end in view. Thus, some tactical decisions tend to be short-run in nature, do not have significant changes in capacity related resources and can be reversed easily. Though, some tactical decisions