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Manufacturing Accounts
Classification of Costs

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MANUFACTURING ACCOUNTS

The following passage is:

- a brief introduction to manufacturing accounts (ma-ee) and
- how manufacturing costs are classified.

Engineering Economy involves the systematic evaluation of the economic merits of proposed solutions to engineering problems. To be economically acceptable (i.e. affordable), *solution to engineering* must demonstrate a positive balance of long-term costs, and they must also:

- promote the well-being and survival of an organization
- embody creative and innovative technology and ideas
- permit identification and scrutiny of their estimated outcomes
- translate profitability to the "bottom line" through a valid and acceptable measure of merit

Manufacturing Accounts in term of Engineering Economics Consideration

- **1. Develop the Alternatives**
 - The choice (decision) is among alternatives.
 - The Alternative need to be identified and then defined for subsequent analysis
- **2. Focus on the Differences**
 - Only the differences in expected future outcomes among alternatives are relevant to their comparison and should be considered in the decision.
- **3. Use Consistent Viewpoint**

The Prospective outcomes of the alternatives, economic and other, should be consistently developed from a defined viewpoint (perspective)

Manufacturing Accounts in term of Engineering Economics (cont')

- **4. Use a Common Unit of Measure**
 - Using a common unit of measurement to enumerate as many of the prospective outcomes as possible will simplify the analysis of the alternatives.
- **5. Consider all Relevant Criteria**
 - Selection of a preferred alternative (decision making) requires the use of criterion (or several criteria). The decision process should consider both the outcomes enumerated in the monetary unit and those expressed in some other unit of measurement or made explicit in a descriptive manner)

Manufacturing Accounts in term of Engineering Economics (cont')

- **6. Make Uncertainty Explicit**
 - Uncertainty is inherent in projecting (or estimating) the future outcomes of the alternatives and should be recognized in their analysis and comparison
- **7. Revisit your Decision**

Improved decision making results from an adaptive process; to the extent practicable, the initial outcomes of the selected alternative should be subsequently compared with actual results achieved.

Manufacturing Accounts in term of Engineering Economics and The Design of Process

An engineering economy is accomplished using a structured procedure and mathematical modeling techniques. The economic results are then used in a decision situation that normally includes other engineering knowledge and input

Manufacturing Accounts in term of Engineering Economics and The Design of Process (cont')

Analysis Procedure

1. Problem recognition, definition, and evaluation
2. Development of the feasible alternatives
3. Development of the outcomes and cash flows for each alternative.
4. Selection of a criterion (or criteria)
5. Analysis and comparison of the alternatives
6. Selection of the preferred alternative
7. Performance monitoring and post evaluation of results

Design Process

1. Problem /need definition
2. Problem/need formulation and evaluation
3. Synthesis of possible solutions (alternatives)
4. Analysis, optimization, and evaluation
5. Specification of preferred alternative
6. Communication

MANUFACTURING COST CLASSIFICATION

Classification of Costs (1)

A MANUFACTURING ACCOUNT IS PREPARED TO FIND OUT:

- The *cost of goods manufactured*.
- Costs of manufacturing include:
 - All resources used, directly or indirectly, in the manufacture of goods.The manufacturing costs can be classified into *direct costs* and *indirect costs*

Classification of Costs (2)

WHAT ARE DIRECT COSTS?

Direct costs can be identified specifically and exclusively with a given cost objective in an economically feasible way.

Classification of Costs (2)

DIRECT COSTS are those costs directly involved in the manufacture of goods.

Examples of *direct costs* are:

- *direct materials*
- *direct labor* and *direct expenses*.

All the direct costs are collectively known as *prime cost*.

Classification of Costs (3)

WHAT ARE INDIRECT COSTS?

Indirect costs cannot be identified specifically and exclusively with a given cost objective in an economically feasible way.

Classification of Costs (3)

INDIRECT COSTS are not directly related to production.

- They are all the remaining production expenses.
- Examples of *indirect costs* include factory rent, factory power, depreciation of plant and machinery, etc.

Indirect costs are also known as **factory overheads**.



- A **Manufacturing account** is prepared to find out the cost of goods manufactured. Costs of manufacturing include all resources used, directly or indirectly, in the manufacture of goods. The manufacturing costs can be classified into direct costs and indirect costs.
- **Direct costs** are those costs directly involved in the manufacture of goods. Examples of direct costs are direct materials, direct labor and direct expenses. All the direct costs are collectively known as prime cost.
- **Indirect costs** are not directly related to production. They are all the remaining production expenses. Examples of indirect costs include factory rent, factory power, depreciation of plant and machinery, etc. Indirect costs are also known as factory overheads.

THE END