1. **Problems of Traditional Costing**

Traditional costing allocates overheads only on volume basis like labour / machine hour.

This results in under or over costing as resources consumed by a service or a product and costs allocated to it do not match.

The assumption that higher the volume, greater the share of indirect costs to that product or service line is too simplistic to be true.

1. **Problems of Traditional Costing**

   In a multi product or multi-service firm, different products consume different activities, hence resources used do not bear proportionate relation to the volumes.

   Activity based costing focuses on activities as the fundamental cost objects.

2.   Activity Based Costing (ABC)

Activities	→	Cost of Activities Cost Pools	→	Cost Drivers	→	Cost allocated to Product/Service
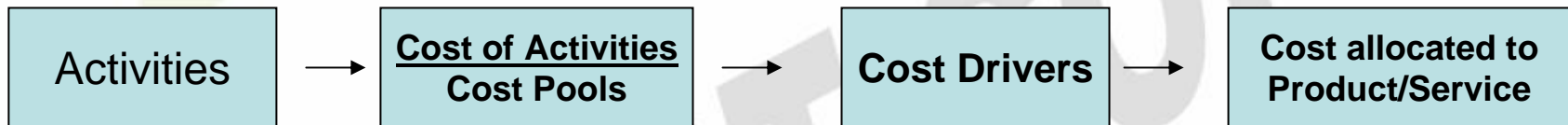
An activity is a process that causes work. Activities drive costs.

Cost drivers are allocation basis for the activity. [Purchase order is a driver in a Purchasing Dept.]

2. Activity Based Costing (ABC)

some more cost drivers:-

activity	driver
Machine set up	number of production runs
Inspection	inspection per item
Receiving / Packing	number of orders
Stores	number of deliveries
Warehousing	items in stock
Material Handling	number of parts

2. Activity Based Costing (ABC)

Determination of direct cost is common for traditional & ABC costing.

In ABC overheads are allocated based on appropriated cost drivers unlike in traditional costing, where they are allocated on volumes(labour / machine hours) using indiscriminate averages.

3.   **Transaction-based cost drivers**

Transactions undertaken by the support departments consume resources of the firm. e.g.

☻ Goods received orders drive the cost of the receiving dept.

☻ Dispatch orders drive cost of dispatch department.

☻ Production runs undertaken drive the costs of scheduling, inspection or setup costs.

3. Transaction-based cost drivers

In ABC, a cost pool is established for each cost driver.

The costs of this pool are divided by number of transactions or activities that generated these costs to arrive at a charging out rate

ABC system thus uses rates, that understand cost behaviour, for allocating costs to products.

4. Cost analysis under ABC

Company's resources represented by so called fixed costs, increase not because of increase in volume of a single product but because of

- ☻ **diversity of company products**
- ☻ **new customers**
- ☻ **distribution channels**
- ☻ **product lines.**

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4. Cost analysis under ABC

ABC attempts to show that a major part of these (so called fixed costs) are based on activities & are in reality variable (and, therefore, controllable).

4. Cost analysis under ABC

There are three major kinds of
activities in the organizations :

☺ Unit level activities.

☺ Batch level activities.

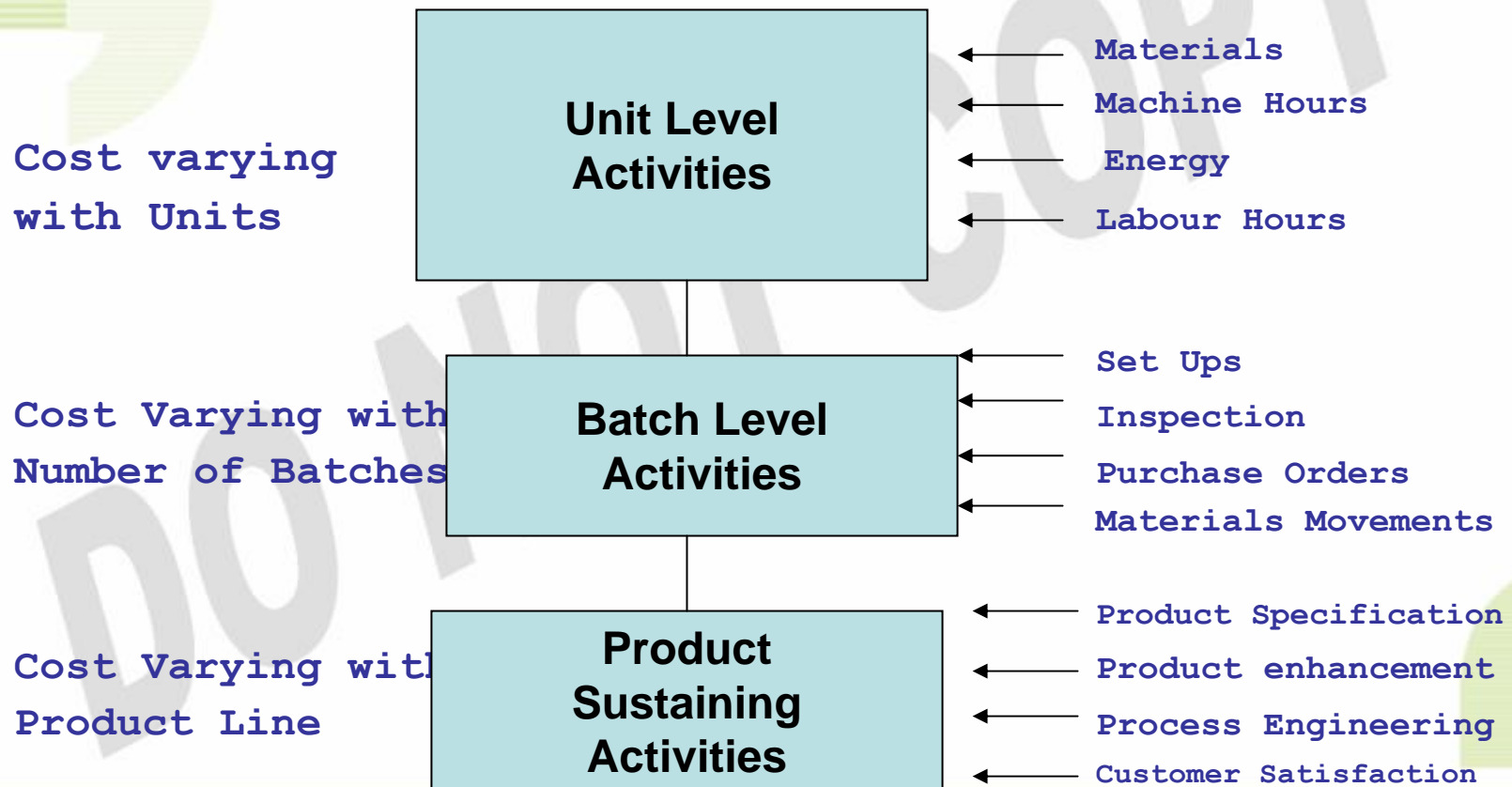☺ Product sustaining activities.

4. Cost analysis under ABC

These activities drive following types of costs or expenses

☻ **Costs at Unit level**
☻ **Costs at Batch or production run level**
☻ **Product sustaining costs.**

These are depicted in the next diagram.

Product Line

Cost varying with Units	**Unit Level Activities**	← Materials ← Machine Hours ← Energy ← Labour Hours
Cost Varying with Number of Batches	**Batch Level Activities**	← Set Ups ← Inspection ← Purchase Orders ← Materials Movements
Cost Varying with Product Line	**Product Sustaining Activities**	← Product Specification ← Product enhancement ← Process Engineering ← Customer Satisfaction

4. Cost analysis under ABC

This diagram shows that by deducting all cost at unit level from the revenues the firm arrive at contribution margin for individual products.

From this margin reduce batch level costs & product sustenance costs and firm gets product level margins.

Superiority of ABC lies in providing batch level, product sustaining, product lines and customer level costs not available in traditional costing.

5. Full costs as product costs under ABC

Classification of costs based on activities allows assignment of costs to individual products without trouble and arbitrariness.

So common in traditional costing.

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5. Full costs as product costs under ABC

The steps involved to determine cost are :

- **Identify activities.**

- **Identify cost of each activity.**

- **Identify primary cost driver of each activity**

- **And treat it as a cost pool.**

- **Calculate allocation rate per transaction.**

- **Allocate costs to products by multiplying the above rate by cost drivers for the product / service.**

6. Benefits and weakness of ABC

Benefits:

ABC is more expensive than the traditional costing system. Hence benefits need to be properly weighed.

1. **Total company costs for each activity can be obtained, analyzed, planned & controlled.**

2. **More accurate costs are available as costs are identified with activities & then applied to products based on cost drivers.**

6. Benefits and weakness of ABC

Benefits: contd.

3. Managers manage activities well with knowledge of costs resulting into competitive products.

4. ABC focuses on cause and effect relationship of activities allowing managers to manage them effectively.

5. ABC highlights process technology, product design, product mix, operational movements that are break even or unprofitable. This is of great help in management decisions and action.

6. Benefits and weakness of ABC

Weaknesses :

1. ABC fails to encourage managers to think about changing work processes to make business competitive.

2. ABC does not confirm to GAAP. Hence it is more used for internal analysis.

3. Using ABC for short term decisions can harm long term interests.

4. ABC does not help in removing constraints that cause delays or excesses.

7. Factors influencing application of ABC

1. **High incidence of overhead cost caused by automation, complexity of production calls for correct allocation of overheads to products.**

2. **Product complexity or diversity is recognized in allocating costs under ABC.**

3. **Volume diversity say caused by production of two similar products in different batch sizes.**

8. ABC as resources usage model

1. The periodic financial statements provide information on the cost of activities supplied in each period.
2. ABC provides information on quantity & cost of activities actually used.
3. The difference provides critical data on cost of resources not used.
4. This data can also be used by Managers to modify their use of resources in the short run to provide immediate results.

9. Installation of ABC

Factors justifying the implementation.

1. The firms are facing greater competition. It is more necessary to get rid of arbitrary allocation of overheads to arrive at realistic costs for competitive pricing & eliminate inefficiency.
2. Overheads are assuming relatively high proportion.
3. Products becoming more complex.
4. And volumes getting more diverse.

9. Installation of ABC

Steps in the implementation.

1. Primary Steps :

> ♠ **Feasibility Study.**
>
> ♠ **Create IT infra-structure.**
>
> ♠ **Convincing line employees.**
>
> ♠ **Value-chain analysis.**

2. Operational Steps :

> ♠ **Identification of activities, costs, cost drivers.**
>
> ♠ **Computation of absorption rates.**
>
> ♠ **Cost allocation based on transactions.**

9. Installation of ABC

Steps in the implementation.

1. Primary Steps : <u>Feasibility Study.</u>

♠ Determine a] cost of development of the system & b] cost of running it.

♠ Compare with benefits accruing from a] more accurate cost information for product pricing, b] more accurate profit analysis by product, customer, process or department, c] improved performance measures and d] improved insight into what causes the cost.

Expected benefits should outweigh the costs.

9. Installation of ABC

Steps in the implementation.

1. Primary Steps : ♠ Create IT infra-structure.

Large amount of information is to be generated regarding cost pools, cost drivers, transactions etc. for effective implementation & operation of ABC.

This calls for suitable IT infra-structure to support ABC.

9. Installation of ABC

Steps in the implementation.

1. **Primary Steps : ♠ Convincing line Employees.**

    To overcome resistance from line employees & to gain their cooperation, it is necessary that the concept of ABC is sold to them.

    the techniques to be used include group discussions, training programs, case study, live demonstration etc.

    Employees must be assured that ABC retains their job security.

9. Installation of ABC

Steps in the implementation.

1.   Primary Steps : ♠ Value-chain analysis.

The ABC system should provide information and analytical support and impetus for development of new and revised strategy. The purpose of this value chain analysis is to determine where managers can lower costs from design to distribution in the company's segment of the chain.

9. Installation of ABC

Steps in the implementation.

2. Operational Steps : ♠ <u>Inventorization and screening of activities.</u>

Activities are cost objects under ABC. Resources are employed or costs incurred to carry out these activities.

Hence success of ABC depends on their proper inventorization to ensure no activity is missed

9. Installation of ABC

Steps in the implementation.

2. Operational Steps : ♠ <u>Inventorization and screening of activities.</u>

Screening of these activities is required to confirm is the activity necessary? and is it possible to club activities?

9. Installation of ABC

Steps in the implementation.

2. Operational Steps : ♠ Identification of costs & cost drivers.

Is achieved through three approaches –
a] personal observation and measurement by each manager for activities under his control, b] analysis of cost and operation records and c] feedback about the experience from other firms.

9. Installation of ABC

Steps in the implementation.

2. Operational Steps : ♠ Identification of costs & cost drivers.

The objective of this exercise is to have

☻ indirect cost pools

☻ indirect cost allocation bases.

Indirect cost pools comprise costs that have similar cause effect relationship.

Cost allocation base is a factor that drives or determines cost.

9. Installation of ABC

Steps in the implementation.

2. Operational Steps : ♠ Computation of absorption rates

The objective of this exercise is to arrive at rates for allocation of costs to products.

The rate is calculated by dividing the cost in the cost pool by number of transactions that cause the pool.

9. **Installation of ABC**

Steps in the implementation.

2. Operational Steps : ♠ <u>Allocation of over head based on transactions.</u>

> The objective of this exercise is to apply the absorption rate arrived earlier to the cost drivers / transactions of the product or service.
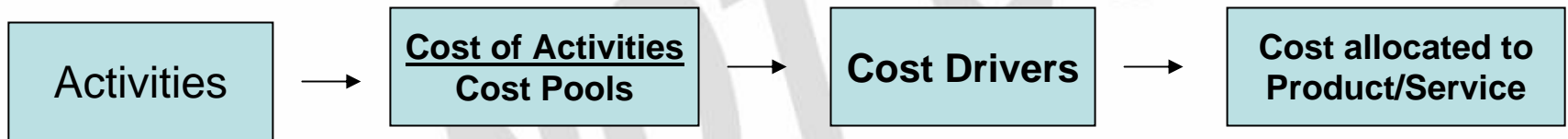>
> All operational steps are once again shown in the next diagram.

9. Installation of ABC

Steps in the implementation.
2. Operational Steps :

Activities	→	**Cost of Activities** **Cost Pools**	→	**Cost Drivers**	→	**Cost allocated to Product/Service**

All operational steps are once again shown in the above diagram.

Next Chapter " Budgetary Control" Bye !!!