

THEORETICAL LESSON 10

Activity Based Costing (ABC)

MANAGEMENT ACCOUNTING I

Objectives of the Lesson

- i. Identify the context evolution and consequent limitation of the 'traditional systems' of costs calculation
- ii. Characterize and know how to apply the ABC methodology
- iii. Distinguish the different types of activities
- iv. State the main advantages and difficulties of ABC

Objective 1

- i. Identify the context evolution and consequent limitation of the 'traditional systems' of costs calculation

Direct Costs vs. Indirect Costs [recapitulating...]

□ Costs may be **direct** or **indirect** according to their relation with the costing object.

Direct...

... **exclusively and specifically** of a defined costing object

... would not occur if the costing object did not exist

... can be allocated in a economically profitable way

Example: DM and DL

Indirect...

... are **common** to several costing objects and cannot be directly attached to their individual cost

... cannot be allocated in a economically profitable way

... allocation **criteria are necessary** to allocate them

Example: MO

The Context Evolution

The components identification of the Manufacturing Costs in Materials, DL and MO happened at a time of economic and business development characterized by...

- ... local markets mainly internal
- ... little competition of products and manufacturers
- ... little complex production process, mainly regarding intensive labour
- ... markets which are very ascertained by offer, marketing what was produced - engineering predominance

The Context Evolution

In this context (previous)...

- ... the great majority of the indirect costs showed a reasonable **relation with the volume of output**, because there was little complexity of the processes
- ... the allocation bases which were chosen were **connected with the volume**
- ... the lack of rigour regarding the MO allocation **did not influence the decisions**

Direct Costs...

- ... corresponded to **most of the production costs**
- ... were **easy to ascertain**

Indirect costs ...

- ... were **little relevant** regarding the production cost
- ... were **less easy to ascertain**, but not significative regarding the cost rigour

The Context Evolution

Progressively, the economic and business reality changed:

- ▮ Scientific, technological (Microprocessors; Satellites; Physics; Biology; Chemistry) and economic development (post 2nd World War)
- ▮ External markets and global market
- ▮ Very defined markets by demand, marketing what is consumed – Marketing predominance
- ▮ The 'Voice of the Customer' obliged to change the logic of the products conception ...
 - ... new business activities: R&D; Design and Conception; Quality Control; Marketing; Post-Sales Service
 - ... more emphasis on the incorporation of intangibles (Knowledge)
 - ... new production technologies: CAD; CAM; CIM; MRP
 - ... increase of the Products Lines, but with reduced batches
- ▮ Increase of competition emphasized profitability and 'value creation' – Identification of the activities which create and do not create value

Limitations of the 'Traditional Systems'

In the present context...

- ... the great majority of the indirect costs did not show a direct relation with the volume of output, because of the diversity of product lines and the complexity of the processes
- ... the allocation bases regarding the volume do not allow an adequate allocation of the indirect costs

Direct Costs...

- ... corresponded to the smaller part of the production cost
- ... were easy to ascertain

Indirect Costs...

- ... were very relevant regarding the production cost
- ... were less easy to calculate and determining regarding the costs rigour

Limitations of the 'Traditional Systems'

The traditional allocation methods of the indirect costs, using allocation bases regarding the volume, began to be inadequate to the products/services costing and to imply wrong decisions:

- ▢ Bases Method to Allocate Volume (USA, Europe);
- ▢ Department Method (Europe).

By mid-eighties, in the USA, *Computer Aided Manufacturing International* (CAM-I), Cooper & Kaplan and HBS developed a 'new' allocation methodology of the indirect costs to products and services:

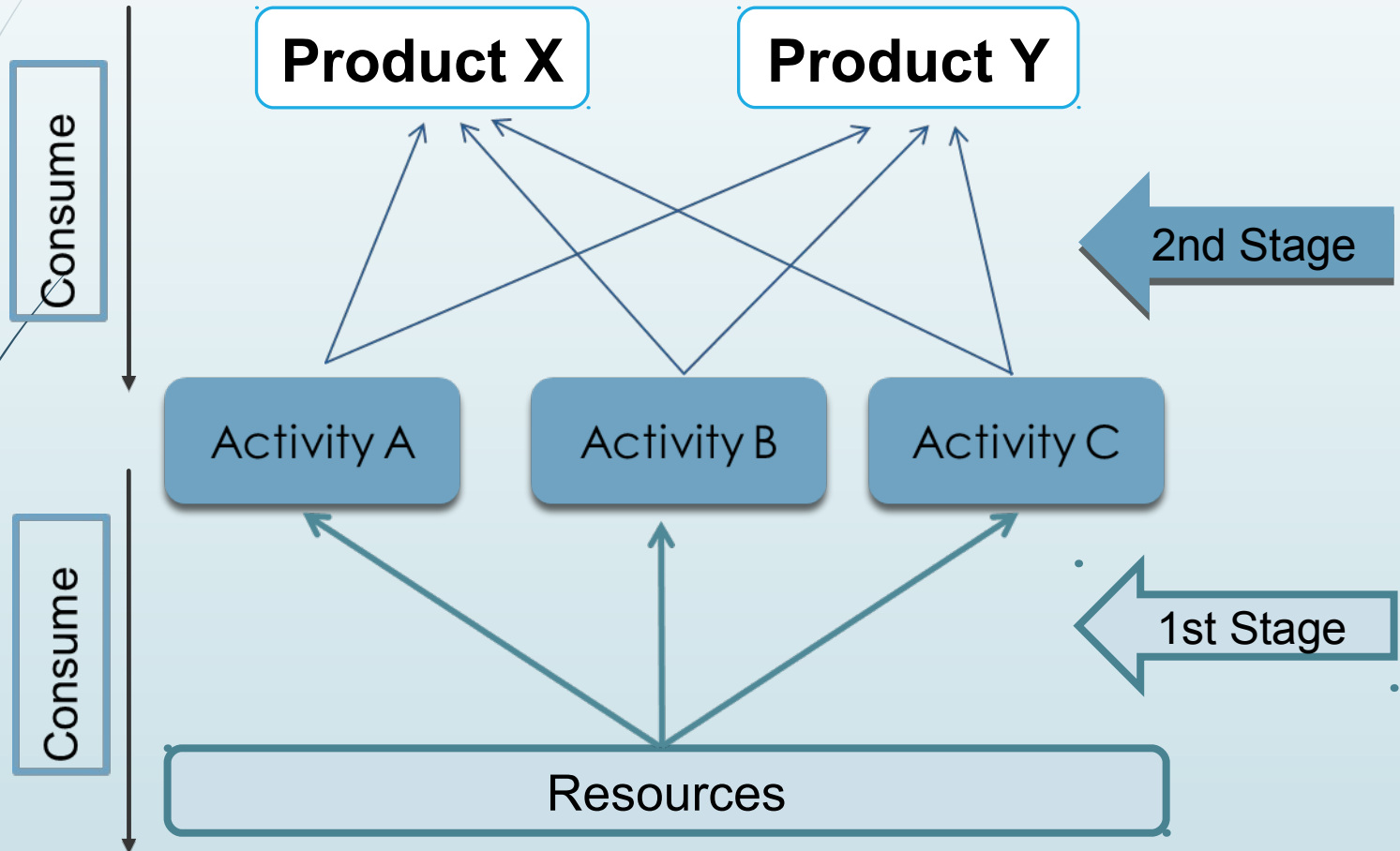
'Activity Based Costing'

Objective 3

ii. Characterize and know how to apply the ABC methodology

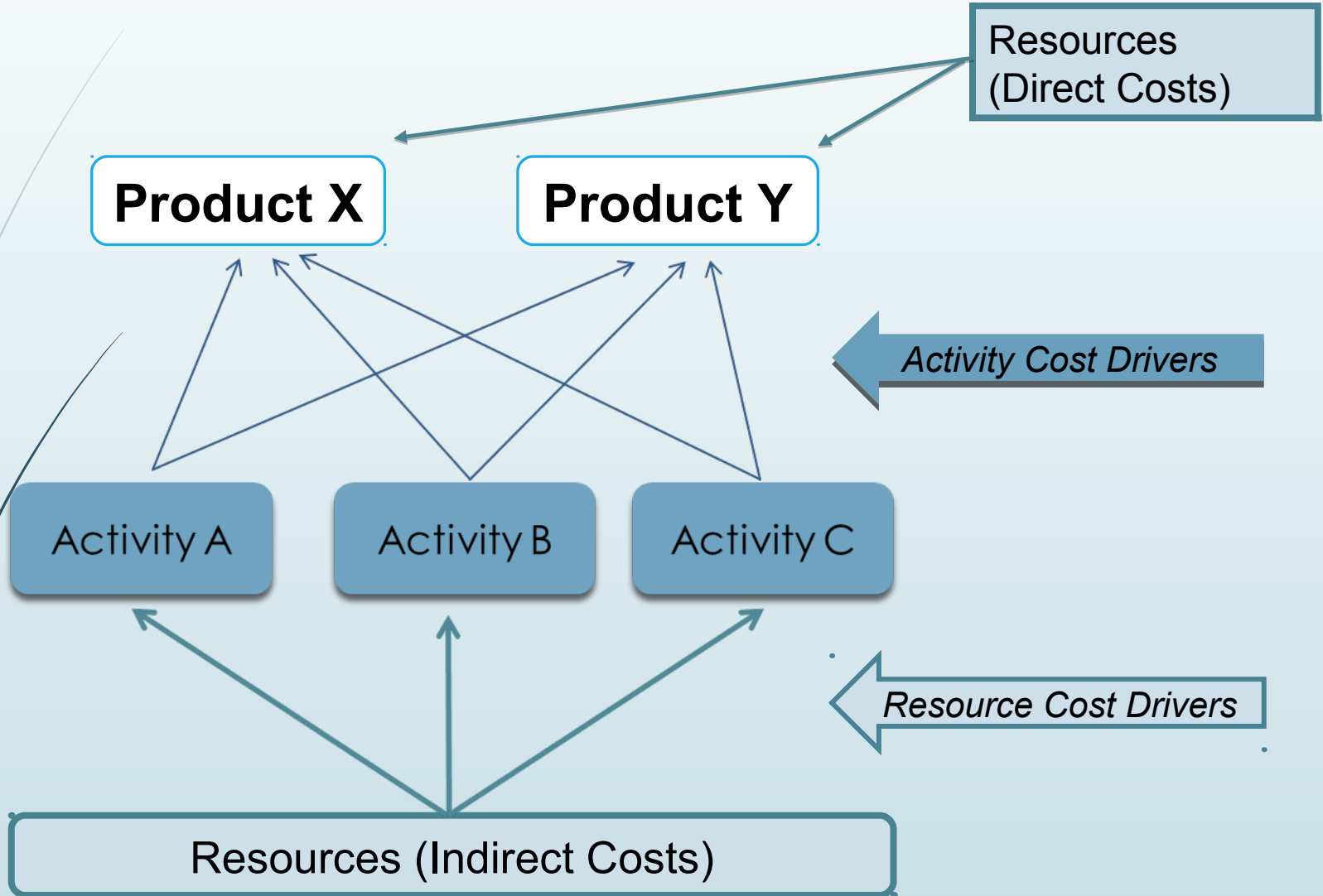
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Activity Based Costing (ABC)



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Activity Based Costing (ABC)

Implementation stages of an ABC system:

1. Identify the several **activities**;
2. Identify the **resources** which are necessary to carry out the activities;
3. Identify the **resource cost drivers** and **allocate the resources** to the activities;
4. Select the **activity cost drivers** and **allocate the activities** to the costing objects.

□ **Activity** is the set of elementary operations which are necessary to carry out a job.

Examples: Set up an equipment, Quality Control , Send off products, Invoice, Plan the production, etc.

Objective 3

iii.Distinguish the different activity types

Activities Types

The ABC system uses generally a costs hierarchy (classification) of four levels to identify the allocation bases:

1. *Output-unit level activities* - activities with costs regarding the unit *output* of units of production or services ;
2. *Batch-level activities* – activities with costs regarding the *output* of batches or group of units of production or services
3. *Product or service-sustaining activities* - activities with costs to support the *outputs* of units of production or services
4. *Facility-sustaining activities* - activities with costs regarding the organization in a whole, and do not identify with any one of the previous levels

Activities Types

The main refining that the ABC methodology introduced, regarding the 'traditional' costing methods, is...

... in the most correct allocation of the costs of the *batch-level activities* and of the *product or service - sustaining activities* ...

... that exist with much more predominance in the present production processes and ...

... whose behaviour is not directly related to 'Volume'.

Objective 4

iv.State the main advantages and difficulties of ABC

Advantages and Difficulties of the ABC Method

Advantages...

- ... greater rigour in the costs of the costing objects
- ... better understanding of the use of resources
- ... identification of the activities which create value
- ... increase of internal communication

Difficulties...

- ...activities not always easily identifiable
- ...adequate *cost drivers* that are difficult to identify and define
- ... very expensive on implementing and on working
- ... do not replace the need to continue calculating the costs through the structure

- How to articulate the advantages of the ABC with the needs of information to control the structure and hierarchical responsibility?

Data Bases

End of the Lesson 10