

# Topic 6. COST ALLOCATION I

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## Introduction

- How should university costs accrued in secretary be allocated among undergraduate programmes, graduate programmes and research?
- How much should company spend on cost-allocation systems?



*There is rarely one 'best' way to allocate costs: allocation requires judgement and reasonable people may differ in their judgements.*

## Cost assignment

- Cost tracing

describes assignment of direct costs to the cost object.

- Cost allocation

describes assigning indirect costs to the cost object.

## Cost-allocation process

1. Determine the purpose of the allocation, since this determines what costs will be allocated.
2. Decide how to allocate the costs from step 1. To do so:
  - a. Decide how many indirect-cost pools to develop, and then
  - b. Identify an allocation base (preferably a cost driver) for each cost pool.

## Four purposes for allocating costs:

1. To provide information for economic decisions
2. To motivate managers and employees
3. To justify costs or calculate reimbursement
4. To measure income and assets for meeting external regulatory and legal reporting obligations.



Factory Depreciation Cost

Indirect  
Allocated



Finished car

Direct  
Traced



Factory

**The same cost can be direct and indirect with the respect to different cost objects.**

## Cost allocation and costing systems

Cost allocation system should be chosen based on the cost-benefit approach.

**Benefits** of more accurate cost-allocation systems generally **increase** as:

(1) the variety of outputs increases

*(if different outputs make different demands on resources);*

(2) indirect costs increase

*(greater potential for material misallocation)*

(3) competition increases in the output market

*(profit margins narrow, so there is less room for error).*



## Labour-paced and machine-paced operations

The distinction between labour-paced and machine-paced operations is important when examining the possible cost-allocation bases to use in a costing system.

- In **labour-paced operations**,
  - labour-hours (LH) will capture cause-and-effect relationships (will be used as an allocation base).
- In **machine-paced operations**,
  - machine-related variables (such as machine-hours MH) will capture cause-and-effect relationships (will be used as an allocation base).

## DLH and DL€ as allocation bases

*This is reasonable when*

- (1) production is labour-paced,*
- (2) DLH and DL€ are easily available,*
- (3) indirect costs are a small piece of the full-product cost 'pie'*
- (4) companies have limited product-line diversity.*

## Machine-hours (MH) as allocation base

*Reason to use MH as an allocation base:*

- a. more production is machine-paced;*
- b. advances in information technology make it feasible to collect non-financial data such as MH, kg of the material, etc.;*
- c. ???indirect costs are a more significant percentage of full-product costs*
- d. ???companies have increased the diversity of their products.*

# 1

## 6.1. Allocating costs from one department to another

## Single-rate and dual-rate methods

- A **single-rate cost-allocation method**
  - ▷ pools all costs in one cost pool
  - ▷ allocates them to cost objects using the same allocation rate per unit of the same (single) allocation base.
- A **dual-rate cost-allocation method**
  - ▷ first classifies costs from one cost pool into two subpools (into variable and fix, for example)
  - ▷ each subpool has a different allocation rate or a different allocation base.

## Single-rate vs. dual-rate + / -

- Single-rate method
  - ▷ + has lower cost of implementation
  - ▷ - can create mistakes
- Dual-rate method
  - ▷ + demonstrate the different behaviour of fix and variable costs

# 2

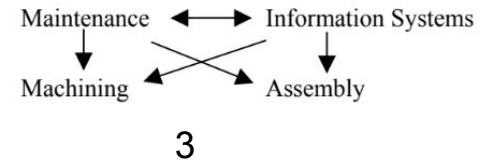
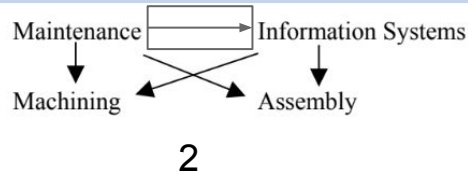
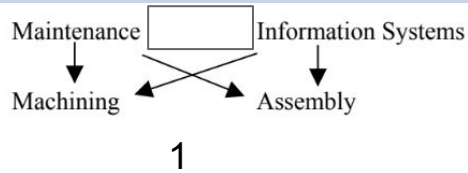
## 6.2. Allocating costs from support departments

## Operating and support departments

- **Operating department** (***production department*** in manufacturing companies)
  - ▷ adds value to a product or service that is observable by a customer.
- **Support department** (or ***service department***)
  - ▷ provides service which maintains other internal departments (*operating departments and other support department*) in the organization.



# Allocating costs of support departments



1. **Direct method** – NO reciprocal services recognised.
2. **Step-down method** – One-way reciprocal services recognised: Maintenance  $\Rightarrow$  Information Systems.
3. **Reciprocal method** – Two-way reciprocal services recognised: Maintenance  $\Leftrightarrow$  Information Systems.

*The three methods differ in how they recognise reciprocal services among support departments.*

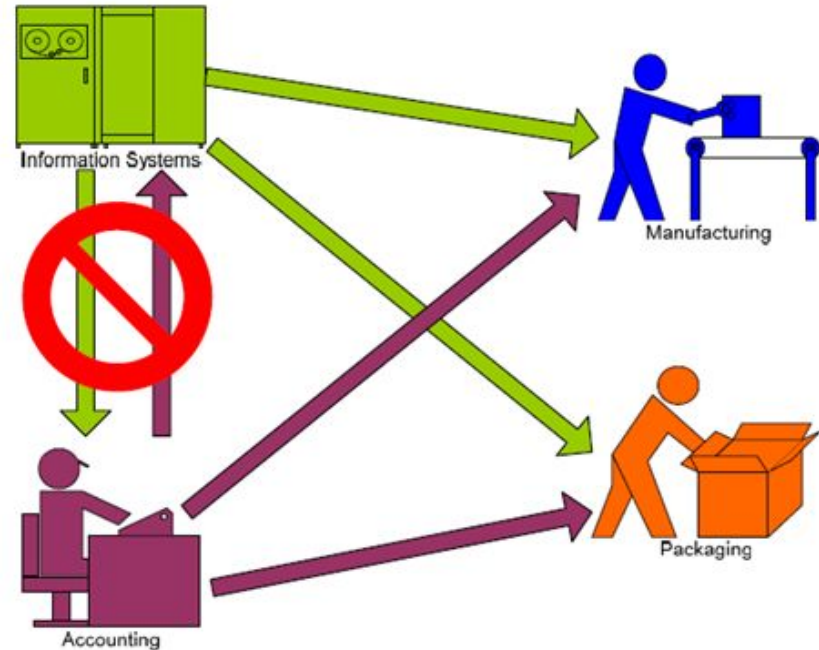
*Allocation base DLH (Direct labour hours) or DL€ (Direct labor in euro).*

# Direct method

- The **direct allocation method**
  - ▷ ignores any services rendered by one support department to another;
  - ▷ it allocates each support department's total costs directly to the operating departments.

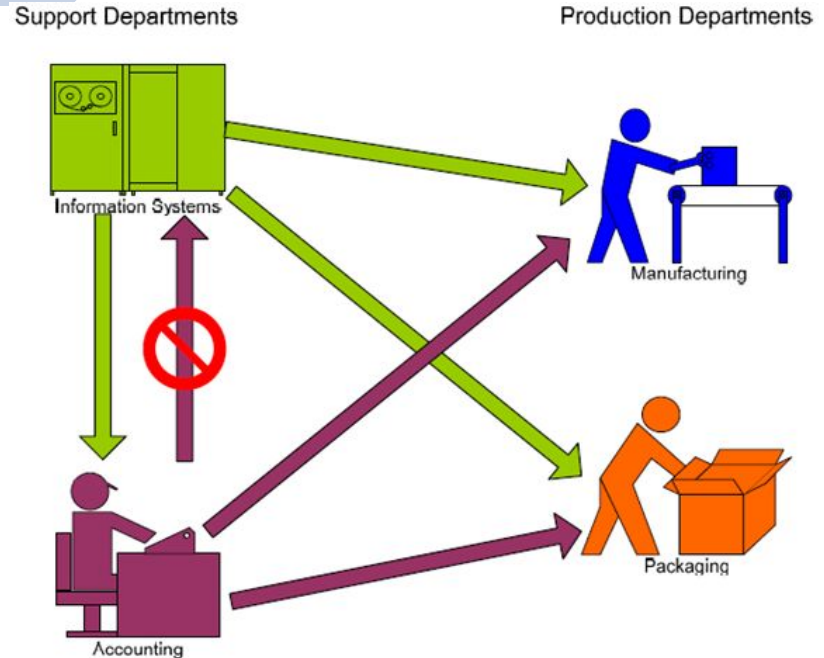
Support Departments

Production Departments



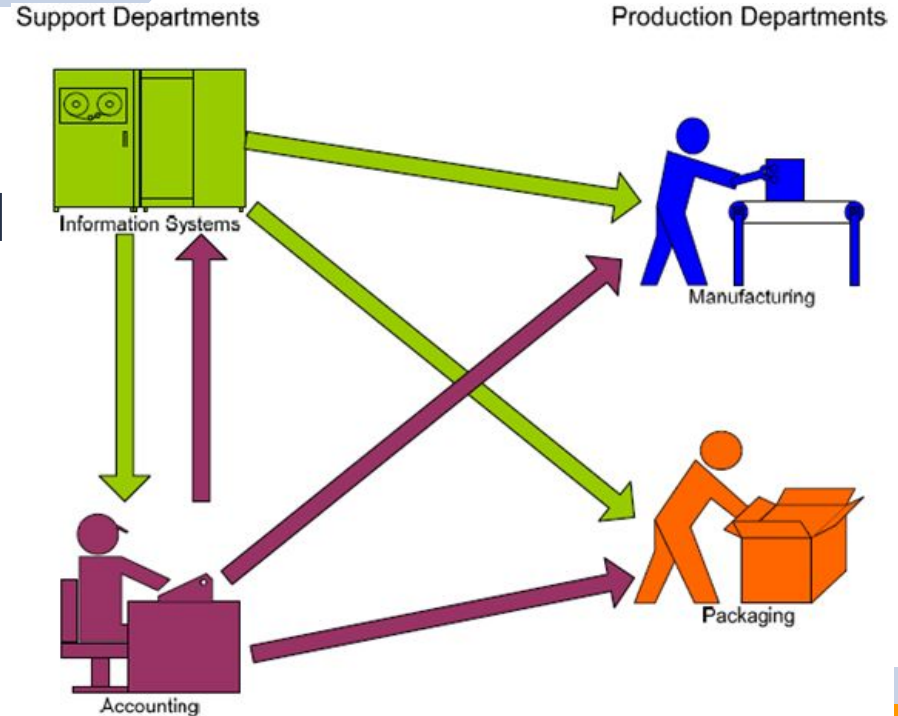
# Step-down allocation method

- The **step-down allocation method**
  - ▶ allows for partial recognition of support rendered by support departments to other support departments;
  - ▶ the order of allocation is determined.



# Reciprocal allocation method

- The **reciprocal allocation method**
  - allocates costs by explicitly recognising the mutual services rendered among support departments.



## Which method to choose?

*Companies normally use direct method as*

- *Easy to calculate*
- *Mainly numbers using the reciprocal and step-down method differ a little for direct method.*



*Bhimani A, Horngren CT, Datar SM and  
Rajan M. Management and Cost  
Accounting, 5/E. Financial Times Press  
2012.*

*Chapter 5.*