

# **Cost Accounting 2**

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# Syllabus

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Accounting for indirect  
manufacturing costs

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# Chapter 1

Indirect manufacturing costs and cost centers

Indirect manufacturing cost Allocation rates

Allocation bases of indirect manufacturing costs.

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Indirect  
manufacturing  
costs

Allocation bases of the production services centers costs to production centers.

Allocating the indirect manufacturing costs of the production centers to the production units.

Indirect manufacturing cost accounting cycle.

# 1

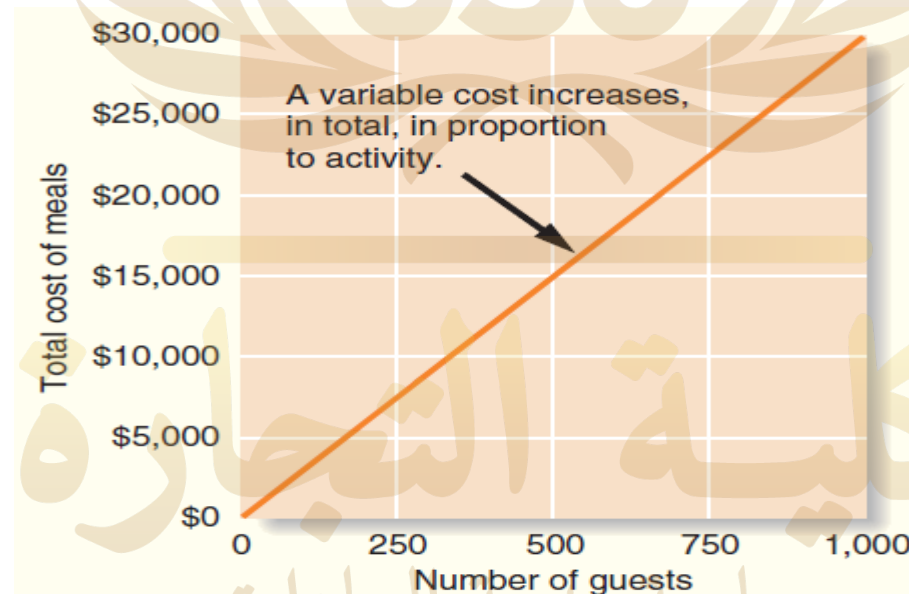
## Indirect manufacturing costs and cost centers

- ❑ The elements of costs are classified according to their relationship to the unit of activity into two types of costs:
  - ✓ **Direct costs**, which are those elements that are easy to trace to the production unit, which includes **direct materials, direct wages (labor)**.
  - ✓ **Indirect costs**, which are those elements that are difficult to trace and allocate to the product.

# 1

## Indirect manufacturing costs and cost centers

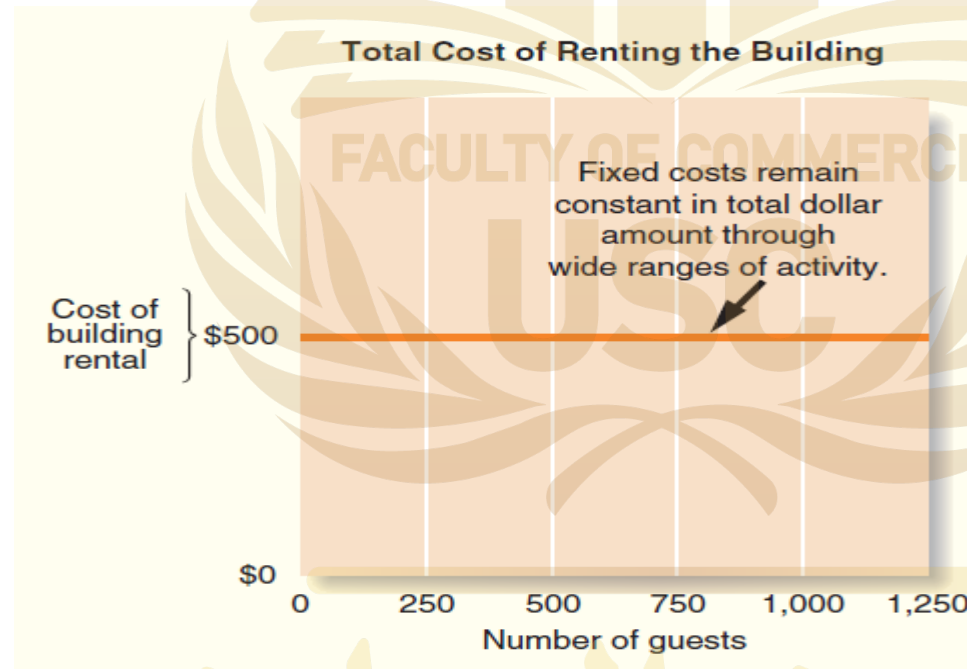
- ❑ **The cost elements** can be classified according to their behavior towards fluctuations in the volume of activity into three types of costs:
  - ✓ **Variable costs**, which means those elements that change directly with the change in the volume of activity, while the unit's share of these costs is fixed and changes in total with the change in the volume of activity.



## 1

## Indirect manufacturing costs and cost centers

- ✓ **Fixed costs** are those elements that do not change in total with changes in the volume of activity, while we find the unit share of these costs is variable.



- ✓ **Semi-variable and semi-fixed costs**, A mixed cost is a cost that contains both a fixed cost component and a variable cost component.

# 1

## Indirect manufacturing costs and cost centers

- **Indirect manufacturing costs** are all other manufacturing costs other than materials, labor (wages).
- They include all indirect manufacturing costs that the company bear during the stages of operation or production.



- ❑ **The problem facing cost accountants** when accounting for this element is that it cannot be linked and charged to a specific product directly.
- ▶ It generally occurs for the workflow of the company or several products, such as **indirect materials, indirect labor (wages), rent, depreciation, lighting, and heating costs, maintenance.**



# 1

## Indirect manufacturing costs and cost centers



1. The cost of any product includes two basic elements: materials and wages only.
2. Indirect costs are those costs that easily traced to unit product.
3. Direct costs are those costs that are difficult to trace to unit product.
4. Indirect costs are those costs that the enterprise incurs in order to produce a specific unit of production.
5. The cost elements are classified according to their relationship to the unit of activity into two types: "variable costs and fixed costs"


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# 1

## Indirect manufacturing costs and cost centers

□ As a result of this difficulty, the cost accountants divide the company into a group of cost centers as an **additional cost stage**.



□ **In this stage** the product is charged with indirect costs based on determining an actual allocation rate for the elements of indirect costs based on the theory of cost centers, which is based on:

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# 1

## Indirect manufacturing costs and cost centers

1. Divide the company into a group of cost centers such as **production centers** and **production services centers**.
2. Identifying the indirect manufacturing costs in the services and production centers.
3. Allocation of costs of production services centers to **production centers**.
4. Determining **allocation rate** for each production center or for the company as a whole.
5. Determining the unit share of the indirect manufacturing costs by using the allocation rate **(the monetary standard)** of the center multiplied by the quantity of the center's consumption from the allocation basis **(the quantitative standard)**.

# 1

## Indirect manufacturing costs and cost centers

### ❑ *What are cost centers?*

The unified accounting system defined the cost center as “a homogeneous circle of performance of a specific homogeneous activity or services of a certain type, and the cost center contains a group of similar factors of production, and the cost center leads to a distinct product or service that can be measured.”

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# 1

## Indirect manufacturing costs and cost centers

❑ Using the **cost center theory**, the firm's cost accountant prepares standards for indirect manufacturing costs by following the following steps:

1. Determine the **expected capacity level** for each center, whether it is a production center or a service center.

2-An analysis of the indirect manufacturing costs components into **variable costs, fixed costs, and semi-variable costs** components.

3-Preparing **standards** for the indirect manufacturing costs components for each cost center on the basis of fixed, variable costs and semi-variable costs.

4-Calculating the **allocation rate** of the indirect manufacturing costs for each production center on the basis of:

Standard allocation rate for the total costs of the center.

Standard allocation rate for variable costs.

Standard allocation rate for fixed costs.

# 1

## Indirect manufacturing costs and cost centers

### ❑ Identifying cost centers are useful for easy:

- Preparing planning budgets for the different cost centers.
- Controlling the actual cost elements by comparing the actual and planned costs, identifying the deviations between them, analyzing their causes, and eliminating wastes.
- Identifying, recording, and analyzing of cost elements on cost centers.
- Rationalizing administrative decisions related to the various cost centers in the companies in the current and future.

# 1

## Indirect manufacturing costs and cost centers

- ❑ Identifying cost centers are useful for easy:
  - Setting up various incentives and rewards systems for cost centers to arrive at the predetermined production number and evaluate performance.
  - Using the electronic computer in calculating the cost elements at the level of cost centers and then at the level of the enterprises as a whole.



## 1

## Indirect manufacturing costs and cost centers

- ❑ The unified accounting system divided the economic unit on a functional basis into five cost centers and give each of them its number according to the following:

No.	Center name	Center number in the directory
1	Production centers	5
2	Production services centers	6
3	Marketing services centers	7
4	Administrative and financial services centers	8
5	Capital Operations Centers	9

## 1

# Indirect manufacturing costs and cost centers

- ❑ The cost elements of materials, labor (wages), and other expenditures, whether direct or indirect, are classified according to jobs so that the cost of each job can be determined as shown in the following:

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Production centers		Productive services centers		Marketing services centers		Administrative and financial services centers	
Direct cost	Indirect cost	Direct cost	Indirect cost	Direct cost	Indirect cost	Direct cost	Indirect cost
- Raw materials. - Labor (wages). - Other expenses.		- Raw materials. - Labor (wages). - Other expenses.		- Raw materials. - Labor (wages). - Other expenses.		- Raw materials. - Labor (wages). - Other expenses.	

# 2

## Indirect manufacturing cost allocation rates

- ❑ Setting a single rate for Allocating (Charging) the indirect manufacturing costs at the level of the company as a whole is not accurate.
- ❑ production centers that rely on machining to complete their production incur more indirect manufacturing costs than those production centers that rely on manual production.

# 2

## Indirect manufacturing cost allocation rates

- Accordingly, it would be necessary to set an allocation rate for each production center separately.
- It is possible to prepare an allocation rate for a group of similar production centers.

# 2

## Indirect manufacturing cost allocation rates

### □ Steps of determining the allocation rate for each production center:

1. Estimating indirect manufacturing costs before the beginning of the cost period for all production and service centers, as well as estimating the level of its activity (production, labor hours, or machine operating hours).

### □ There are two types of costs in relation to the centers:

- ✓ The first: cost specific to the center, such as consumption of machines or indirect labor (wages) of centers.
- ✓ The second: general or joint costs in all service and production centers, such as rent, for example.

# 2

## Indirect manufacturing cost allocation rates

- Steps of determining the allocation rate for each production center:
- 2- Allocating the costs of service centers to production centers using one of the allocation methods (single - total - step-down - reciprocal).
- 3- The appropriate allocation rate for each production center can be determined by dividing its estimated costs by the level of its estimated activity.

$$\text{Allocation rate} = \text{Estimated costs} / \text{Allocation base}$$

# 2

## Indirect manufacturing cost allocation rates

- ❑ Steps of determining the allocation rate for each production center:
- 4- Production units charged with its share of the indirect manufacturing costs in each production center.
  - ❑ By multiplying the center's allocation rate by the number of production units or by the number of labor hours or by the number of machine operating hours.



# 2

## Indirect manufacturing cost allocation rates

□ Steps of determining the allocation rate for each production center:

5-The same steps (1, 2, 3) applied to the actual indirect manufacturing costs and the actual activity level.

□ Then the accountant records the actual indirect manufacturing costs for each production center, with a special account of the same name.

● At the end of the cost period, the indirect manufacturing costs charged are compared or closed with the actual indirect manufacturing costs, to determine the variances.

# 2

## Indirect manufacturing cost allocation rates

□ The previous steps summarized in an allocation statement as follows:

### The allocation of indirect manufacturing costs

Description	Production centers			Production services centers		
	A	B	C	X	Y	Z
- Costs for each center	x	x	x	x	x	x
- Allocation of joint costs to the center	x	x	x	x	x	x
Total costs in centers	xx	xx	xx	xx	xx	xx
Allocation of costs of service centers to production centers	xx	xx	xx	xx	xx	xx
Total costs of production centers	xx	xx	xx	-	-	-
	÷	÷	÷			
Allocation rate	Labor hours	Machine hours	Units produced			

# 3

## Allocation Bases of indirect costs

- ❑ The special costs of the cost center do not result in problems when allocate them to their centers.
- ❑ Unlike the general or common costs, which have a general character due to their connection to more than one cost center (production - services) that benefits from the cost component.

- Therefore, the cost accountant must determine the basis that he will use in allocating these common elements to the benefiting centers, provided that this basis is characterized by fairness in the allocation process.

# 3

## Allocation Basis of indirect costs

The following table shows some of the appropriate basis for the allocation of some elements of the general or joint costs to the beneficiary production and service centers:

# 3

## Allocation Basis of indirect costs

Cost component	Allocation base
1- The enterprise's rent	<input type="checkbox"/> The area of each cost center, in square meters
2-The cost of maintaining the machines	<input type="checkbox"/> The number of operating hours of the machines in each cost center
3-Factory buildings insurance	<input type="checkbox"/> The value of the buildings of each cost center or: <input type="checkbox"/> In the case of existing a building center, it is charged directly to this center.
4-Building maintenance cost	<input type="checkbox"/> The area of each center in square meters
5- The cost of power	<input type="checkbox"/> The number of machine hours in each cost center if their power is the same. <b>Or:</b> <input type="checkbox"/> The number of machine hours in each cost center is weighted by their horsepower, in the event that the machines are not identical.

# 3

## Allocation Basis of indirect costs

6- Social insurance	<input type="checkbox"/> The wages and salaries of workers at each cost center.
7- The cost of transportation inside the factory	<input type="checkbox"/> The quantity of materials used, the weight of the materials, or the number of materials issuing permits for each cost center.
8- Supervisors wages	<input type="checkbox"/> The number of direct labor hours in each cost center. <input type="checkbox"/> The number of workers in each cost center. <input type="checkbox"/> In the event that there is a supervision center, it is allocated directly to that center.
9 - The cost of heating	<input type="checkbox"/> The area of each center in square meters if the heating is distributed over the spaces equally.



# 3

## Allocation Basis of indirect costs

### 10- Lighting expenses

- ☐ Based on the area of each cost center in square meters, if the lighting is distributed over the area equally.
- ☐ Or the number of lamps per cost center weighted by its power.
- ☐ Or consider it a cost component specific to each cost center in the event that there are lighting counters in each center.

### 11-The cost of work accident insurance

- ☐ Distributed on the basis of the value of workers' wages paid at each cost center.

# 4

## Cost allocation Basis for service centers on production centers

- ❑ In order for the costs of production service centers to be allocated among the benefiting production centers, the cost accountant should begin to study the nature of the service center whose costs are required to be distributed.
- ❑ Then he can determine the unit of service measurement that will be used as a basis for the Allocation of the indirect manufacturing costs of the service center

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# 4

## Cost allocation Basis for service centers on production centers

- ❑ The following table illustrates some of the suggested bases for allocating the costs of production services centers to production centers:

The cost center	The allocation basis
1- Building Cost Center	❑ Its cost allocated based on the area of service and productive centers benefiting in square meters
2- The maintenance center	❑ Its cost allocated based on the number of labor hours of maintenance workers or on the basis of the value of maintenance materials.
3- The material storage centers	❑ Its cost allocated based on the value or quantity and volume of the issued materials. ❑ Or based on the number of orders to issue materials.
4- The HR Center	❑ Its cost allocated based on the number of workers in each cost center.

# 4

## Cost allocation Basis for service centers on production centers

5-The Scientific Services Center	<input type="checkbox"/> Its cost allocated based on the number of workers in each cost center
6- The time control center	<input type="checkbox"/> Its cost allocated based on the number of workers in each cost center
7-The water center	<input type="checkbox"/> Its cost allocated based on the amount of water used by each center.
8-planning and controlling center	<input type="checkbox"/> Its cost allocated based on the number of working hours <input type="checkbox"/> The number of machines hours. <input type="checkbox"/> On the basis of the number of operating orders and operations assigned to other cost centers.
9- The Quality Control Center	<input type="checkbox"/> Its cost allocated based on the units of the final product, if the products need the same time of examination. <input type="checkbox"/> If the products do not require the same time, the number of production units can be weighted by the time required for the examination process.



The End  
Thank You

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