



**Al-Mustaqbal University**

**Department: Medical Instrumentation Techniques Engineering**

**Class: 4<sup>th</sup>**

**Subject: Project Management**

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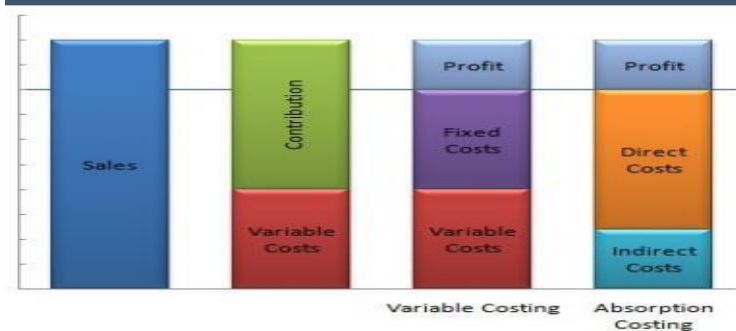
**2<sup>nd</sup> term / Lecture: Financial Analysis – Unit Cost Calculations**



## FINANCIAL ANALYSIS

### Cost Classifications and Unit Cost Calculations

#### Classification of Cost



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## Theory:

### Introduction

Classification of costs is necessary in order to determine the most suitable method of accumulating and allocating costs. The principal methods of accumulating costs are described below:

- Classification by Nature (Unit cost calculations method).
- Classification by Variability (Breakeven analysis method).

- طريقة حساب كلفة القطعة  
- طريقة تحليل نقطة التعادل

### Classification by Nature:

التصنيف حسب طبيعة الكلفة (كلفة القطعة)

#### 1. Manufacturing Costs

1. التكاليف التصنيعية

Cost associated with the manufacturing activities which include:

**a. Direct Materials:** The costs of raw materials that can feasibly be traced to a particular product or job. Examples include wood used in making furniture and iron used in making steel.

a. كلف المواد المباشرة

**b. Direct Labor:** The costs of wages paid to labor that can feasibly be traced to a particular product or jobs. Examples include wages to workers who assemble furniture or operate melting machine.

b. كلف العمال المباشرة

**c. *Direct factory expense:*** such as gas and electrical costs.

c. مصاريف المصنع المباشرة مثل كلف الوقود والكهرباء

**d. *Manufacturing Overhead (indirect):*** All manufacturing costs other than direct materials and direct labor. It includes both fixed and variable costs. Examples include indirect materials (supplies), indirect labor, repairs and maintenance on machinery, taxes, factory utilities, rent of factory building, insurance, and depreciation on factory equipment and plant.

d. كلف التصنيع غير المباشرة وتشمل الكلف الثابتة والمتغيرة مثل كلف صيانة وتصليح المكائن والضرائب وغيرها

### **Other Costs Concepts**

مفاهيم التكاليف الأخرى

\* ***Direct Costs:*** Costs that can be identified with or traced to a specific cost object (product, service, or activity). Examples include direct materials and direct labor.

\* ***Indirect Costs:*** Costs that cannot be identified with or traced to a specific cost object (product, service, or activity). Examples include factory overhead, depreciation and an administrative cost, etc.

\* التكاليف المباشرة: وهي التي يمكن تحديدها أو تتبعها لمنتوج أو خدمة أو فعالية مثل المواد الخام واجور العمال.  
\* التكاليف غير المباشرة: هي التي لا يمكن تحديدها أو تتبعها لمنتوج أو خدمة أو فعالية مثل كلفة الاستهلاك و الكلف الادارية

## 2. Nonmanufacturing Costs

2. التكاليف غير التصنيعية

All Costs that are not related to manufacturing activities such as:

هي جميع التكاليف التي لا علاقة لها بالأنشطة التصنيعية مثل:

- a. Administrative and office (management) salaries.
- b. Sales personnel salaries and commissions.
- c. Advertising
- d. Freight - out Expense
- e. Depreciation on management building
- f. Legal Expenses
- g. Other selling expenses
- h. Distribution cost

a. رواتب المكاتب الإدارية

b. رواتب موظفي المبيعات

c. الدعاية

d. تكاليف الشحن

e. استهلاك المباني الإدارية

f. النفقات القانونية

g. نفقات المبيعات الأخرى

h. تكاليف التوزيع

**Cost Account Methods:** طرق حساب التكاليف

**First Method: Unit cost calculations:** الطريقة الأولى: حسابات كلفة الوحدة

**Costing:** means looking at the amount to be spent on selling a product, running a production process or delivering a service.

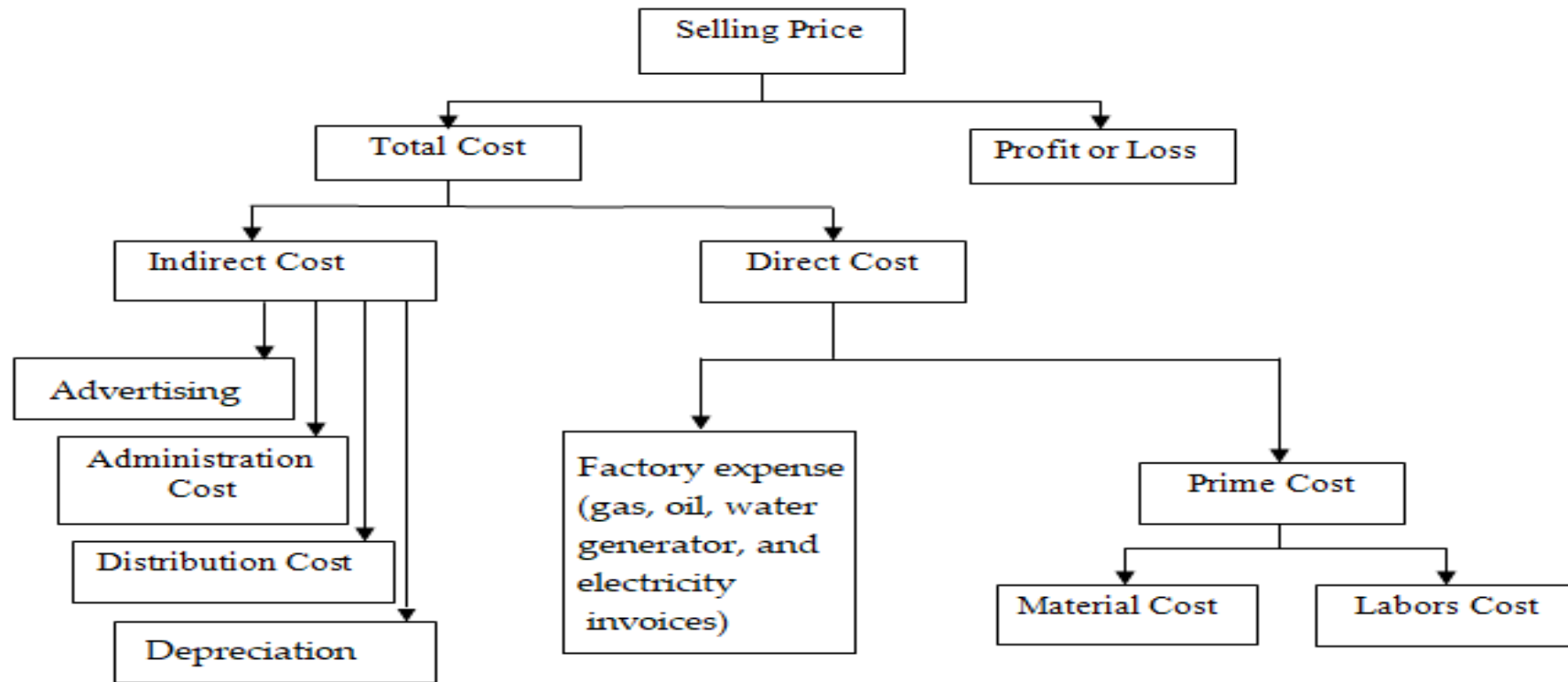


Fig. (1) Block diagram of unit cost calculations

**Ex1:** Calculate the selling price of one pen of the following data:

No. of pen = 1200 , Material cost = 160,000 ID , Labors cost = 200,000 ID ,

Factory expense = 35% of the prime cost , Administration and distribution cost = 20% of the direct cost , Profit = 10% of the total cost.

**Ans:**

Prime cost = 160,000 + 200,000 = 360,000 ID

**Direct cost = prime cost + factory expense**

$$= 360,000 + \frac{35}{100} \times 360,000 = 486,000 \text{ ID}$$

**Total cost = direct cost + indirect cost**

$$= 486,000 + \frac{20}{100} \times 486,000 = 583,200 \text{ ID}$$

**Selling price = total cost + profit**

$$= 583,200 + \frac{10}{100} \times 583,200 = 641,520 \text{ ID}$$

$$\therefore \text{ The selling price of each pen} = \frac{641,520}{1200} = 534.6 \text{ ID}$$

**Ex2:** A factory produces 300 Bulb in a day involves material cost 250,000 ID, labor cost 200,000 ID, and factory expense 225,000 ID, assuming a profit of 10% of the total cost and distribution cost 30% of the direct cost, calculate the selling price of each bulb.

**Ans:**

**Prime cost = material cost + labors cost**

$$= 250,000 + 200,000 = 450,000 \text{ ID}$$

**Direct cost = prime cost + factory expense**

$$= 450,000 + 225,000 = 675,000 \text{ ID}$$

$$\text{Indirect cost} = \text{distribution cost} = \frac{30}{100} \times 675,000 = 202,500 \text{ ID}$$

**Total cost = direct cost + indirect cost**

$$= 675,000 + 202,500 = 877,500 \text{ ID}$$

$$\text{Profit} = \frac{10}{100} \times \text{total cost} = \frac{10}{100} \times 877,500 = 87,750 \text{ ID}$$

**Selling price = total cost + profit**

$$= 877,500 + 87,500 = 965,250 \text{ ID}$$

$$\therefore \text{The selling price of each bulb} = \frac{965,250}{300} = 3.2175 \text{ ID}$$

### **H.W1:**

**Draw the block diagram of selling price and calculate the selling price of one pen of the following data:**

**No. of pen = 3000**

**Material cost = 200,000 ID**

**Labors cost = 250,000 ID**

**Factory expense = 30% of the prime cost.**

**Administration and advertising cost = 18% of the direct cost.**

**Profit = 12% of the total cost.**

### **H.W2:**

**For the following annual data of the electrical company producing 2500 electrical bulbs, calculate the selling price of each electrical bulb**

**No. of workers = 10**

**Working wage = \$10000**

**Material cost = \$200,000**

**Water, generator and electricity invoices = 17% of the prime cost.**

**Distribution cost = 15% of the direct cost.**

**Administration cost = 10% of the direct cost.**

**Advertising cost = 20% of the administration cost.**

**Profit = 8% of the total cost.**



### **H.W3:**

**Calculate the Indirect and direct cost of selling 200 cars? if given**

- **Selling/ car = 5000\$**
- **Profit-cars = 40,000\$**
- **Indirect cost equal 20% of direct cost?**

### **Ans:**

**Direct cost = 50,000\$**

**Indirect cost = 10,000\$**