



جامعة الفراهيدي  
كلية الإدارة والأقتصاد  
قسم المحاسبة

# Advance Cost Accounting (1)

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# Chapter 1

## Traditional Costing

### 1. The meaning of traditional cost

Traditional costing is the allocation of factory overhead to products based on the volume of production resources consumed. Under this method, overhead is usually applied based on either the amount of direct labor hours consumed or machine hours used. The trouble with traditional costing is that factory overhead may be much higher than the basis of allocation so a small change in the volume of resources consumed triggers a massive change in the amount of overhead applied. This is a particularly common issue in highly automated production environments, where factory overhead is quite large and direct labor is close to nonexistent.

### 2. Traditional Costing Method Formula

Traditional costing starts with a simple traditional costing formula. For instance, a company may look at two products – one takes one labor hour to make while the other takes two labor hours. It then takes all of its indirect costs and adds them up. Once it has determined what it spends, it divides the costs by the amount of the metric to find an indirect cost per hour that it can apply to the product.

### **3. Definition of fixed costs**

Expenses that do not change regardless of how much a company produces, and include essential business items such as rent, property taxes, insurance and depreciation, usually not related to the company's specific business operations.

### **4. Variable costs**

These are expenses whose value changes according to how much a business produces and sells. They grow as production increases and decrease as production decreases. Labor, utility prices, commissions, and raw materials are among the most common examples.

### **5. Fixed indirect costs**

This category includes expenses not directly related to production that cover the entire project period and, as the name suggests, are a fixed amount.

### **6. Variable indirect costs**

Expenses that are paid at intervals and are subject to change in value are considered variable indirect costs, such as expenses for electricity and energy services.

## **7. Fixed Overhead**

Fixed overhead is overhead costs that remain static for a long period of time and do not change as business activity ebbs and flows. Whether the business is growing or slowing, fixed overhead remains the same. Examples include rent, depreciation, insurance premiums, and office personnel salaries and the cost of licenses.

## **8. Variable Overhead**

Variable overhead consists of the overhead costs that fluctuate with business activity. These are overhead costs that are not static. As business activity increases, so does variable overhead. As business activity slows, the variable overhead decreases. Examples include office equipment, shipping and mailing costs, marketing, legal expenses, and maintenance.

## **9. Calculating Traditional Costing**

The company that makes tools makes 1 million of them per year. To do it, it could require five full-time employees, each working 2,000 hours, plus another three supporters, also working 2,000 hours each. In the process of making widgets, it spends 1 million ID. Its overhead rate would be the result of dividing the 1 million ID in cost by the 10,000 hours of direct labor. This works out to 100 ID per hour.

## **10. Disadvantages of the traditional method:**

The conventional allocation approach is best used when there is a link between the activity base and overhead. It allocates manufacturing overhead based on a single cost driver, such as direct labor hours, direct labor dollars, or machine hours. When the cost of the product is mostly made up of direct labor, this often happens. According to the hypothesis in favor of a single cost driver, the selected cost driver rises as overhead rises and more analysis is more costly than it is worthwhile. Each approach has benefits and drawbacks. The benefits of the conventional approach are as follows:

## **11. Advantages of the traditional method**

Regarding whether they are production-driven or not, all manufacturing expenses are categorized as overhead, materials, or labor and assigned to goods.

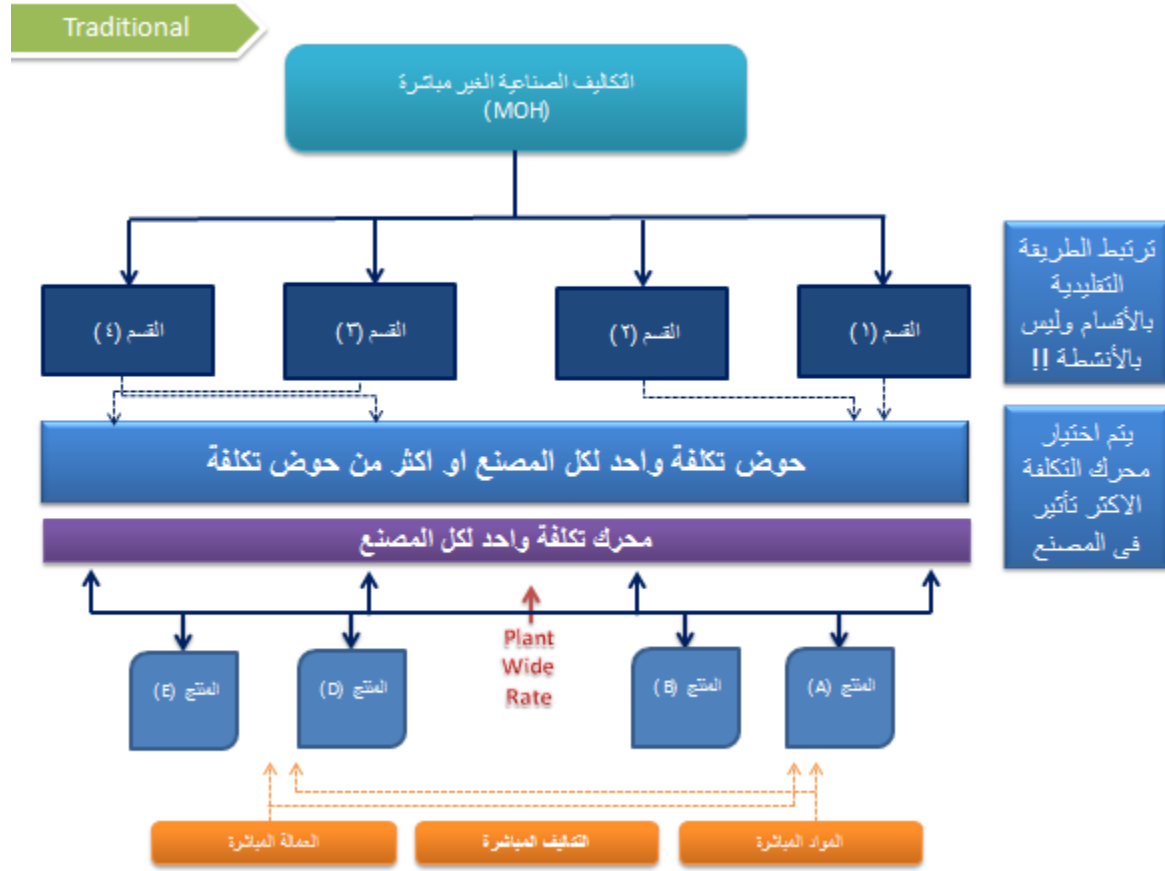
While non-manufacturing expenses are not seen as production costs and are not assigned to goods, regardless of whether the costs are dependent on the products, all manufacturing costs are regarded as a component of the product cost. For instance, equipment used to accept and process customer orders is necessary since product orders must be taken, but the expenses of this equipment are not assigned to particular items.

The conventional approach is straightforward and less costly to maintain since there is only one set of overhead expenses and one way to assess activity, such as

direct labor hours. The predefined overhead rate is established based on anticipated expenses at

1. Overhead is not distributed exactly when using a single cost engine as it is when utilizing numerous cost engines.
2. Using only one cost driver might lead to inaccurate overall expenses and perhaps the wrong sales price by under-allocating overhead to one product and over-allocating overhead to another.
3. By include all product costs in inventory expenses and defining costs as either period or product costs, traditional allocation complies with generally accepted accounting principles (**GAAP**).

# Traditional cost chart




For traditional cost we need to figure out the things

a) Direct material

b) Direct labor

c) Overhead

The Examples ----- 

**1.1. Traditional costing the XPA Corporation has the following budgeted data for the year 2023.**

|                              |                |        |
|------------------------------|----------------|--------|
| Estimate Total overhead      | <b>800,000</b> | IQ. D. |
| Estimated Direct labor hours | <b>10,000</b>  |        |

- a) Calculate the overhead cost Applied per direct labor hour.
- b) Calculate the overhead applied if **9,500** actual direct labor hour are used during 2023.
- c) Calculate the under or over applied overhead if the actual overhead is **752,000**



## 1.2.

The alpha Corporation manufactures wagons and has the following budgeted data for the year 2023.

|                                     |                |
|-------------------------------------|----------------|
| <b>Estimated direct materials</b>   | <b>400,000</b> |
| <b>Estimated direct labor</b>       | <b>200,000</b> |
| <b>Estimated total overhead</b>     | <b>100,000</b> |
| <b>Estimated direct labor hours</b> | <b>8,000</b>   |

- a) Calculate the overhead cost applied per direct labor hour.
- b) Calculate the overhead if **8,400** actual direct labor hours are used during 2023.
- c) Calculate the total costs if the actual direct material totaled **380,000** and the actual direct labor totaled **202,000** in 2023

# Chapter 2

## Activity Based Costing (ABC)

- 1. Define the Activity Based Costing (ABC)**
- 2. Explain the Activity Based Costing Characteristics.**
- 3. Explain the Steps for Implementing Activity-Based Costing.**
- 4. Explain the types of the cost drivers.**

### **1. Define the Activity Based Costing (ABC)**

The modern business environment since the eighties of the last century has witnessed several changes, the most important of which is economic production, increasing competition between the economic units and the multiplicity of products produced to meet the requirements of customers, as well as the emergence of the world trade organization, technological progress, globalization and others and the consequent drop in prices to survive in this environment.

On the other hand, shortcomings in traditional such as orders and process, began to appear in terms of providing misleading and inaccurate information about the cost related to the product, the customer, the service and so on, so this was the motivation behind the emergence of modern ideas in the eighties of the twentieth century to update or refine

the systems applied to suit the needs and aspirations of management, as the distortions arising from the distribution of indirect costs depending on one basis or a single rate of distribution under traditional systems, which became far from reality was one of the reasons for the search for more accurate or appropriate systems and the most important system (ABC).

### **Define the ABC**

The Activity Based Costing system is defined as one of the systems that refines the cost system by focusing on activities as basic cost objects. This system is based on the cost of activities and therefore allocates the cost of these activities to the cost objects of products, customers, and services. It is also define as the system that collects the indirect costs of each of the company's activities in the cost pools and then allocates these costs to the final product or the service provided under certain applied rates determined according to drivers based on the causal relationship.

## **2. Characteristics of Activity Based Costing**

1. Assist in identifying opportunities for management to reduce costs accurately and clearly, as it shows the sat and processes that the product goes through and activities that contribute to its formation separate Reducing the cost of any activity and stopping the extra activities and canceling their costs will lead to a reduction in the cost of the full

product. This is considered the goal and reason for the creation of the ABC system, especially in the highly competitive economic units.

2. Is an effective tool in evaluating performance, as production workers make efforts to reduce costs and with the help of (ABC), by identifying activities and determining the supervisor of each activity? Among the measurements used to evaluate the performance of supervisors is the goal of reducing costs, especially the cost of the unit of the factor directed, for example, the supervisor on the inspection activity deserves incentives if he could reduce the cost of the inspection hour (the factor directed to the cost of inspection).

3. The cost of unit the directed factor (or applied rates) depends on the variables of non-financial, but material such as the number of parts, hours, etc. The control of physical elements is an effective basis for building cost management.

4. The reason for the differences in the cost of a another is due to the use of these products economic resources, which represent the activities, cannot be explained by traditional systems because of the use of a single applied rate, which means the existence of a one cost pool or a limited number of them, which contains the different costs of the department or the recipient, regardless of the activities, and these costs related to the basis of one apply vary in the ability to influence in the types of the

costs, some may respond and others do not, therefore cannot launch the term of the factor directed on this basis for applying.

5. Contributes to increase the efficiency of the performance of activities and take the management of the right decisions for the accurate information provided.

6. Achieves the state of maximization of production through quality control and improvement, so requires the provision of administrative elements believe in the introduction of the concepts of the system, which can be linked, for example, production system on time (JIT) to reduce costs, as the determination of the role of each activity in production and the statement of activities that suffer of bottlenecks, and activities that are not fully exploited will help to address them and reduce their cost.

### **3. Steps for Implementing Activity-Based Costing.**

Step 1:

Identify the Activities

In this step, the activities related to the product are determined and, of course, they are limited to the activities that contribute to its production. These are of types, some of which are at the level of the economic unit, some of them are work related, some are at the service level, and some are at the product level.

## Step 2:

Allocation or assigning costs to activity cost pools under this step, the cost of each center, which represents a cost pool, is defined as representing an activity such as the cost of maintaining the machines.

## Step 3:

Choose Cost Drivers Under this step, the applied base or the so-called cost- driver, defined as a measure that reflects the reason for the cost element within each cost pool. The drivers in this regard on two types:

A. The first stage drivers they are used to aggregate the costs associated with each consumer activity to these costs.

B. The second stage drivers are the drivers used to apply the costs of activities on the goals or purposes of the cost. Examples of these drivers are the number of purchase orders associated with the activity center of purchase orders, purchase returns, inspection hours associated with the center of quality inspection activities, and the number of employees associated with the training center.

## Step 4:

Assign or allocation costs of activities to costs objects Under this step the costs of the activities are assign to the cost objects, and the cost object may be an intermediary such as the center or activity and may be a final object such as the product, customer or service.

## **4. Explain the types of the cost drivers.**

### **Volume Drivers**

Volume Drivers are cost drivers that change in proportion to the number of units produced and sold, such as:

#### **Labor**

This cost driver includes any labor costs related to producing and selling products and services.

Includes the wage rate per person or for a specific group of employees. Since labor rates tend to go up when there is an increase in inflation.

#### **Variable costs**

That vary with the volume produced or sold such as direct materials, direct labor, and variable manufacturing overhead.

#### **Number of Units**

The more units produced and sold, the higher the total cost is.

#### **Number of Customers**

The number of customers is a significant driver for most companies that provide services to their customers.

If your company provides more products or services, your costs will increase based on the number of customers you have to serve.

That's why a retail business hires additional staff when there is an increase in the number of customers.

## **Number of Outlets**

This cost driver is used in companies that operate more than one outlet, such as retail shops or restaurants.

As you increase the number of outlets to open new markets and attract more customers, your company's cost will increase as well.

## **Unit Price Drivers**

The unit price of a good or service is changing.

## **Fixed Cost Drivers (Overhead)**

This type of cost driver remains fixed regardless of how many units are produced or sold. For example:

### **1. Administration salaries and office rent**

Remain the same even if the number of units delivered is increased or not. Staff costs that are not directly linked to the production or sale of products are usually treated as fixed cost drivers.

### **2. Insurance rates**

Remain the same even if the number of units produced is increased.



Sometimes, they can rise just because you have an increase in sales volume and it makes your insurance premiums higher than your regular rate which you originally pay every year.

### **3. Consulting fees and Licenses and permit fees**

Remain the same regardless of the number of units produced and sold.

### **4. Depreciation costs**

Stay the same regardless of how many units you produce or sell, as long as your company keeps operating at 100%.

### **5. Depreciation on fixed assets**

Such as building, equipment, and machines.

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**Activity Based Costing: Direct Labor \ Machine \ Set Ups\ Batches\ Orders \ Any other Activity.**

**The Examples \_\_\_\_\_**



**2.1. Activity Based Costing**

**The Alpha corporate manufacturing books has the following budgeted data for the year 2023**

| <b>NO.</b> | <b><i>particular</i></b> | <b>Estimated overhead</b> | <b>Estimated driver totals in 2023</b> | <b>Budgeted actual</b> |
|------------|--------------------------|---------------------------|----------------------------------------|------------------------|
| <b>1</b>   | <b>Set ups</b>           | <b>300,000</b>            | <b>150 set ups</b>                     | <b>145</b>             |
| <b>2</b>   | <b>Supervision</b>       | <b>100,000</b>            | <b>4000 D.L.H</b>                      | <b>4,100</b>           |
| <b>3</b>   | <b>Shopping</b>          | <b>140,000</b>            | <b>3,500 Orders</b>                    | <b>3,300</b>           |

- a) Calculate the overhead cost applied each overhead category.**
- b) Calculate the overhead applied for the following totals for 2023.**

**The Answer \_\_\_\_\_**



## 2.2. Activity Based Costing

The Alpha corporate manufacturing books has the following budgeted data for the year 2023

| NO. | <i>particular</i> | Estimated Overhead | Estimated driver totals in 2023 | Budgeted actual |
|-----|-------------------|--------------------|---------------------------------|-----------------|
| 1   | Design            | 800,000            | 160 set ups                     | 125             |
| 2   | Machining         | 150,000            | 5,000 M.H                       | 4,700           |
| 3   | Supervision       | 330,000            | 1,100,000 D.L.C                 | 1,200,000       |

- a) Calculate the overhead cost applied each overhead category.
- b) Calculate the overhead applied for the following Totals for 2023.

The Answer \_\_\_\_\_



### 2.3. Activity Based Costing

The Alpha corporate manufacturing books has the following budgeted data for the year 2023

| NO. | <i>particular</i>   | Estimated Overhead | Estimated driver totals in 2023 | Budgeted actual Product A | Budgeted actual Product B |
|-----|---------------------|--------------------|---------------------------------|---------------------------|---------------------------|
| 1   | Material Handling   | 700,000            | 10,000 Requisitions             | 3,100                     | 7,000                     |
| 2   | Assembly<br>تجميع   | 120,000            | 50,000 D.L.H                    | 30,000                    | 18,000                    |
| 3   | Inspection<br>تفتيش | 35,000             | 700 Inspection                  | 100                       | 540                       |

- Calculate the overhead cost applied each overhead category.
- Calculate the overhead applied for the following Totals for 2023.

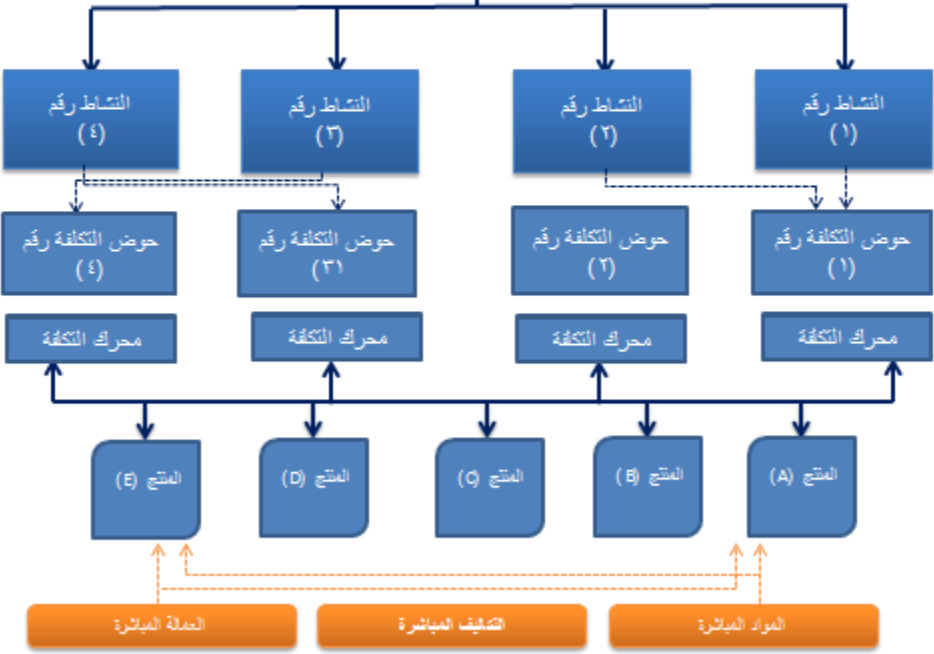
The Answer \_\_\_\_\_



ABC

التكاليف الصناعية الغير مباشرة (MOH)

Various manufacturing overhead costs



Cost object

- Products
- Services
- Customers

ABC uses more cost pools

# Chapter 3

## Just In Time (JIT)

### Simplified Costing Methods Backflush costing

#### The Meaning of JIT

A just-in-time (JIT) inventory system is a management strategy that has a company receive goods as close as possible to when they are actually needed, Companies use this inventory strategy to increase efficiency and decrease waste by receiving goods only as they need them for the production process, which reduces inventory costs.

#### Define JIT

The just-in-time (JIT) inventory system is a management strategy that with raw-material orders from suppliers directly with or (aligns) production schedules.

#### Objectives of JIT

1. Achieve customer demand in a timely manner
2. Produce high-quality products
3. Generate the lowest possible costs
4. Smoothest the flow of goods

#### JIT Production Features

1. Production is organized in manufacturing cells, a grouping of all the different types of equipment used to make a product.
2. Workers are used and trained to be multi-skilled (cross-trained).
3. Defects are strongly improvement.
4. Setup time is reduced.
5. Suppliers are selected on the basis of their ability to deliver quality materials in a timely manner.

| The Situation                     | Three Trigger Point (Purchase, Production, & Sale)                                                                       | Two Trigger Points (Purchase & Sale)                                                         | Two Trigger Point Production & sale                                                               |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Materials Purchase                | Materials And In-Process Inventory Control<br><u>Accounts Payable Control</u>                                            | Inventory control.<br><u>Accounts payable control.</u>                                       | No entry record                                                                                   |
| Conversion Cost Incurred          | Conversion Cost Incurred<br><u>Various Account</u>                                                                       | Conversion cost control.<br><u>Various accounts.</u>                                         | Conversion cost control.<br><u>Various accounts.</u>                                              |
| Complete Product                  | Finished goods control.<br>( <u>Materials and in-process Inventory control.</u> )<br><u>Convention costs Allocation.</u> | No entry record                                                                              | Finished Goods control.<br><u>Accounts payable control.</u><br><u>Conversion costs allocated.</u> |
| Sold Finished Goods               | Cost of Goods Sold<br><u>Finished Goods control</u>                                                                      | Cost of goods sold.<br><u>Inventory control.</u><br><u>Conversion costs allocated.</u>       | Cost of goods sold<br><u>Finished Goods control</u>                                               |
| Written Off Under Or Over Applied | Conversion cost allocated<br><u>Cost of Goods Sold</u><br><u>Convention Costs control.</u>                               | Conversion costs allocated.<br><u>Cost of goods sold.</u><br><u>Convention Costs control</u> | Conversion costs allocated<br><u>Cost of goods sold</u><br><u>Conversion cost control.</u>        |

# The formula of JIT

| <b>The first situation</b><br><b>Three Trigger Point</b>                                                                                                                 |                                                                                                                                             |                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b><u>The Situation</u></b>                                                                                                                                              | <b>Three Trigger Point</b><br><b>(Purchase, Production, &amp; Sale)</b>                                                                     | <b>الحالة الأولى: ثلاث نقاط حدث.</b><br><b>(الشراء, الإنتاج و البيع)</b>                                                     |
| <b>Materials Purchase</b><br>شراء المواد                                                                                                                                 | <b>Materials And In-Process Inventory Control</b><br><b><u>Accounts Payable Control</u></b>                                                 | مراقبة مخزون المواد وتحت التشغيل.<br>مجهزون او داننون.<br>(هذا القيد دائماً يسجل بالتكلفة الفعلية)                           |
| <b>ملاحظة:</b><br>يسجل هذا القيد بالتكلفة الفعلية وقد تأتي معطاة في السؤال او يتم احتسابه عن طريق التالي: $\text{كلفة الوحدة الواحدة} \times \text{عدد الوحدات المنتجة}$ |                                                                                                                                             |                                                                                                                              |
| <b>Conversion Cost Incurred</b><br>مراقبة تكاليف التشكيل                                                                                                                 | <b>Conversion Cost Incurred</b><br><b><u>Various Account</u></b>                                                                            | مراقبة تكاليف التشكيل.<br>حسابات متنوعة.<br>(هذا القيد ايضاً يسجل بالتكلفة الفعلية.)                                         |
| <b>ملاحظة:</b> قد تأتي معطاة في السؤال او يتم احتسابه عن طريق التالي: $\text{كلفة الوحدة الواحدة} \times \text{عدد الوحدات المنتجة من التشكيل}$ .                        |                                                                                                                                             |                                                                                                                              |
| <b>Complete Product</b><br>الإنتاج التام                                                                                                                                 | <b>Finished Goods Control.</b><br><b><u>(Materials And In- Process Inventory Control).</u></b><br><b><u>Convention Costs Allocated.</u></b> | مراقبة الإنتاج التام.<br>مراقبة مخزون المواد وتحت التشغيل.<br>تكاليف التشكيل المحملة.<br>(هذا القيد يسجل بالتكلفة المعيارية) |
| <b>ملاحظة:</b> يسجل هذا القيد بالتكلفة المعيارية ويتم احتسابها عن طريق التالي: $\text{التكلفة المعيارية للوحدة الواحدة} \times \text{عدد الوحدات المنتجة}$               |                                                                                                                                             |                                                                                                                              |
| <b>Sold Finished Goods</b><br>البضاعة المباعة                                                                                                                            | <b>Cost Of Goods Sold</b><br><b><u>Finished Goods Control</u></b>                                                                           | تكلفة البضاعة المباعة.<br>مراقبة الإنتاج التام<br>(هذا القيد يسجل بالتكلفة المعيارية)                                        |
| <b>ملاحظة:</b> تستخرج كالتالي: $\text{الوحدات المباعة} \times (\text{نصيب الوحدة من تكاليف التشكيل} + \text{نصيب الوحدة من المواد})$                                     |                                                                                                                                             |                                                                                                                              |
| <b>Written Off Under or Over Applied</b><br>(قيد الغلق)                                                                                                                  | <b>Conversion Cost Allocated</b><br><b><u>Cost of Goods Sold</u></b><br><b><u>Convention Costs control.</u></b>                             | تكاليف التشكيل المحملة.(فعلي)<br>تكلفة البضاعة المباعة.(معياري)<br>(الفرق او الانحراف). مراقبة تكاليف التشكيل.               |
| <b>ملاحظة:</b> هذه القيد هي عبارة عن الفرق بين المعيارية والفعلية                                                                                                        |                                                                                                                                             |                                                                                                                              |



## The second situation Two Trigger Point

|                                                                                                                                                        |                                                                                                                                      |                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>The Situation</b>                                                                                                                                   | <b>Two Trigger Points</b><br>(Purchase & Sale)                                                                                       | الحالة الثانية: نقطتان حدث.<br>(الشراء و البيع)                                                             |
| <b>Materials Purchase</b><br>شراء المواد                                                                                                               | <b>Inventory control.</b><br><br><b><u>Accounts payable</u></b><br><b><u>control.</u></b>                                            | مراقبة مخزون<br>مجهزون او دائنون.<br>(هذا القيد دائماً يسجل بالتكلفة الفعلية)                               |
| يسجل هذا القيد بالتكلفة الفعلية وقد تأتي معطاة في السؤال او يتم احتسابه عن طريق التالي: $\text{كلفة الوحدة الواحدة} \times \text{عدد الوحدات المنتجة}$ |                                                                                                                                      |                                                                                                             |
| <b>Conversion Cost Incurred</b><br>مراقبة تكاليف التشكيل                                                                                               | <b>Conversion cost control.</b><br><br><b><u>Various accounts.</u></b>                                                               | مراقبة تكاليف التشكيل.<br>حسابات متنوعة.<br>(هذا القيد ايضاً يسجل بالتكلفة الفعلية.)                        |
| قد تأتي معطاة في السؤال او يتم احتسابه عن طريق التالي: $\text{كلفة الوحدة الواحدة} \times \text{عدد الوحدات المنتجة من التشكيل.}$                      |                                                                                                                                      |                                                                                                             |
| <b>Complete Product</b><br>الإنتاج التام                                                                                                               | <b>No entry record</b>                                                                                                               | لايسجل قيد                                                                                                  |
| لايسجل قيد لعدم وجود انتاج في هذه الحالة                                                                                                               |                                                                                                                                      |                                                                                                             |
| <b>Sold Finished Goods</b><br>بيع البضاعة                                                                                                              | <b>Cost of goods sold.</b><br><br><b><u>Inventory control.</u></b><br><br><b><u>Conversion costs</u></b><br><b><u>allocated.</u></b> | تكلفة البضاعة المباعة.<br>مراقبة المخزون.<br>تكاليف التشكيل المحملة.<br>(هذا القيد يسجل بالتكلفة المعيارية) |
| 1. مجموع الوحدات المباعة<br>2. (نصيب الوحدة $\times$ عدد الوحدات المباعة)<br>3. نصيب الوحدة من التشكيل $\times$ عدد الوحدات المباعة)                   |                                                                                                                                      |                                                                                                             |
| <b>Written Off Under or Over Applied</b><br>(قيد الغلق)                                                                                                | <b>Conversion costs allocated.</b><br><br><b><u>Cost of goods sold.</u></b><br><br><b><u>Convention Costs control</u></b>            | تكاليف التشكيل المحملة.<br>تكلفة البضاعة المباعة.<br>(الفرق او الانحراف) مراقبة تكاليف التشكيل              |
| هذا القيد عبارة عن غلق تكاليف التشكيل الفعلية مع المحملة لتحديد الانحراف الذي يعمل على كلفة البضاعة                                                    |                                                                                                                                      |                                                                                                             |

## The third situation Two Trigger Point

|                                                                                                                                                                                                                                                                                      |                                                                                                            |                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>The Situation</b>                                                                                                                                                                                                                                                                 | <b>Two Trigger Point<br/>Production &amp; sale</b>                                                         | الحالة الثالثة: نقطتان حدث<br>انتاج و بيع                                            |
| <b>Materials<br/>Purchase</b><br>شراء المواد                                                                                                                                                                                                                                         | <b>No entry record</b>                                                                                     | لايسجل قيد                                                                           |
| لايسجل قيد لعدم وجود شراء في هذه الحالة                                                                                                                                                                                                                                              |                                                                                                            |                                                                                      |
| <b>Conversion<br/>Cost Incurred</b><br>مراقبة تكاليف التشكيل                                                                                                                                                                                                                         | <b>Conversion cost control.<br/><u>Various accounts.</u></b>                                               | مراقبة تكاليف التشكيل.<br>حسابات متنوعة.<br>(هذا القيد ايضاً يسجل بالتكلفة الفعلية.) |
| قد تأتي معطاة في السؤال او يتم احتسابه عن طريق التالي: كلفة الوحدة الواحدة x عدد الوحدات المنتجة من التشكيل.                                                                                                                                                                         |                                                                                                            |                                                                                      |
| <b>Complete<br/>Product</b><br>الإنتاج التام                                                                                                                                                                                                                                         | <b>Finished Goods control.<br/><u>Accounts payable control.</u><br/><u>Conversion costs allocated.</u></b> | مراقبة الإنتاج التام<br>مجهزون او دائنون<br>تكاليف التشكيل المحملة.                  |
| 1. مجموع عدد المنتجات. NO of unit × Standard cost per unit<br>2. الكلفة المعيارية للمواد x عدد الوحدات المنتجة.<br>3. الكلفة المعيارية للتشكيل x عدد الوحدات المنتجة<br>ملاحظة: تسجل بالكلفة المعيارية وتكون عبارة عن الكلفة المعيارية للمواد وتكاليف التشكيل x عدد الوحدات المباعة. |                                                                                                            |                                                                                      |
| <b>Sold Finished<br/>Goods</b><br>بيع البضاعة                                                                                                                                                                                                                                        | <b>Cost of goods sold<br/><u>Finished Goods control</u></b>                                                | تكلفة البضاعة المباعة<br>مراقبة الإنتاج التام<br>(هذا القيد يسجل بالتكلفة المعيارية) |
| يكتب نفس القيد في الطريقة الأولى وبنفس الأرقام ويكون عبارة عن (مجموع التكاليف المعيارية للمواد و ت التشكيل ) x عدد الوحدات المباعة.                                                                                                                                                  |                                                                                                            |                                                                                      |
| <b>Written Off<br/>Under or Over<br/>Applied</b><br>(قيد الغلق)                                                                                                                                                                                                                      | <b>Conversion costs allocated<br/><u>Cost of goods sold</u><br/><u>Conversion cost control.</u></b>        | تكاليف التشكيل المحملة.<br>تكلفة البضاعة المباعة<br>مراقبة تكاليف التشكيل.           |
|                                                                                                                                                                                                                                                                                      |                                                                                                            |                                                                                      |

**EX. 3.1. The following data for the month of March 2023, for the Arabian Gulf industrials company, it is applying JIT system and uses a backflush costing system as follows:**

- 1- There are no beginning inventories.
- 2- Actual cost purchased direct materials **150000**, IQ.D. Conversion cost **120000**.
- 3- Actual units: produced **3000** units and sold **2900** units.
- 4- Standard unit cost: Direct materials **48** IQ.D. & conversion costs **36**. IQ.D.
- 5- Company has no direct materials variances, and any under or over-applied conversion costs are written off to cost of goods sold, at the end of March.

Required:- Record journal entries, using the three methods.

**The solution**

**1- Three trigger points: purchase of direct materials, completion (production) of good finished units of product, and sale of finished goods.**

| The Situation                                     | Three Trigger Point<br>(Purchase, Production, & Sale)                                                                                                                                                                                                |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Materials Purchase</b><br>شراء مواد            | Materials And In-Process Inventory Control<br><b>150,000</b> دائماً يسجل بالتكلفة الفعلية من الفقرة 2 من السؤال<br><u>Accounts Payable Control</u><br><b>150,000</b>                                                                                 |
| <b>Conversion Cost Incurred</b><br>تكاليف التشكيل | Conversion Cost Incurred<br><b>120,000</b> دائماً يسجل بالتكلفة الفعلية من الفقرة 2 من السؤال<br><u>Various Account</u><br><b>120,000</b>                                                                                                            |
| <b>Complete Product</b><br>الإنتاج التام          | Finished goods contr <b>248,000</b><br><u>(Materials and in- process</u><br><u>Inventory con</u> <b>144,000</b> (3000 × 48 )<br><u>Convention costs Allocated</u> <b>108,000</b> (3000 × 36 ) يسجل بالتكلفة المعيارية                                |
| <b>Sold Finished Goods</b><br>البضاعة المباعة     | Cost of Goods Sold<br><b>243,600</b> (2,900) × (48 + 36 )<br><u>Finished Goods control</u><br><b>243,600</b><br>الوحدات المباعة × نصيب الوحدة من المواد+ نصيب الوحدة من تكاليف التشكيل                                                               |
| <b>Written Off Under Or Over Applied</b>          | Conversion cost allocated<br><b>108,000</b><br><u>Cost of Goods Sold</u><br><b>12,000</b><br><u>Convention Costs control.</u><br><b>120,000</b><br>مقارنة تكاليف التشكيل الفعلية مع المحملة لتحديد النحراف والذي يحمل على حساب تكلفة البضاعة المباعة |

2- Two Trigger points: purchase of direct materials and sale of finished goods.

| The Situation                                     | Two Trigger Points<br>(Purchase & Sale)                                                                                                                                                                                                                      |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Materials Purchase</b><br>شراء مواد            | Inventory control.<br><b>150,000</b><br><u>Accounts payable control.</u><br><b>150,000</b><br>دائماً يسجل بالتكلفة الفعلية من الفقرة 2 من السؤال                                                                                                             |
| <b>Conversion Cost Incurred</b><br>تكاليف التشكيل | Conversion cost control.<br><b>120,000</b><br><u>Various accounts.</u><br><b>120,000</b><br>دائماً يسجل بالتكلفة الفعلية من الفقرة 2 من السؤال                                                                                                               |
| <b>Complete Product</b><br>الإنتاج التام          | No entry record                                                                                                                                                                                                                                              |
| <b>Sold Finished Goods</b><br>البضاعة المباعة     | Cost of goods sold.<br><b>243,600</b><br><u>Inventory control.</u><br><b>139,200 (2900 × 48)</b> الوحدات المباعة × نصيب الوحدة من المواد<br><u>Conversion costs allocated.</u><br><b>595,000 (2900 × 36)</b> الوحدات المباعة × نصيب الوحدة من تكاليف التشكيل |
| <b>Written Off Under Or Over Applied</b>          | Conversion costs allocated.<br><b>104,400</b><br><u>Cost of goods sold.</u><br><b>15,600</b><br><u>Convention Costs control</u><br><b>120,000</b>                                                                                                            |

3- Two trigger points: completion of good finished units of product & sale of finished goods.

| The Situation | Two Trigger Point<br>Production & sale |
|---------------|----------------------------------------|
|---------------|----------------------------------------|

|                                                   |                                                                                                                                                                                                                                                                |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Materials Purchase</b><br>شراء مواد            | No entry record                                                                                                                                                                                                                                                |
| <b>Conversion Cost Incurred</b><br>تكاليف التشكيل | Conversion cost control.<br><b>120,000</b><br><u>Various accounts.</u><br><b>120,000</b>                                                                                                                                                                       |
| <b>Complete Product</b><br>الإنتاج التام          | Finished Goods control. <b>248,000</b><br><u>Accounts payable control.</u> <b>144,000</b> (3000 × 48) الوحدات المنتجة × نصيب الوحدة من المواد<br><u>Conversion costs allocated.</u> <b>108,000</b> (3000 × 36) الوحدات المنتجة × نصيب الوحدة من تكاليف التشكيل |
| <b>Sold Finished Goods</b><br>البضاعة المباعة     | Cost of goods sold <b>243,000</b> (2900 × (48 + 36))<br><u>Finished Goods Control</u> <b>243,600</b>                                                                                                                                                           |
| <b>Written Off Under Or Over Applied</b>          | Conversion costs allocated.<br><b>108,000</b><br><u>Cost of goods sold</u><br><b>12,000</b><br><u>Conversion cost control.</u><br><b>120,000</b>                                                                                                               |

**EX. 3.2.** The following Data January 2023 for (A) a manufacturing company, it is applying JIT system and uses a backflush costing system as follows:

- three are no beginning inventors.
  - Actual cost: Purchased Direct material **760,000**. Conversion cost **550,000**. IQ.D
  - Actual units: Produced **3500** unit and sold **3450** unit.
  - standard cost per unit D.M. **200** IQ.D. and conversion cost **150** IQ.D.
  - the company has no variances of direct material cost, and any under or over – applied conversion costs are written off at the end year to cost of goods sold.
- Required: record journal entries, using the three methods.

## The Solution:

| The Situation                            | Three Trigger Point<br>(Purchase, Production, & Sale)                                                                                                                          | Two Trigger Points<br>(Purchase & Sale)                                                                                                           | Two Trigger Point<br>Production & sale                                                                                                                    |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Materials Purchase</b>                | Materials And In-Process Inventory Control<br><b>760,000</b><br><u>Accounts Payable Control</u><br><b>760,000</b>                                                              | Inventory control.<br><b>760,000</b><br><u>Accounts payable control.</u><br><b>760,000</b>                                                        | No entry record                                                                                                                                           |
| <b>Conversion Cost Incurred</b>          | Conversion Cost Incurred<br><b>550,000</b><br><u>Various Account</u><br><b>550,000</b>                                                                                         | Conversion cost control.<br><b>550,000</b><br><u>Various accounts.</u><br><b>550,000</b>                                                          | Conversion cost control.<br><b>550,000</b><br><u>Various accounts.</u><br><b>550,000</b>                                                                  |
| <b>Complete Product</b>                  | Finished goods control.<br><b>1,225,000</b><br><u>(Materials and in- process Inventory control).</u><br><b>760,000</b><br><u>Convention costs Allocated.</u><br><b>525,000</b> | No entry record                                                                                                                                   | Finished Goods control.<br><b>1,225,000</b><br><u>Accounts payable control.</u><br><b>700,000</b><br><u>Conversion costs allocated.</u><br><b>525,000</b> |
| <b>Sold Finished Goods</b>               | Cost of Goods Sold<br><b>1,207,500</b><br><u>Finished Goods control</u><br><b>1,207,500</b>                                                                                    | Cost of goods sold.<br><b>1,207,500</b><br><u>Inventory control.</u><br><b>690,000</b><br><u>Conversion costs allocated.</u><br><b>517,500</b>    | Cost of goods sold<br><b>1,225,000</b><br><u>Finished Goods Control</u><br><b>1,207,500</b>                                                               |
| <b>Written Off Under Or Over Applied</b> | Conversion cost allocated<br><b>525,000</b><br><u>Cost of Goods Sold</u><br><b>25,000</b><br><u>Convention Costs control.</u><br><b>550,000</b>                                | Conversion costs allocated.<br><b>517,500</b><br><u>Cost of goods sold.</u><br><b>32,500</b><br><u>Convention Costs control</u><br><b>550,000</b> | Conversion costs allocated.<br><b>525,000</b><br><u>Cost of goods sold</u><br><b>25,000</b><br><u>Conversion cost control.</u><br><b>550,000</b>          |

**EX. 3.3.** X Company that used JIT production system and backflush costing during 2023.

| Details                                  | Actual Data | Standard Data |
|------------------------------------------|-------------|---------------|
| <b>D. Material: Purchase &amp; Usage</b> | 900,000     | 900,000       |
| <b>Conversion costs</b>                  | 635,000     | 600,000       |
| <b>Units Completed</b>                   | 6000. unit  | -----         |
| <b>Units Sold</b>                        | 5950 unit   | -----         |

Required; Record journal entries, using the three methods, and close any under or over- applied conversion costs at the end of the year to the cost of goods sold.

### The Solution:

Material =  $900,000 \div 6000$  unit = 150 IQ.D. Per unit  $\implies$  conversion cost =  $600,000 \div 6000$  unit = 100 IQ. D. per unit

Standard cost per unit = 250 IQ.D  $\implies$  Cost of goods sold =  $250 \times 5950 = 1487500$  IQ.D.

| The Situation                            | Three Trigger Point<br>(Purchase, Production, & Sale)                                                                                                                          | Two Trigger Points<br>(Purchase & Sale)                                                                                                           | Two Trigger Point<br>Production & sale                                                                                                                    |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Materials Purchase</b>                | Materials And In-Process Inventory Control<br><b>900,000</b><br><u>Accounts Payable Control</u><br><b>900,000</b>                                                              | Inventory control.<br><b>900,000</b><br><u>Accounts payable control.</u><br><b>900,000</b>                                                        | No entry record                                                                                                                                           |
| <b>Conversion Cost Incurred</b>          | Conversion Cost Incurred<br><b>635,000</b><br><u>Various Account</u><br><b>635,000</b>                                                                                         | Conversion cost control.<br><b>635,000</b><br><u>Various accounts.</u><br><b>635,000</b>                                                          | Conversion cost control.<br><b>635,000</b><br><u>Various accounts.</u><br><b>635,000</b>                                                                  |
| <b>Complete Product</b>                  | Finished goods control.<br><b>1,500,000</b><br><u>(Materials and in- process Inventory control).</u><br><b>900,000</b><br><u>Convention costs Allocated.</u><br><b>600,000</b> | No entry record                                                                                                                                   | Finished Goods control.<br><b>1,500,000</b><br><u>Accounts payable control.</u><br><b>900,000</b><br><u>Conversion costs allocated.</u><br><b>600,000</b> |
| <b>Sold Finished Goods</b>               | Cost of Goods Sold<br><b>1,487,500</b><br><u>Finished Goods control</u><br><b>1,487,500</b>                                                                                    | Cost of goods sold.<br><b>1,487,500</b><br><u>Inventory control.</u><br><b>892,500</b><br><u>Conversion costs allocated.</u><br><b>595,000</b>    | Cost of goods sold<br><b>1,487,500</b><br><u>Finished Goods Control</u><br><b>1,487,500</b>                                                               |
| <b>Written Off Under Or Over Applied</b> | Conversion cost allocated<br><b>600,000</b><br><u>Cost of Goods Sold</u><br><b>35,000</b><br><u>Convention Costs control.</u><br><b>635,000</b>                                | Conversion costs allocated.<br><b>595,000</b><br><u>Cost of goods sold.</u><br><b>40,000</b><br><u>Convention Costs control</u><br><b>635,000</b> | Conversion costs allocated.<br><b>525,000</b><br><u>Cost of goods sold</u><br><b>35,000</b><br><u>Conversion cost control.</u><br><b>635,000</b>          |

# CAPTER 4

## Sales Variance Analysis

### The meaning of Sales Variance Analysis

Sales variance analysis is a crucial tool for businesses to assess the effectiveness of their sales strategies and identify areas for improvement. It involves comparing actual sales performance to budgeted or expected sales figures and analyzing the factors that contribute to any deviations.

The **objectives** of sales variance analysis are to:

1. Identify the root causes of sales discrepancies
2. Evaluate the effectiveness of sales strategies
3. Improve sales forecasting accuracy
4. Enhance sales profitability
5. Promote accountability and continuous improvement

### Terms of Sales variances

|                    |                      |
|--------------------|----------------------|
| a. Static Budget   | أ. الميزانية الثابتة |
| b. Flexible Budget | ب. الميزانية المرنة  |
| c. Sales Volume    | ج. حجم المبيعات      |
| d. Sales Mix       | د. مزيج المبيعات     |
| e. Sales Quantity  | هـ. كمية المبيعات    |
| f. Market Share    | ر. الحصة السوقية     |
| g. Market Size     | ز. حجم السوق         |

**a. Static Budget:** A static budget is a type of financial plan that remains constant throughout a specific period, regardless of changes in activity levels. It is typically created based on a single set of assumptions about the upcoming period, such as sales volume, production costs, and expenses. Static budgets are often used for short-term planning and are considered less flexible than other budgeting methods.

Formula: Static Budget Variance = Actual Sales Revenue - Budgeted Sales Revenue



**b. Flexible Budget:** A flexible budget, also known as a variable budget, is a type of financial plan that adapts to changes in activity levels. It is prepared for multiple levels of activity, allowing businesses to make adjustments to their revenue and expense projections based on actual sales volume. Flexible budgets are considered more versatile and informative than static budgets, as they provide a more realistic picture of financial performance under different scenarios.

Formula: Flexible Budget Variance = Budgeted Sales Revenue at Actual Activity Level - Actual Sales Revenue

**c. Sales Volume Variance:** Sales volume variance measures the difference between actual sales revenue and budgeted sales revenue due to changes in the number of units sold. It represents the impact of changes in sales volume on the company's overall financial performance.

Formula: Sales Volume Variance = (Actual Units Sold - Budgeted Units Sold) \* (Budgeted Selling Price - Budgeted Variable Cost)

**d. Sales Mix Variance:** Sales mix variance measures the difference between actual sales revenue and expected sales revenue due to changes in the mix of products sold. It represents the impact of changes in product composition on the company's overall profitability.

Formula: Sales Mix Variance = (Actual Unit Sales X Actual Selling Price) - (Budgeted Unit Sales X Budgeted Selling Price)

**e. Sales Quantity Variance:** Sales quantity variance measures the difference between flexible budget sales revenue and actual sales revenue due to changes in the number of units sold. It is similar to sales volume variance, but it considers the flexible budget sales revenue instead of the static budget sales revenue.

Formula: Sales Quantity Variance = (Actual Units Sold - Flexible Budget Units Sold) \* (Flexible Budget Selling Price - Variable Cost)

**f. Market Share:** Market share represents a company's percentage of the total sales in a specific market. It indicates the company's position relative to its competitors in terms of sales volume.

Formula: Market Share = (Company's Unit Sales / Total Industry Unit Sales) \* 100%

**g. Market Size:** Market size represents the total number of units sold in a specific market. It provides an overall measure of the demand for a particular product or service within a defined market.

Formula: Market Size = Total Industry Unit Sales

Market Size Variance = (Actual Market Size - Budgeted Industry Market Size) × (Budgeted Average Selling Price - Budgeted Average Variable Cost)

**Ex 4.1.** The following data is related for two products (X) and (Y) of Al-Furat Production and Marketing Company:

| Details | Actual unit sold | Budget unit sold | Actual selling price | Budget selling price | Actual Variable Cost | Budget Variable Cost | Flexible unit |
|---------|------------------|------------------|----------------------|----------------------|----------------------|----------------------|---------------|
| X       | 8990             | 9600             | 9\$                  | 9\$                  | 6                    | 5.5                  | 9000          |
| Y       | 5510             | 5400             | 6.5                  | 6.5                  | 4.25                 | 4                    | 5500          |

Budgeted industry market size of 75000 units. For 2022, the actual market size was 80000 units and the actual market share was 18.125.

Required: From the above information, compute the following variances: (Static Budget, Flexible Budget, Sales Volume, Sales Mix, Sales Quantity, Market Share, and Market Size).

#### a. Static Budget

Formula: Static Budget Variance = Actual Sales Revenue - Budgeted Sales Revenue

Static Budget Variance =

$$X \quad (8990 \times 9) - (9600 \times 9) = 80910 - 86400 = -5490$$

$$Y \quad (5510 \times 6.5) - (5400 \times 6.5) = 35815 - 35100 = 715$$

#### b. Flexible Budget

Formula: Flexible Budget Variance = Budgeted Sales Revenue at Actual Activity Level - Actual Sales Revenue

Flexible Budget Variance X

$$= (9000 \times \$9) - (8990 \times \$9)$$

$$= \$81,000 - \$80,910 = \$90$$

Flexible Budget Variance Y

$$= (5500 \times \$6.5) - (5510 \times \$6.5)$$

$$= \$35,750 - \$35,815 = -\$65$$

## . Sales Volume Variance

Formula: Sales Volume Variance = (Actual Units Sold - Budgeted Units Sold) × (Budgeted Selling Price - Budgeted Variable Cost)

Sales Volume Variance (X)

$$= (8,990 \text{ units} - 9,600 \text{ units}) \times (\$9 - \$5.5)$$

$$= -610 \text{ units} \times \$3.5 = -\$2,135$$

Sales Volume Variance (Y)

$$= (5,510 \text{ units} - 5,400 \text{ units}) \times (\$6.5 - \$4)$$

$$= 110 \text{ units} \times \$2.5 = \$275$$

## Sales Mix Variance

Formula: Sales Mix Variance = (Actual Unit Sales × Actual Selling Price) - (Budgeted Unit Sales × Budgeted Selling Price)

Sales Mix Variance =

$$X \quad (8990 \times 9) - (9600 \times 9) = 80910 - 86400 = -5490$$

$$Y \quad (5510 \times 6.5) - (5400 \times 6.5) = 35815 - 35100 = 715$$

## Sales Quantity Variance

Formula: Sales Quantity Variance = (Actual Units Sold - Flexible Budget Units Sold) × (Flexible Budget Selling Price - Variable Cost)

Sales quantity variance

$$X = (8,990 \text{ units} - 9,000 \text{ units}) \times (\$9 - \$5.5) = -\$35$$

$$Y = (5,510 \text{ units} - 5,500 \text{ units}) \times (\$6.5 - \$4.25) = \$22.5$$

## Market Share

Formula: Market Share = (Company's Unit Sales / Total Industry Unit Sales) × 100.

$$\text{Market Share (X)} = (8990 \text{ units} / 80,000 \text{ units}) \times 100 = 11.2375\%$$

$$\text{Market Share (Y)} = (5510 \text{ units} / 80,000 \text{ units}) \times 100 = 6.8875\%$$

## Market Size

Market Size Variance = (Actual Market Size - Budgeted Industry Market Size) × (Budgeted Average Selling Price - Budgeted Average Variable Cost)

Actual Market Size = 80,000 units

Budgeted Industry Market Size = 75,000 units

Budgeted Average Selling Price =  $(\$9 + \$6.5) / 2 = \$7.75$

Budgeted Average Variable Cost =  $(\$5.5 + \$4) / 2 = \$4.75$

Calculation:

$$\text{Market Size Variance} = (80,000 \text{ units} - 75,000 \text{ units}) \times (\$7.75 - \$4.75) = \$12500$$

**EX 4.2.** Clear Sky Company is globally reputable and trades in two types of school bags in Baghdad City, namely handbag and backpack. The following are the expected and actual results for 2022:

| Details  | Actual unit sold | Budget unit sold | Actual selling price | Budget selling price | Actual Variable Cost | Budget Variable Cost | Flexible unit |
|----------|------------------|------------------|----------------------|----------------------|----------------------|----------------------|---------------|
| Handbag  | 55000            | 60000            | 19                   | 20                   | 12                   | 13                   | 65,000        |
| Backpack | 101000           | 90000            | 27                   | 25                   | 15                   | 16                   | 97,500        |

Clear Sky, prepared the budget for 2022 assuming the budget total sales of 600000 units in Iraq. However, the actual total sales volume in Iraq was 650000 units.

Required: Calculate all variances in terms of sales variances analysis:

- a. Static Budget b. Flexible Budget c. Sales Volume d. Sales Mix  
e. Sales Quantity f. Market Share g. Market Size.**

### Static Budget

Formula: Static Budget Variance = Actual Sales Revenue - Budgeted Sales Revenue

Actual Sales Revenue (Handbag) = 55,000 units × \$19 = \$1,045,000

Actual Sales Revenue (Backpack) = 101,000 units × \$27 = \$2,727,000

Total Actual Sales Revenue = \$1,045,000 + \$2,727,000 = \$3,772,000

Budgeted Sales Revenue (Handbag) = 60,000 units × \$20 = \$1,200,000

Budgeted Sales Revenue (Backpack) = 90,000 units × \$25 = \$2,250,000

Total Budgeted Sales Revenue = \$1,200,000 + \$2,250,000 = \$3,450,000

*Static Budget Variance = \$3,772,000 - \$3,450,000 = \$322,000*

## Flexible Budget

Formula: Flexible Budget Variance = Budgeted Sales Revenue at Actual Activity Level - Actual Sales Revenue

$$\begin{aligned}\text{Handbag} &= 60,000 \text{ units} \times \$19 = \$1,140,000 \\ &= 55,000 \text{ units} \times \$19 = \$1,045,000 \\ &= \$1,140,000 - \$1,045,000 = \$95,000\end{aligned}$$

$$\begin{aligned}\text{Backpack} &= 90,000 \text{ units} \times \$27 = \$2,430,000 \\ &= 101,000 \text{ units} \times \$27 = \$2,727,000 \\ &= \$2,430,000 - \$2,727,000 = -\$297,000\end{aligned}$$

Flexible Budget Variance = Flexible Budget Variance (Handbag) + Flexible Budget Variance (Backpack) = \$95,000 (Favorable) - \$297,000 (Unfavorable) = -\$202,000 (Unfavorable)

## Sales Volume Variance

Formula: Sales Volume Variance = (Actual Units Sold - Budgeted Units Sold) × (Budgeted Selling Price - Budgeted Variable Cost)

$$\begin{aligned}\text{Handbag} &= (55,000 \text{ units} - 60,000 \text{ units}) \times (\$20 - \$13) = \\ &= -5000 \times 7 = -\$35,000\end{aligned}$$

$$\begin{aligned}\text{Backpack} &= (101,000 \text{ units} - 90,000 \text{ units}) \times (\$25 - \$16) \\ &= 11000 \times 9 = \$99,000\end{aligned}$$

## Sales Mix Variance

Formula: Sales Mix Variance = (Actual Unit Sales X Actual Selling Price) - (Budgeted Unit Sales X Budgeted Selling Price)

$$\begin{aligned}\text{Sales Mix Variance (Handbag)} &= (55,000 \text{ units} \times \$19) - (60,000 \text{ units} \times \$20) \\ &= 1045000 - 1200000 = -\$220,000\end{aligned}$$

$$\begin{aligned}\text{Sales Mix Variance (Backpack)} &= (101,000 \text{ units} \times \$27) - (90,000 \text{ units} \times \$25) \\ &= 2727000 - 2250000 = \$477000\end{aligned}$$

## Sales Quantity Variance

Formula: Sales Quantity Variance = (Actual Units Sold - Flexible Budget Units Sold) × (Flexible Budget Selling Price - Variable Cost)

$$\begin{aligned}\text{Sales Quantity Variance (Handbag)} &= (55,000 \text{ units} - 65,000 \text{ units}) \times (\$19 - \$12) \\ &= -10000 \times 7 = -\$70000\end{aligned}$$

$$\begin{aligned}\text{Sales Quantity Variance (Backpack)} &= (101,000 \text{ units} - 97,500 \text{ units}) \times (\$27 - \$15) \\ &= 3500 \times 12 = \$42000\end{aligned}$$

## Market Size

Market Size Variance = (Actual Market Size - Budgeted Industry Market Size) × (Budgeted Average Selling Price - Budgeted Average Variable Cost)

Actual Market Size = 650,000 units (actual total sales volume in Iraq)

Budgeted Industry Market Size = 600,000 units (budgeted total sales in Iraq)

Budgeted Average Selling Price =  $(\$19 + \$27) / 2 = \$23$

Budgeted Average Variable Cost =  $(\$12 + \$15) / 2 = \$13.5$

Calculation:

$$\begin{aligned}\text{Market Size Variance} &= (650,000 \text{ units} - 600,000 \text{ units}) \times (\$23 - \$13.5) \\ &= 50000 \times 10.5 = \$525000 \\ &\text{تمناتي لكم النجاح الدائم}\end{aligned}$$