

Special points of interest:

- **Standard** = How many things are required for production of One particular commodity and at what quantum they are required.

- **Costing** = Type of Cost, Management has to incurred for Production of above commodity.

- **Variance** = Actual Results V/s Standard Results

Classification of Variances based on Control:

A) Operational Variances-

Controllable by Operational Management

B) Planning Variances

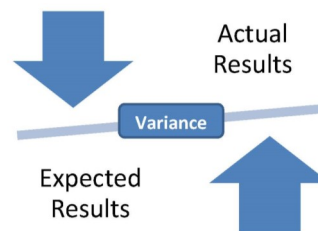
– Uncontrollable by Operational Management:

1.1 Meaning of Standard Costing: Lets Split the word and understand the meaning:

- A) **Standard** means for production / manufacture / construction of one commodity, **how many things** are required and **at what quantum**, under the normal circumstances.
- B) **Costing** means for production / manufacture / construction of one commodity, What type of costs are required to be incurred by management.

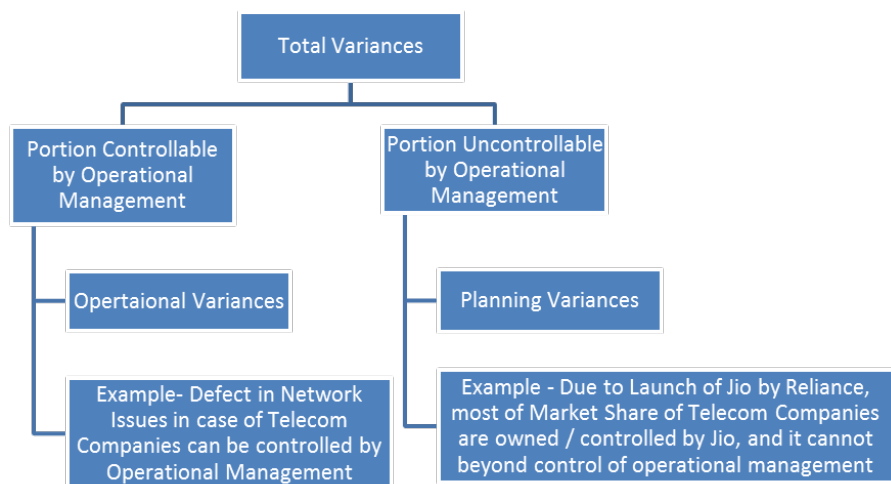
1.2 Significance of Standard Costing: Management compares the Standard Cost required to produce a particular Commodity with Actual Cost Incurred. And uses this technique to avoid furtherance of losses or to maximize the profits.

1.3 Meaning of Variances: Difference between the **Actual results** and **Standard results** is known as Variances.



1.4 Classification of Variances

A) Based on Control: Variances are sub-divided into two parts based on the condition i.e. whether Total Variances are controllable by Operational Management or not?



The above indicates that if the variances can be **controlled** by **operational Management** then **responsibility vests with Operational management** itself, however if it is **uncontrollable** by **Operational Management** then company have to **re-plan its future of course of action**.

Top Level Management is responsible for any adverse effect of **Planning Variances** whereas **Middle/Lower Level Management** are responsible for **Operational Variances**.

Special points of interest:

Classification of Variances based on Nature:

A) Favorable Variance:

Variance which is favorable to the Company's Business

B) Adverse Variance:

Variance which is not favorable to the Company's Business

Effect on Total Operating Profit:

A) Expenses:

i) Favorable:

Actual Expenses
<
Standard Expenses

ii) Adverse :

Actual Expenses
>
Standard Expenses

B) Incomes:

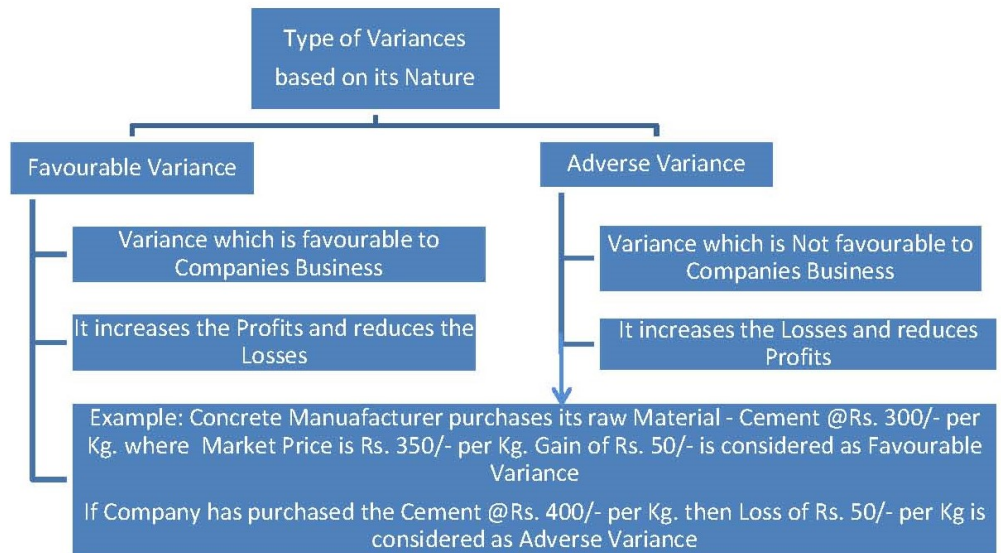
i) Adverse:

Actual Incomes
<
Standard Incomes

ii) Favorable :

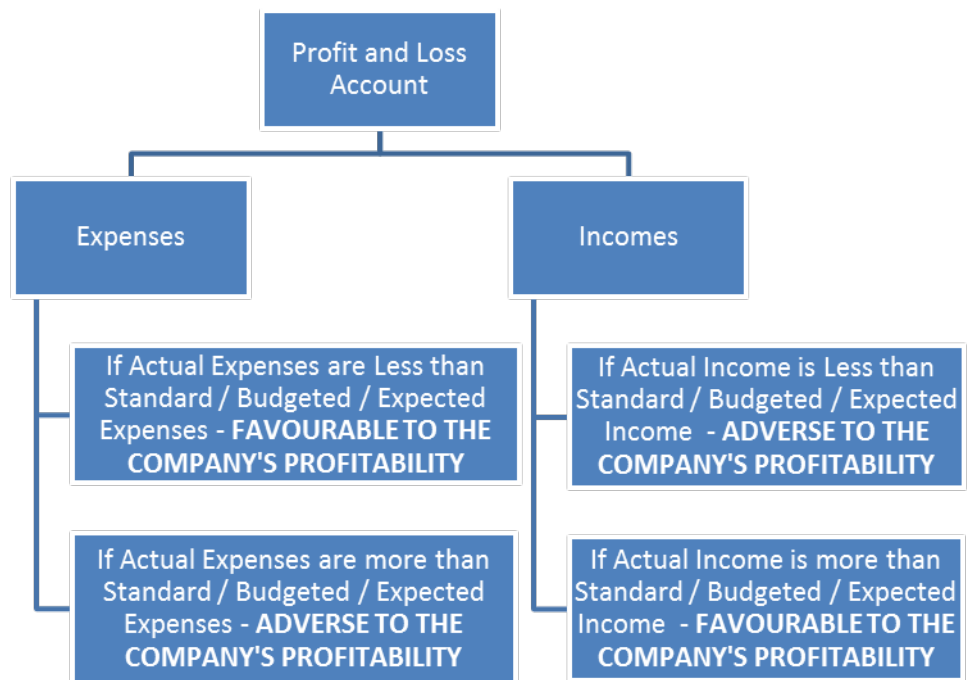
Actual Incomes
>
Standard Incomes

B) Based on its nature: Variances are sub-divided into two parts based on the Nature i.e. whether it is favorable to the companies business or Adverse?



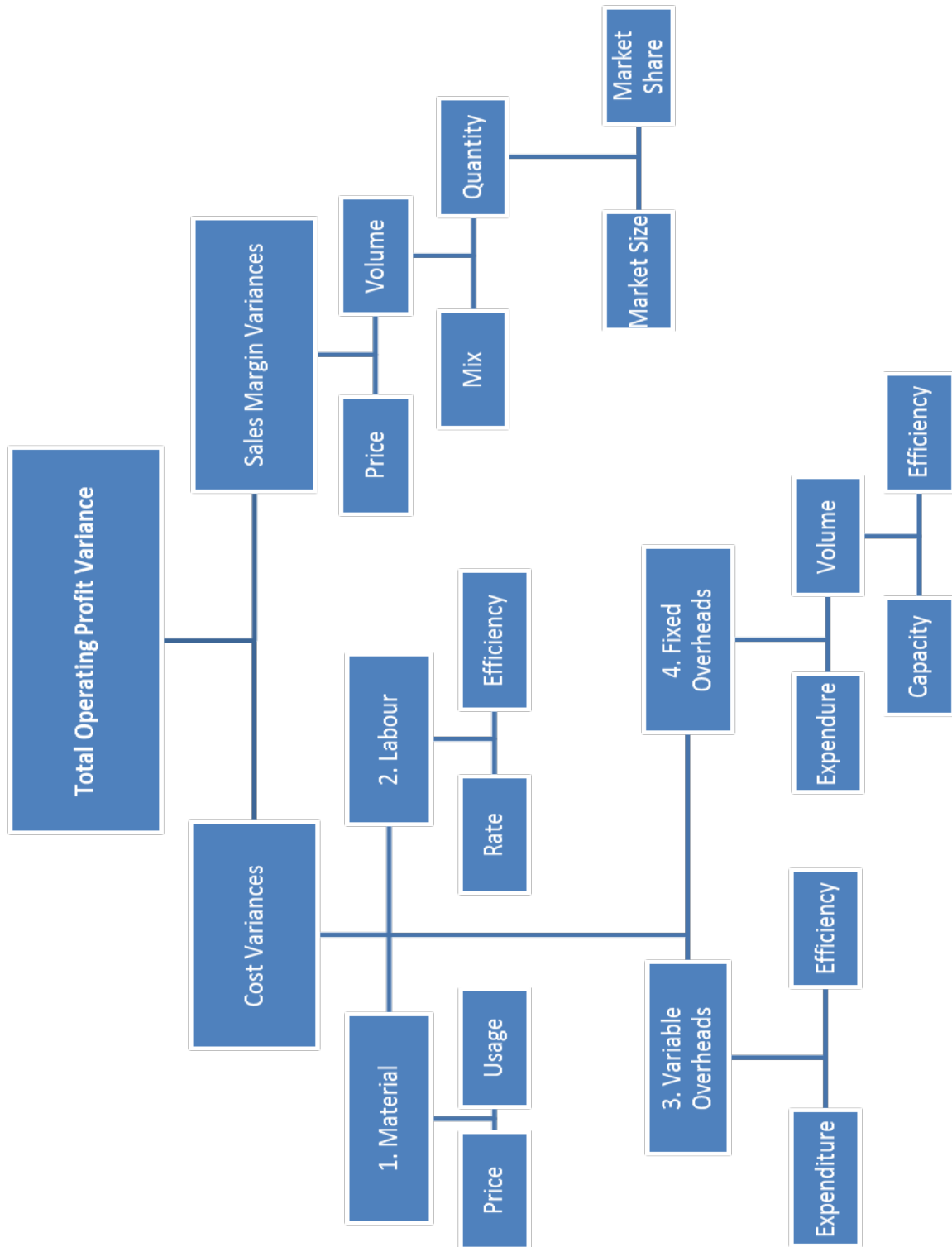
1.5 Effect on Total Operating Profit : Company's Total operating profit is effected by various factors which can be measured through Standard Costing. Further responsibility of the concerned person can also be assigned for any adverse affect on Total operating Profit with use of Standard Costing.

Lets take an example of Profit and Loss Account in order understand the effect on Company's Operating Profits.



Any adverse / favorable effect on the Expenses or Incomes will have direct effect on Company's operating profits.

1.6 Operating Profit Variance Total : Variances are broadly classified under 2 categories based on the Profit and Loss Approach. As discussed above in Para 1.5, all the nature of circumstances which affects the company's Expenses and Incomes will have direct impact on the Company's Operating Profit.



Special points of interest:

- **Cost Variances are broadly classified into 4 Parts:**

- A) Material
- B) Labour
 - i) Variable
 - ii) Fixed
- C) Overheads
 - i) Variable
 - ii) Fixed

- **Cost Breakup is solely based on the Manufacturing Process of any company which is divided into 3 parts:**

- A) Procurement and Consumption of Raw Material
- B) Manufacturing Process
- C) Conversion of Raw Material Into Finished Goods

- **In the Standard Costing, we have to study the Cost variances based on the above four elements of cost.**

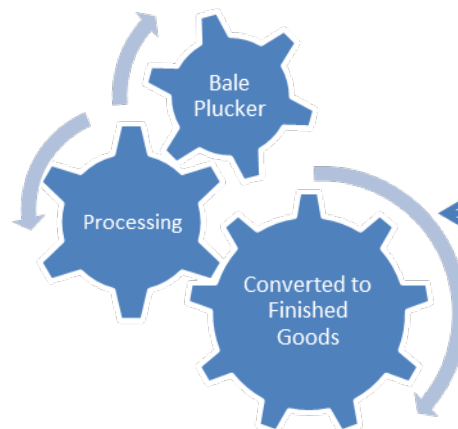
1.7 Cost Variances: In the Standard Costing, Total Expenses are broadly classified under the 4 heads based on the Manufacturing process of the company. Lets understand with example of Yarn Manufacturing Process from Cotton Bales.



Cotton Bale is Raw Material for Production for Yarn:

Considered as

1) Direct Material Cost



For Manufacturing Process Company have to engage the Labours and

Considered as

2) Direct Labour Cost



For Final Converted Output in the form of Yarn Company have to incurred the following Costs apart from Material and Labour:

- A) Direct Expenses
- B) Indirect Expenses

Considered as

3) Overheads, Further overheads are sub-divided into:

- i) Variable Overheads
- ii) Fixed Overheads

Special points of interest:

- **Material Cost Variance is affected by following two factors:**

- A) Price
- B) Consumption Qty.

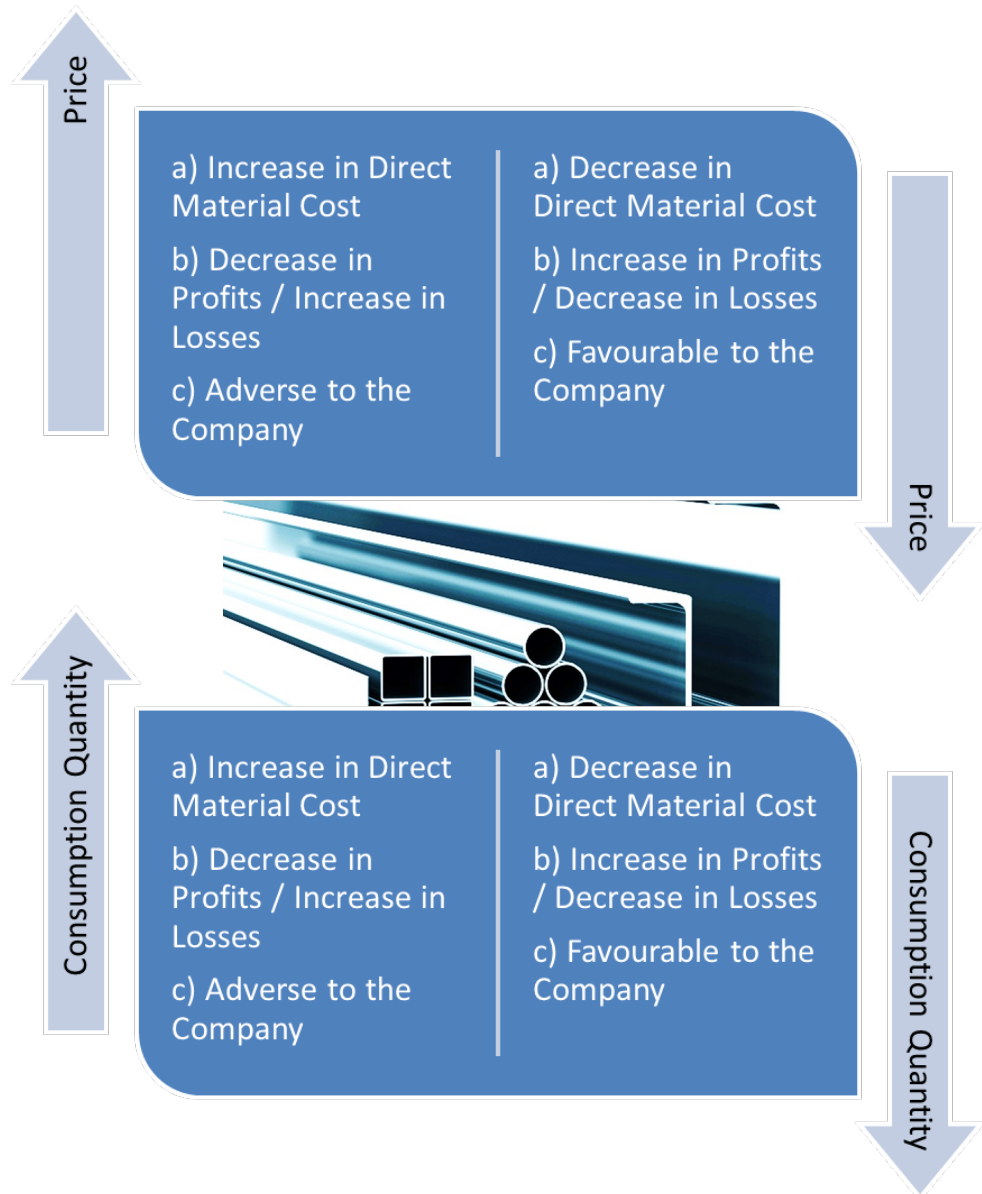
- **Relationship between the Price and Consumption Qty. of Raw Material and Profit**

- A) Inverse relationship
- B) Price / Consumption qty. increases— Profit decreases.
- X) Price / Consumption qty. decreases— Profit increases.

- **Based on the above factors, Material Variances are calculated and responsibility is assigned to the respective process owners.**

1.8 Material Cost Variance: Direct Material Cost involved in the production of a particular commodity will be affected by the following factors:

- A) Price
- B) Consumption of Quantity



i) If the **Price** of the Raw Material **increases**, then **Overall Cost** of Direct Material also **increases** and will **adversely** affect the **Profitability** of the Company and **Vice versa**. Procurement Department is responsible for increase in Cost of Direct Material due to Price rise.

ii) If the **Consumption Quantity** of the Raw Material increases, then **Overall Cost** of Direct Material also **increases** and will **adversely** affect the Profitability of the Company and **Vice versa**. Production Department is responsible for increase in Cost of Direct Material due to increase in Consumption Quantity.

Special points of interest:

• **Labour Cost Variance is affected by following two factors:**

- A) Rate
- B) Efficiency of the Labours

• **Relationship between the Rate of Labours and Profit**

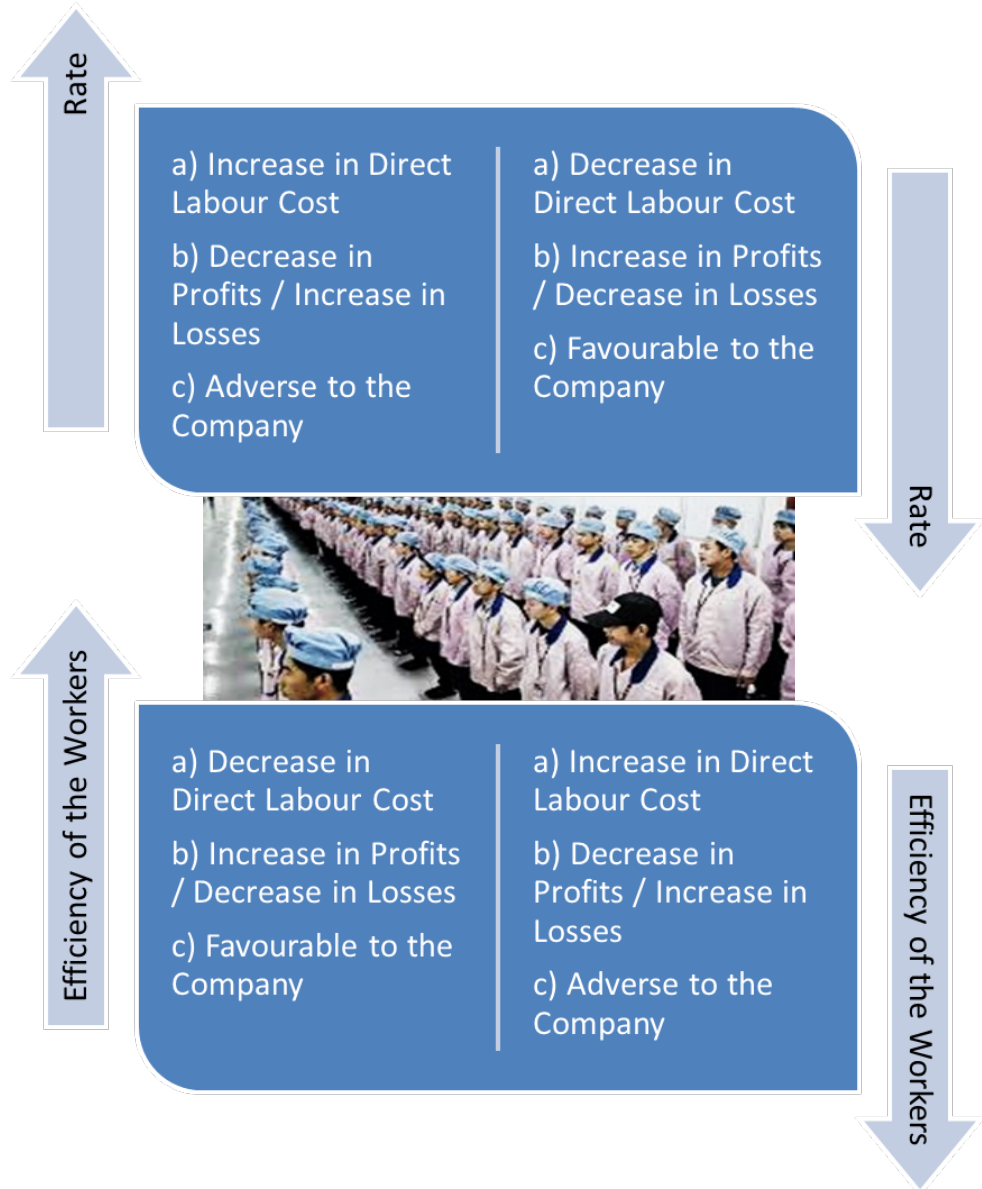
- A) Inverse relationship
- B) Rate increases— Profit decreases.
- X) Rate decreases— Profit increases.

• **Relationship between the Efficiency of the Labours and Profit**

- A) Direct relationship
- B) Efficiency of Labours increases— Profit Increases.
- X) Efficiency of Labours decreases— Profit Decreases.

1.9 Labour Cost Variance: Direct Labour Cost involved in the production of a particular commodity will be affected by the following factors:

- A) Labour Rate
- B) Efficiency of work of Labours



i) If the **rate** of the Labours **increases**, then **Overall Cost** of Direct Labour also **increases** and will **adversely** affect the **Profitability** of the Company and **Vice versa**. Human Resource (HR) / Recruitment Department is responsible for increase in Cost of Direct Labour Cost due to Rate Hike.

ii) If the **Efficiency** of the labours increases, then **Overall Cost** of Direct Labour **decreases** and will **be favourable to** the Profitability of the Company and **Vice versa**. Production Department is responsible for increase in Cost of Direct Labour Cost due to lower Efficiency of Labours.

Special points of interest:

• **Variable Cost Variance is affected by following two factors:**

- A) Variable Overheads Rate
- B) Efficiency of the Labours

• **Relationship between the Variable Overhead Rate and Profit**

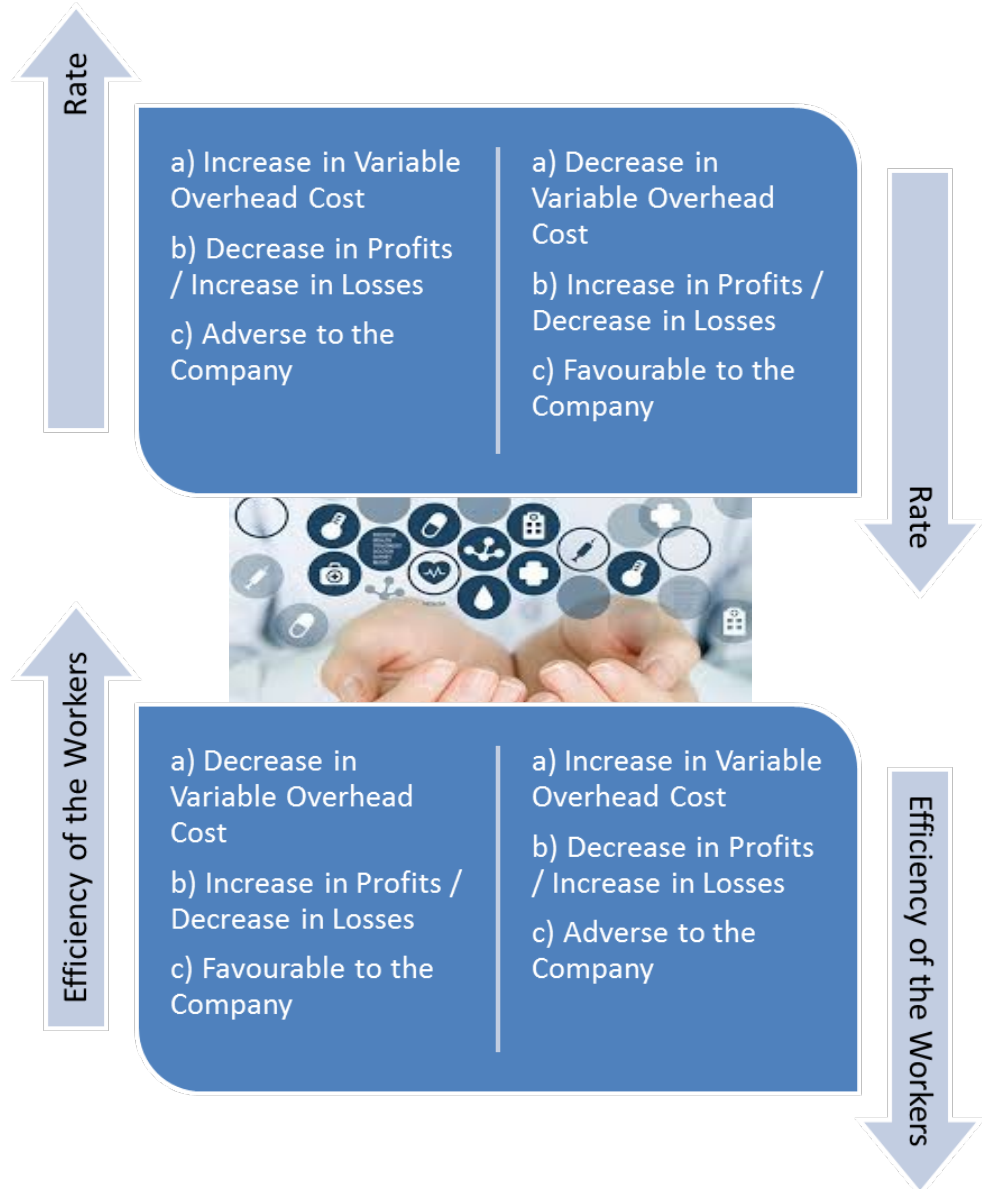
- A) Inverse relationship
- B) Rate increases— Profit decreases.
- X) Rate decreases— Profit increases.

• **Relationship between the Efficiency of the Labours and Profit**

- A) Direct relationship
- B) Efficiency of Labours increases— Profit Increases.
- X) Efficiency of Labours decreases— Profit

1.10 Variable Overheads Cost Variance: Variable Overhead Cost incurred for production of a particular commodity will be affected by the following factors:

- A) Variable Overheads Rate
- B) Efficiency of work of Labours measured in terms of No. of Hours / Finished Goods Quantity



i) If the **rate** of the **Variable Overheads increases**, then **Overall Cost** of Variable Overheads also **increases** and will **adversely** affect the **Profitability** of the Company and **Vice versa**. General Service Department is responsible for increase in Cost of Variable Overheads due to increase in administrative cost, Electricity Consumption etc.

ii) If the **Efficiency** of the labours increases, then **Overall Cost** of Variable Overheads **decreases** and will **be favourable to** the Profitability of the Company and **Vice-versa**. Production Department is responsible for increase in Cost of Variable Overheads due to lower Efficiency of Labours. Since if productivity of finished goods increases due to increase in efficiency, then overall Overheads will decrease.

Special points of interest:

- **Fixed Cost Variance is affected by following 3 factors:**

- Volume
- Capacity
- Efficiency

- **Distinction between Other Cost Variances and Fixed Overhead Variances**

- Fixed Overheads are not varied in direct proportion of Production Quantity / No. of Hours.
- Fixed Overheads may increase / decrease when there is substantial increase in Volume / Capacity / Efficiency.
- Fixed Overheads are compared with Budget unlike other cost variances.

1.11 Fixed Overheads Cost Variance: Fixed Overhead Cost incurred in the production of a particular commodity will be affected by the following factors:

- Increase / Decrease in Volume
- Increase / Decrease in Capacity
- Increase / Decrease in Efficiency

In order to understand the Fixed Overheads properly, let's take an example of CA Coaching Classes:

Suppose CA Suresh Galani decided to teach students live and for that he has projected the Budget of Rent to be paid for Classroom .

Particulars	Budgeted Amount	Budgeted No. of Students
ClassRoom Rent for 100 students Capacity	Rs. 20000/-	100

However, actual no. of students who have taken admission is 150, against which another Classroom is required to be hired at consideration of Rs. 20000/-.

Particulars	Actual Amount	Actual No. of Students
2 Classrooms on Rent for with 100 students Capacity	Rs. 40000/- (2 x 20000/-)	150

Now calculate the actual loss to CA Suresh Galani, earlier Budgeted Rent expenses per student was Rs. 200/- (Rs. 20000 / 100), now Actual Rent Expenses per student works out to Rs. 266.67/- (Rs. 40000 / 150).

So Net Loss will be Rs. (266.67 — 200) x 150 Students = Rs. 10000/-
Alternatively, we can say additional Rent of Rs. 10000/- was paid for additional 50 students.

This loss is divided into 2 Parts under standard Costing:

- Budgeted Fixed Overheads—Actual Fixed Overheads incurred
Expenditure Variance
= Rs. 20000/- — Rs. 40000/-
= - Rs. 20000/- (Adverse)
- Absorbed Fixed Overheads—Budgeted Fixed Overheads incurred
Volume Variance
(Rs. 20000 / 100) x 150 — 20000/-
= Rs. 30000/- — Rs. 20000/-
= Rs. 10000/- (Favourable)

C) Total Fixed Overheads Variance Net (A+B) = (20000-10000) = Rs. 10000/- (Adverse)

This is equal to the loss incurred by CA Suresh Galani as worked above.

Since in this example, there is no concept of efficiency of CA Suresh Galani, the Volume Variance and Capacity Variance are same.

Special points of interest:

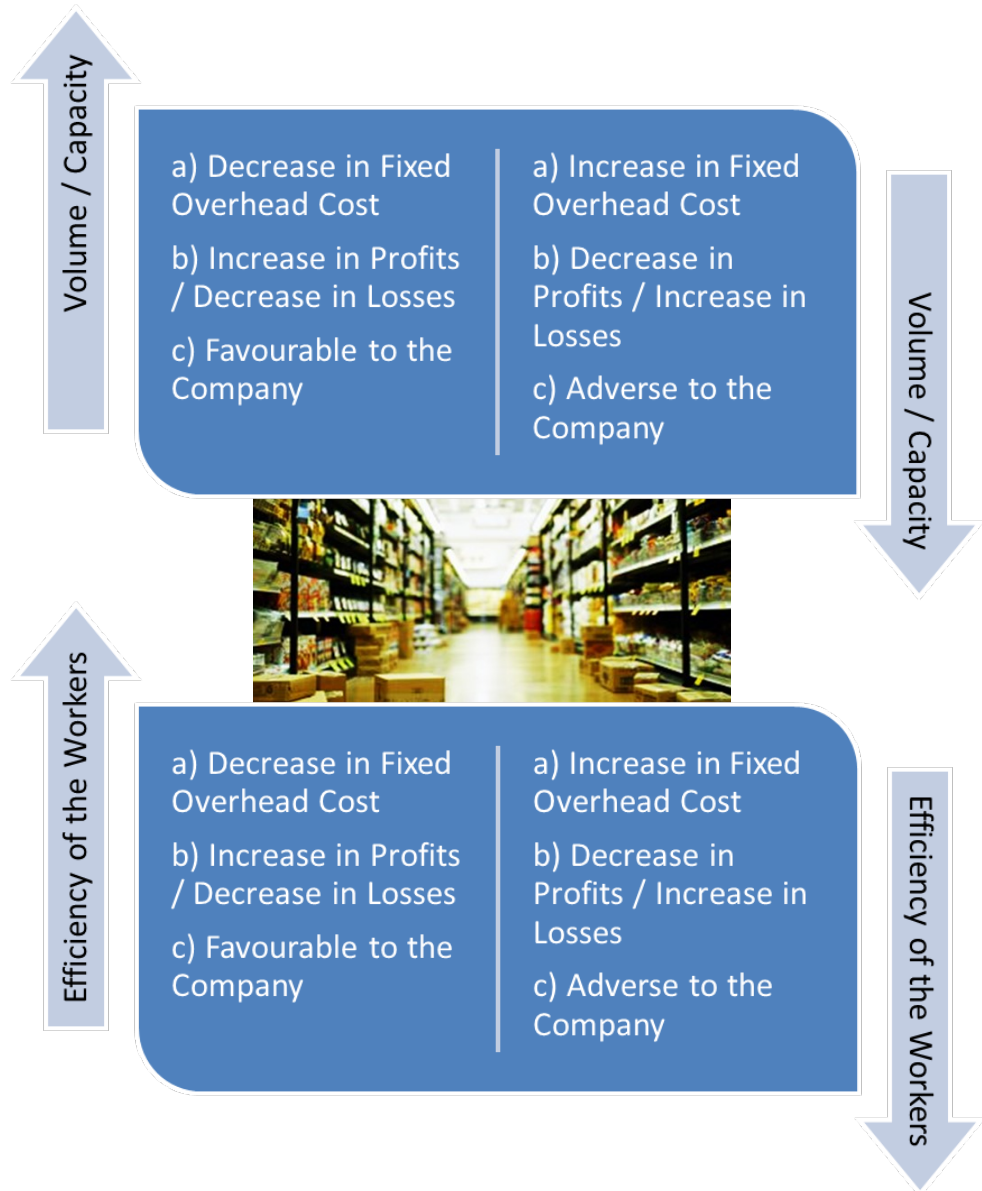
• **Fixed Cost Variance is affected by following 3 factors:**

- A) Volume
- C) Capacity
- C) Efficiency

• **Relationship between the Profit and Capacity / Volume of the Output and Efficiency of the Labours**

- A) Direct relationship
- B) Capacity / Volume of the Output and Efficiency of the Labours increases— Profit Increases and vice versa.

1.12 Fixed Overheads Cost Variance: Fixed Overhead Cost incurred in the production of a particular commodity will be affected by the factors discussed in the earlier paragraph, now we will see how they will impact on Fixed Overheads Cost Variance and Overall Profitability :



i) If the **Volume / Capacity** of the Finished Goods / Output increases, then **Overall Cost** of Fixed Overheads **decreases** and will **be favourable to** the Profitability of the Company and **Vice-versa**. Sales / Marketing / Production Department is responsible for increase in Cost of Fixed Overheads due to lower Volume / Capacity of Finished Goods / Output . Since if Volume / Capacity increases, then overall Fixed Overheads will decrease.

ii) If the **Efficiency** of the labours increases, then **Overall Cost** of Fixed Overheads **decreases** and will **be favourable to** the Profitability of the Company and **Vice-versa**. Production Department is responsible for increase in Cost of Fixed Overheads due to lower Efficiency of Labours. Since if productivity of finished goods increases due to increase in efficiency, then overall Fixed Overheads will decrease.

Special points of interest:

• **Sales Variance is affected by following 4 factors:**

- A) Price
- C) Volume
- X) Market Share
- Δ) Market Size

• **Relationship between the Profit and Volume & Price of the Output and**

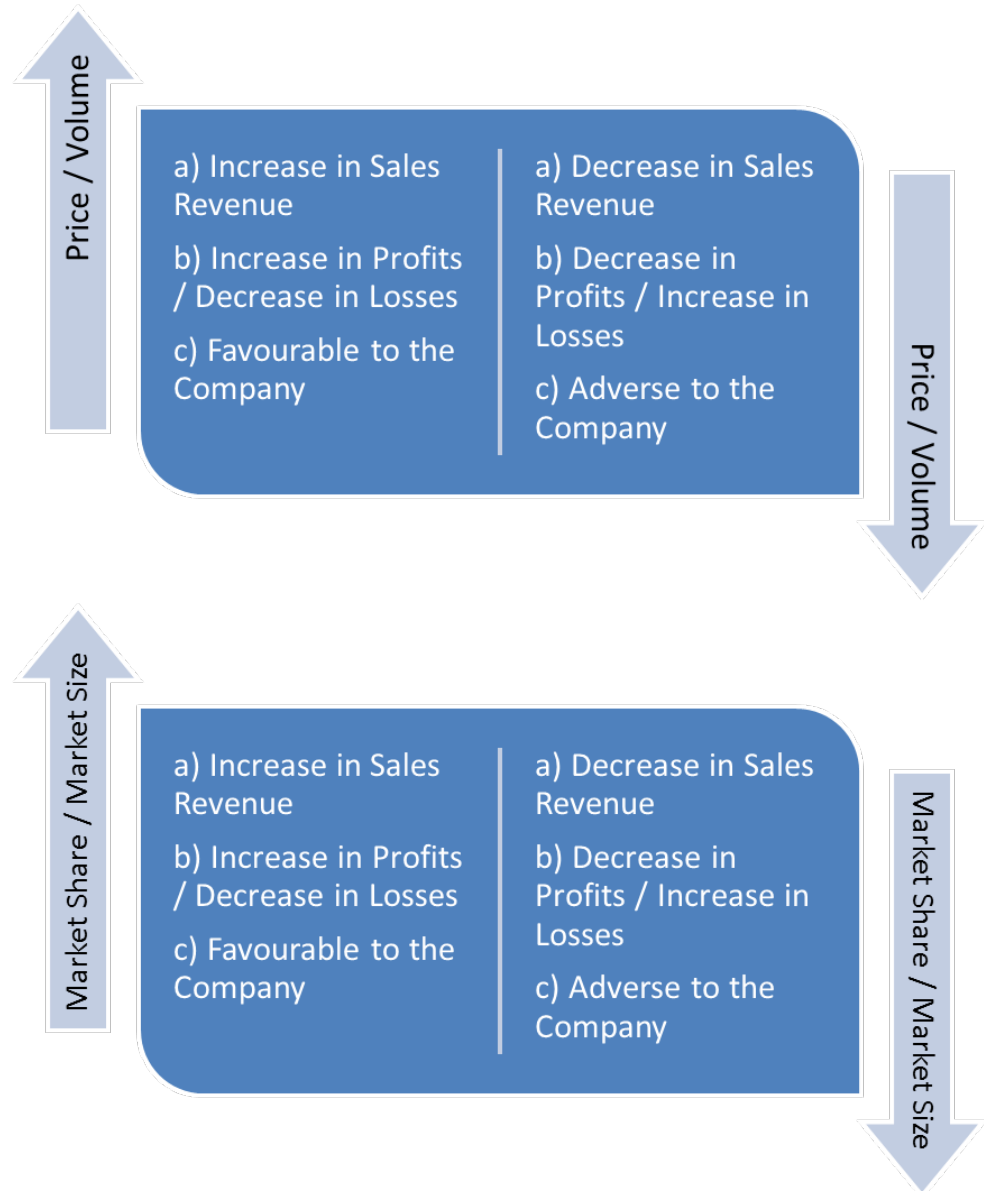
- A) Direct relationship
- B) Price / Volume of the Output increases— Profit Increases and vice versa.

• **Relationship between the Profit and Market Share / Size of the Output and**

- A) Direct relationship
- B) Market Share/ Size of the Output increases— Profit Increases and vice versa.

1.13 Sales Variance: Sales Variances are just opposite of Cost Variances, since any increase in Price / Volume will lead to increase in Profits and Vice versa unlike in Cost variances. Sales Variances will be affected by the following factors:

- A) Price
- B) Volume
- C) Market Share
- D) Market Size

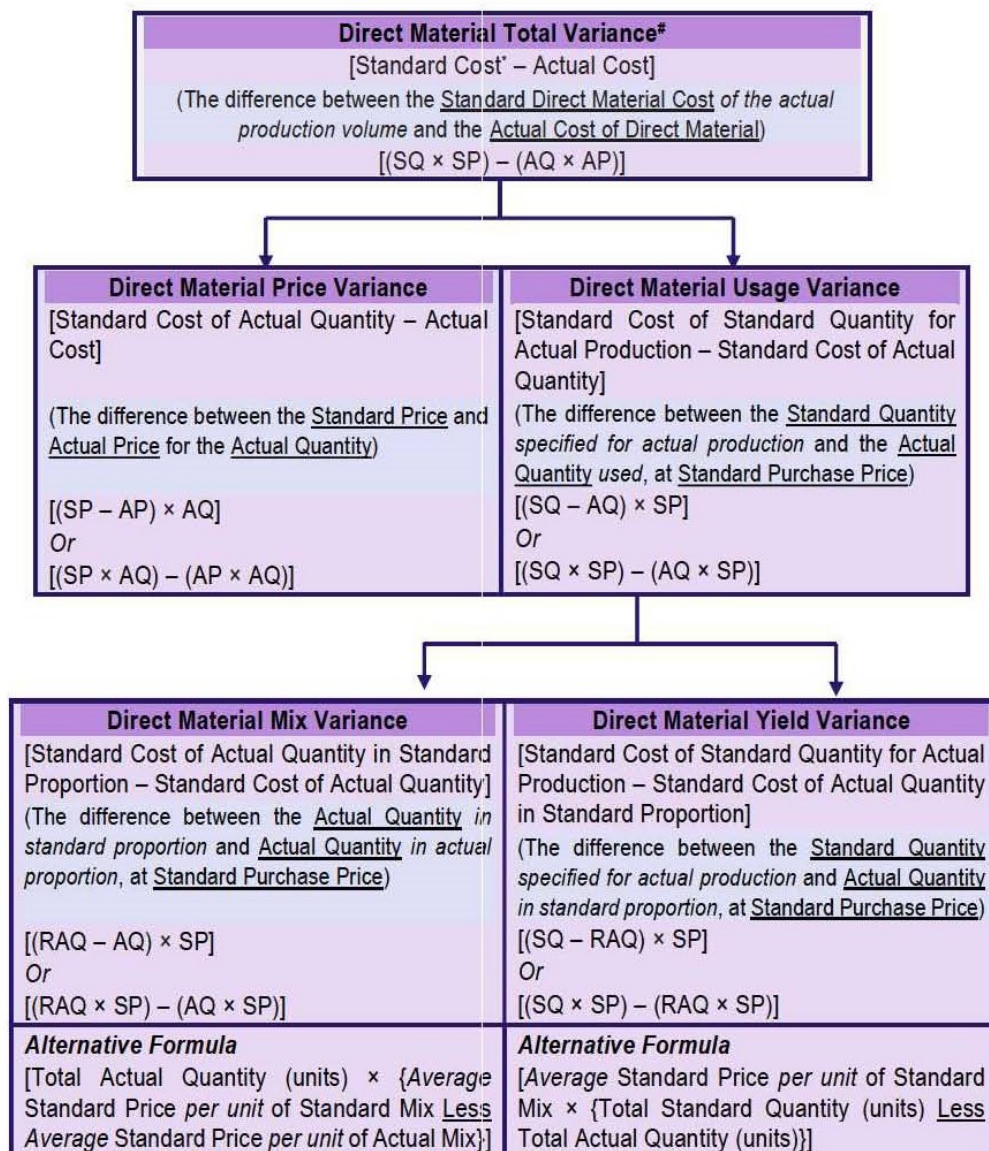


i) If the **Volume / Price** of the Finished Goods / Output increases, then **Overall Sales / Revenue increases** and will **be favourable to** the Profitability of the Company and **Vice-versa**. Sales / Marketing Department is responsible for decrease in Sales due to Lower Sales Volume and Sales Prices of Finished Goods / Output.

ii) If the **Market Size / Market Share** of the Finished Goods / Output increases, then **Overall Sales / Revenue increases** and will **be favourable to** the Profitability of the Company and **Vice-versa**. Sales / Marketing Department is responsible for Decrease in Sales due to lower Market Share of Finished Goods / Output. **However external factors beyond the company's management are responsible for Market Size.**

1.14 Formulae's of Standard Costing

Direct Material Variances



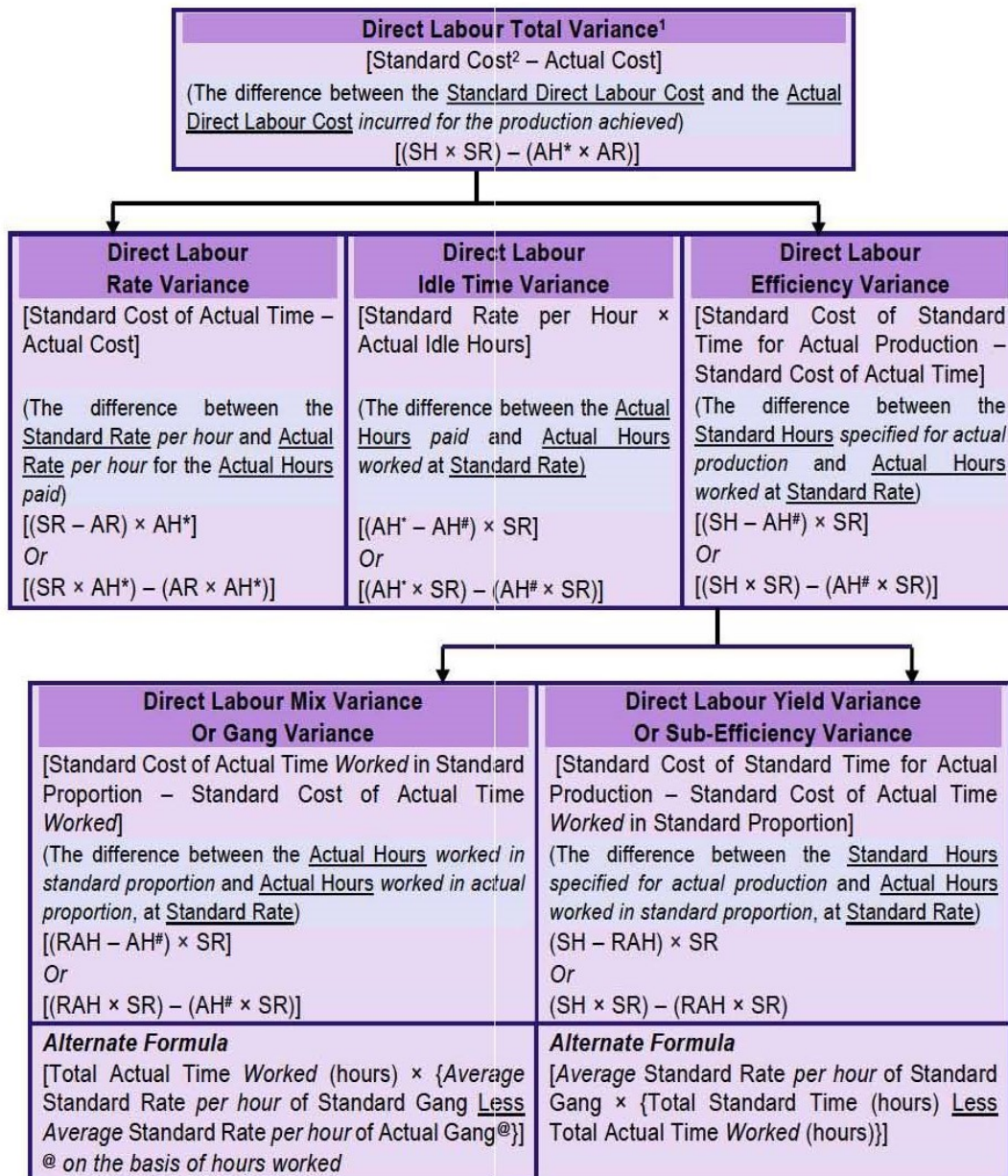
Note:	
SQ	= Standard Quantity = Expected Consumption for Actual Output
AQ	= Actual Quantity of Material Consumed
RAQ	= Revised Actual Quantity = Actual Quantity Rewritten in Standard Proportion
SP	= Standard Price per Unit
AP	= Actual Price per Unit
(*)	= Standard Cost refers to 'Standard Cost of Standard Quantity for Actual Output'
(#)	= Direct Material Total Variance (also known as material cost variance)

Material Purchase Price Variance [Standard Cost of Actual Quantity – Actual Cost] (The difference between the <u>Standard Price</u> and <u>Actual Price</u> for the <u>actual quantity of material purchased</u>) $[(SP - AP) \times PQ]$ Or $[(SP \times PQ) - (AP \times PQ)]$	
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Note:	
PQ	= Purchase Quantity
SP	= Standard Price
AP	= Actual Price

Source : ICAI Study Material
August 2017

Direct Labour Variances

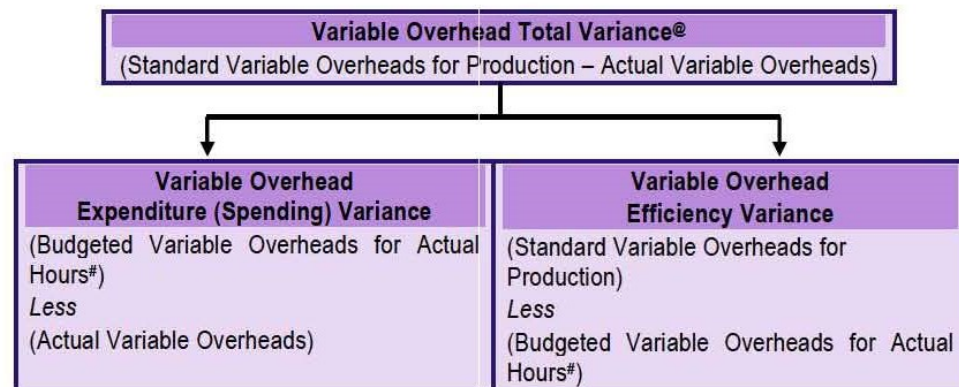
**Note:**

SH = Standard Hours = Expected time (Time allowed) for Actual Output
 AH* = Actual Hours paid for
 AH[#] = Actual Hours worked
 RAH = Revised Actual Hours = Actual Hours (worked) rewritten in Standard Proportion
 SR = Standard Rate per Labour Hour
 AR = Actual Rate per Labour Hour Paid
 (2) = Standard Cost refers to 'Standard Cost of Standard Time for Actual Output'
 (1) = Direct Labour Total Variance (also known as labour cost variance)
 In the absence of idle time
 Actual Hours Worked = Actual Hours Paid



Idle Time is a period for which a workstation is available for production but is not used due to e.g. shortage of tooling, material or operators. During Idle Time, Direct Labour Wages are being paid but no output is being produced. The cost of this can be identified separately in an Idle Time Variance, so that it is not 'hidden' in an adverse Labour Efficiency Variance. Some organizations face Idle Time on regular basis. In this situation the Standard Labour Rate may include an allowance for the cost of the expected idle time. Only the impact of any unexpected or abnormal Idle Time would be included in the Idle Time Variance.

Variable Production Overhead Variances



[#] Actual Hours (Worked)

Note:

Standard Variable Overheads for Production/Charged to Production

= Standard/Budgeted Variable Overhead Rate per Unit × Actual Production (Units)

= Standard Variable Overhead Rate per Hour × Standard Hours for Actual Production

Actual Overheads Incurred

Budgeted Variable Overheads for Actual Hours

= Standard Variable Overhead Rate per Hour × Actual Hours

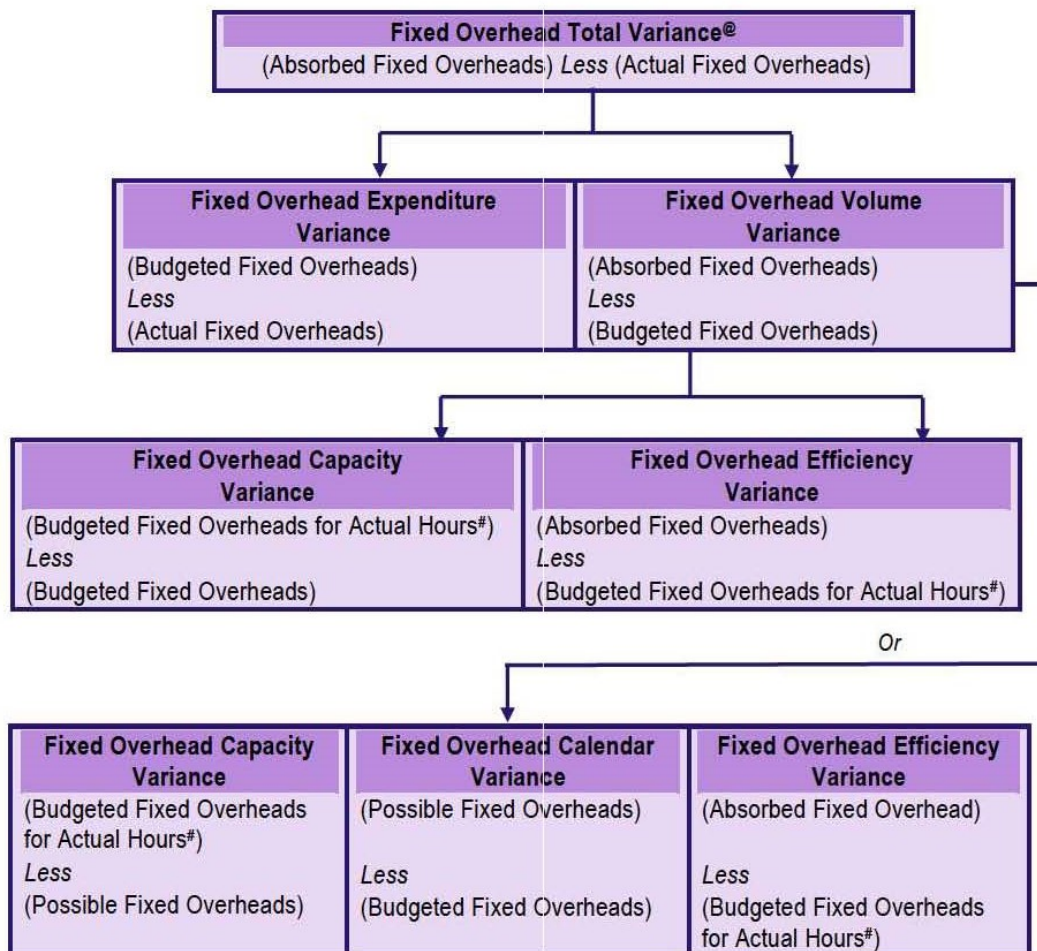
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= Variable Overhead Total Variance also known as 'Variable Overhead Cost Variance'

Variable Overhead Efficiency Variance
(Standard Variable Overheads for Production) – (Budgeted Overheads for Actual Hours) Or (Standard Variable Overhead Rate per Hour × Standard Hours for Actual Output) – (Standard Variable Overhead Rate per Hour × Actual Hours) Or Standard Variable Overhead Rate per Hour × (Standard Hours for Actual Output – Actual hours)

Variable Overhead Expenditure Variance
(Budgeted Variable Overheads for Actual Hours) – (Actual Variable Overheads) Or (Standard Rate per Hour × Actual Hours) – (Actual Rate per Hour × Actual Hours) Or Actual Hours × (Standard Rate per Hour – Actual Rate per Hour)

Fixed Production Overhead Variances



[#] Actual Hours (Worked)

Note:**Standard Fixed Overheads for Production (Absorbed)**

- = Standard Fixed Overhead Rate per Unit × Actual Production in Units
- = Standard Fixed Overhead Rate per Hour × Standard Hours for Actual Production

Budgeted Fixed Overheads

- = It represents the amount of fixed overhead which should be spent according to the budget or standard during the period
- = Standard Fixed Overhead Rate per Unit × Budgeted Production in Units
- = Standard Fixed Overhead Rate per Hour × Budgeted Hours

Actual Fixed Overheads Incurred**Budgeted Fixed Overheads for Actual Hours**

- = Standard Fixed Overhead Rate per Hour × Actual Hours

Possible Fixed Overheads

- = Expected Fixed Overhead for Actual Days Worked
- = $\frac{\text{Budgeted Fixed Overhead}}{\text{Budgeted Days}} \times \text{Actual Days}$

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- = Fixed Overhead Total Variance also known as 'Fixed Overhead Cost Variance'

Fixed Overhead Efficiency Variance	
(Absorbed Fixed Overheads) – (Budgeted Fixed Overheads for Actual Hours)	
	Or
(Standard Fixed Overhead Rate per Hour × Standard Hours for Actual Output) – (Standard Fixed Overhead Rate per Hour × Actual Hours)	
	Or
Standard Fixed Overhead Rate per Hour × (Standard Hours for Actual Output – Actual Hours)	

Fixed Overhead Capacity Variance	
(Budgeted Fixed Overheads for Actual Hours) – (Budgeted Fixed Overheads)	
	Or
(Standard Fixed Overhead Rate per Hour × Actual Hours) – (Standard Fixed Overhead Rate per Hour × Budgeted Hours)	
	Or
Standard Fixed Overhead Rate per Hour × (Actual Hours – Budgeted Hours)	

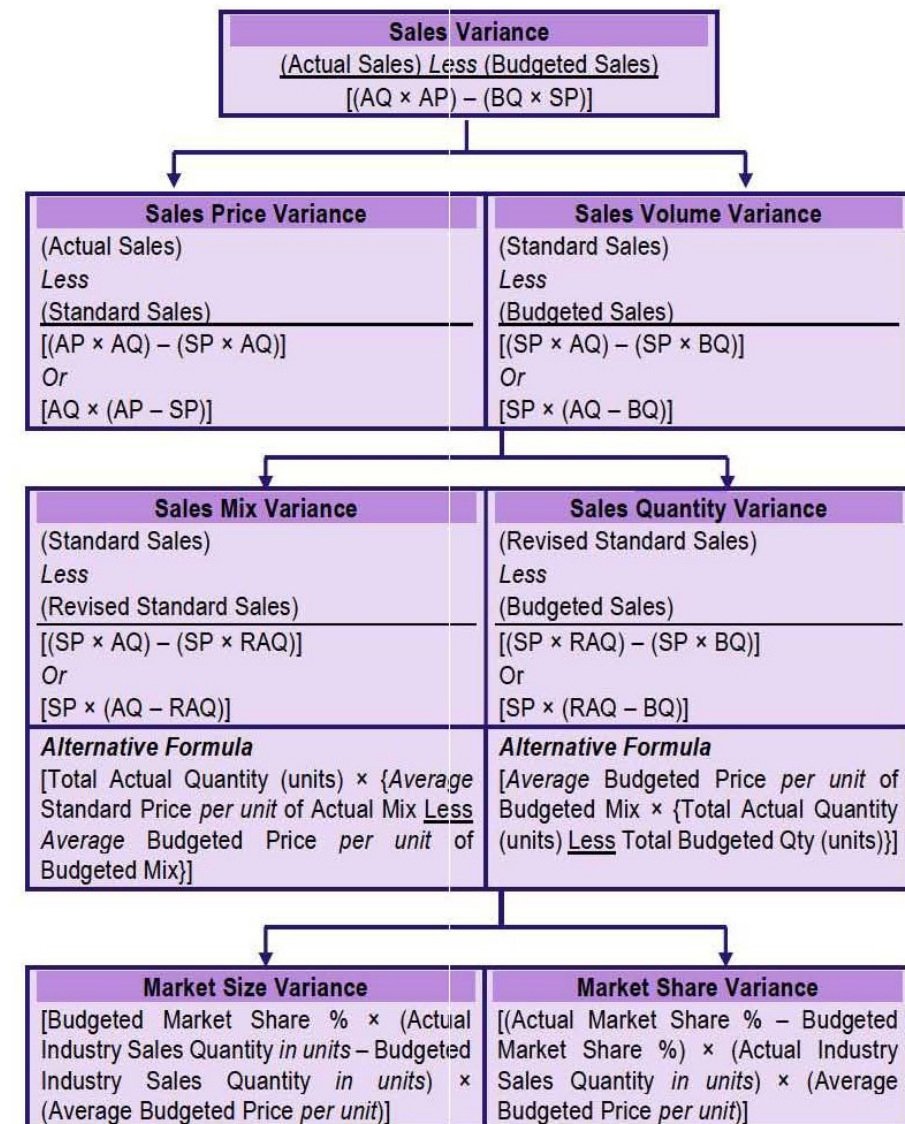
Fixed Overhead Volume Variance-I	
(Absorbed Fixed Overheads) – (Budgeted Fixed Overheads)	
	Or
(Standard Fixed Overhead Rate per Unit × Actual Output) – (Standard Fixed Overhead Rate per Unit × Budgeted Output)	
	Or
Standard Fixed Overhead Rate per Unit × (Actual Output – Budgeted Output)	

Fixed Overhead Volume Variance-II	
(Absorbed Fixed Overheads) – (Budgeted Fixed Overheads)	
	Or
(Standard Fixed Overhead Rate per Hour × Standard Hours for Actual Output) – (Standard Fixed Overhead Rate per Hour × Budgeted Hours)	
	Or
Standard Fixed Overhead Rate per Hour × (Standard Hours for Actual Output – Budgeted Hours)	
	Or
Standard Fixed Overhead Rate per Hour × (Standard Hours per Unit × Actual Output – Standard Hours per Unit × Budgeted Output)	
	Or
(Standard Fixed Overhead Rate per Hour × Standard Hours per Unit) × (Actual Output – Budgeted Output)	
	Or
Standard Fixed Overhead Rate per Unit × (Actual Output – Budgeted Output)	



Overhead Variances can also be affected by idle time. It is usually assumed that Overheads are incurred when labour is working, not when it is idle. Accordingly, hours worked has been considered for the calculation of Variable and Fixed Overheads Variances.

Sales Variances (Turnover or Value)

**Note:**

- BQ = Budgeted Sales Quantity
- AQ = Actual Sales Quantity
- RAQ = Revised Actual Sales Quantity
= Actual Quantity Sold Rewritten in Budgeted Proportion
- SP = Standard Selling Price per Unit
- AP = Actual Selling Price per Unit

Market Size Variance

Budgeted Market Share % × (Actual Industry Sales Quantity *in units* – Budgeted Industry Sales Quantity *in units*) × (Average Budgeted Price *per unit*)

Or

(Budgeted Market Share % × Actual Industry Sales Quantity *in units* – Budgeted Market Share % × Budgeted Industry Sales Quantity *in units*) × (Average Budgeted Price *per unit*)

Or

(Required Sales Quantity *in units* – Total Budgeted Quantity *in units*) × (Average Budgeted Price *per unit*)

Market Share Variance

(Actual Market Share % – Budgeted Market Share %) × (Actual Industry Sales Quantity *in units*) × (Average Budgeted Price *per unit*)

Or

(Actual Market Share % × Actual Industry Sales Quantity *in units* – Budgeted Market Share % × Actual Industry Sales Quantity *in units*) × (Average Budgeted Price *per unit*)

Or

(Total Actual Quantity *in units* – Required Sales Quantity *in units*) × (Average Budgeted Price *per unit*)

Market Size Variance + Market Share Variance

(Required Sales Quantity *in units* – Total Budgeted Quantity *in units*) × (Average Budgeted Price *per unit*)

Add

(Total Actual Quantity *in units* – Required Sales Quantity *in units*) × (Average Budgeted Price *per unit*)

Equals to

(Total Actual Quantity *in units* – Total Budgeted Quantity *in units*) × (Average Budgeted Price *per unit*)

Sales Quantity Variance

Disclaimer: Chapter 1 covers the Basic Concept of Standard Costing and Variance Analysis. Apart from this, Practical Problems and Standard Costing application under different Costing Strategies and Industries are covered under Chapter 2 of Standard Costing—Advanced with Practical illustrations, which will include the following topics:

- Variance Analysis in Activity Based Costing
- Learning Curve Impact on Variances
- Relevant Cost Approach to Variance Analysis
- Variance Analysis and Throughput Accounting
- Variance Analysis in Advanced Manufacturing Environment
- Variance Analysis in Service Industry
- Variance Analysis in Public Services