COST ACCOUNTING

LABOUR COSTING

Introduction to Labour Costing

The cost of labor is the sum of all wages paid to employees, as well as the cost of employee benefits and payroll taxes paid by an employer.

Direct Labour

Work of the Factory employee that can be physically and directly associated with converting raw materials into finished goods

Indirect Labour

The work of Factory employee that has no physical association with the finished product or for which it is impractical to trace costs to the goods prduced

Examples of Direct Labour

- **Machine operator**
- **Shoe-maker**
- **Carpenter**
- **Weaver**
- **tailor**

Examples of Indirect Labour

- **Supervisor**
- **Inspector**
- **Cleaner**
- **Clerk**
- **Peon**
- **watchman**

Bases of difference	Direct labour cost	Indirect labour cost
1. meaning	Direct labour cost is bthat cost which is directly involved in the production.	Indirect labour cost is that cost which is not directly involved in the production.
2. Volume of production	Direct labour cost depends on the volume of production.	Indirect labour cost does not depend on volume of production.
3. separation	It can be separated in cost, cost center, or unit cost.	It cannot be separated.
4. payment	Payment of direct cost is a direct expenditure.	Payment of indirect labour is an indirect expenditure.
5. used	It is used to covert raw materials into finished goods.	It is used in the production process.
6. part	This is a part of prime cost.	It is a part of work, office, selling and distribution overhead.

CAUSES OF LABOUR TURNOVER

Avoidable Causes

- Substandard Working Condition
- No Job Security
- Dissatisfactory Wages and Allowance
- No Retirement Benefits
- Meagre Medical Facilities
- Improper Health and Safety Measures
- Poor Transport Facilities
- Unhealthy Relations with Trade Unions
- Conflict with Supervisor or Co-workers

Unavoidable Causes

- Marriage
- Death
- Retirement
- Accident
- Illness
- Family Migration
- Secured Job Opportunity
- Domestic Issues
- Discharged on Disciplinary Reasons
- Work Environment Dissatisfaction

Strategies to Reduce Labour Turnover

- Work on Company's Interpersonal Relationships
- Revise Wages and Allowance Policy
- Improve Personnel or HR Policy
- Focus on Non-Monetary Benefits
- Carry Out Exit Interviews
- Enhance Working Conditions
- Adopt Appropriate Labour Welfare Measures
- Develop a Performance Based Reward System
- Appreciate Employee Suggestions
- Strengthen Grievance Redressal Procedure
- Fair and Impartial Treatment
- Create Opportunities for Promotion

COST OF LABOUR TURNOVER

Preventive Costs

- Personnel Administration
- Medical Services
- Sports & Welfare
- Gratuity
- Pension Schemes
- Bonuses
- Perquisites

Replacement Cost

- Cost of Recruitment
- Training
- Induction
- Tools & Machine Breakage
- Additional Supervision
- Scrap
- Defective Work

Idle Time

- Idle time represents **time lost by workers who are paid on time basis** .

- when workers are paid on time basis , some difference between the time for which they are paid and that they actually spend on production is bound to arise. this difference is known as idle time.

- **idle time represents the time for which they are paid but no production is obtained** .

- For example : time lost between factory gate and department, time when production is interrupted by machine maintenance ,tea breaks etc.

Causes idle time may occur owing to productive, administrative or economic causes

- 1-Productive causes: The productive causes are those which result in loss of production. These include:
- (a)idle time due to machine break down.
- (b)power failures.
- (c)waiting for tools and /or raw materials.
- (d) waiting for work
- (e)waiting for instructions
- Idle time due to productive causes is usually controllable by proper planning, strict supervision and proper maintenance of plant and machinery.

2-Administrative causes

⊙ Idle time is sometimes caused by administrative
  decisions .This usually happens during
  depressions when some of machines have got
  to work below normal capacity and regular
  workers paid full amount of wages . This is
  because the management does not want to
  discharge trained workers temporarily. Such
  abnormal idle time arises out of abnormal
  situation and is generally not controllable.

3-Economic causes

- Idle time may also be caused by fall in the demand of products , say due to sever competition ,seasonal nature of certain industries like woolen goods, ice-cream ,etc. where production can not be evenly distributed throughout the year. In such cases it is not possible to get rid of workers during slack season. Such surplus labour force is utilised for doing some other jobs and if such complementary jobs can not be found ,there will be some idle time which is beyond control.

Treatment of the Cost of Normal Idle Time

- 1)-As overhead-It must be charged as indirect expenses in factory. For example, if a laborer gets Rs. 1 per hr and he spend 8 hrs in factory and his total wage will be Rs. 8 but he utilized his productive time 7 hrs, then direct labor cost will be 8 hrs X Rs. 1 = Rs. 8 and 1hr will be overhead of idle time and Rs. 1 per hr idle time will be written in factory expenses in cost sheet.

2)-As direct wages

⊙ We can also increase the cost of labor rate.
with following way

If a labor works for 8 hrs, he gets = Rs. 1 per hr
If a labor works for 7 hrs, he gets = Rs. 1 / 8 X 7

= Rs. 1.14 per hr

⊙

Now labor cost will increase by 0.14 paise

Abnormal Idle Time

This is that wastage of time which we can stop by good supervision.
a) waste of time due to inefficiency of engineers.
a) Power failure
a) Delay of supply of material to factory
b) Strike and lockout

Treatment of the cost of Abnormal Idle Time
Wage for abnormal idle time is loss of business and it must be transferred to costing profit and loss account.

Over time

- Over time occurs when a worker works beyond the normal working hours. The normal working hours are laid down in the factories act. Acordingly,any worker working for more than 9 hours per day or more or more than 48 hours per week is entitled to over time payment..The factories act also provides for payment of overtime wages at double the normal rates of wages .the overtime work therefore, a costly affair and should be avoided as far as possible

Labour Remuneration

Remuneration has een defined as reward for labour and services. Labour cost Represents 2nd Lasrgest cost in the product. High remuneration attract efficent labour force.

For this purpose, valuation of labour is important.

Labour Remuneration Method
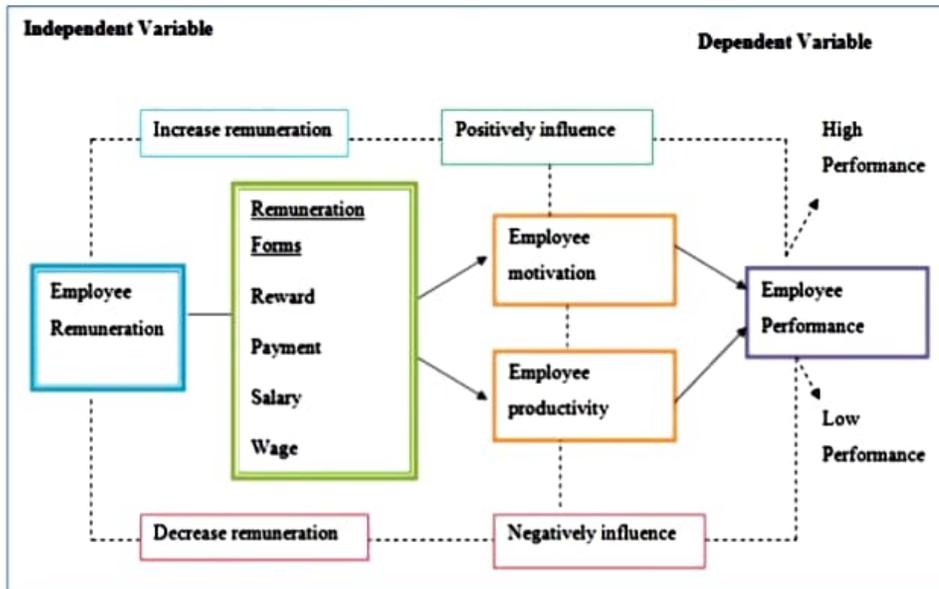
Time Rate System	Piece Rate System	Bonus System	Indirect Monetary Incentives	Non-Monetary Incentives
• At Ordinary Level • At High Wage Level • Guaranteed Time Rate	• Straight Piece Rate • Piece Rate with Guaranteed day rates • Differential Piece Rate • a) Tailor Differential Piece Rate system • b) Merrick Differential Piece Rate • c) Gantt Task Bonus System	• Halsey Premium Plan • Rowan System • Emersion Efficiency System	• Profit Sharing Scheme • Co-ownership Or Co-Partnership	• Tied to conditions (Benefits) of employment rather than to the job Functions • Subsidised Meals • Free Canteen Facilities • Medical, Health and safety services • General Welfare - Sports and re-creation facilities • Education and Training • Pension, Super annuation and Life Insurance Scheme

Labour Remuneration Method

Time Rate System

➤ Workers are paid according to the time for which they work
➤ Payment may be on hourly basis, daily basis, weakly basis, or monthly basis.
➤ No consideration is given to the quantity and quality of work done.

For example – if a worker is paid at the rate of Rs. 7.50 per hour, his wages for a day of 8 hours will be $7.5 \times 8 = Rs.\ 60$.

This method suitable under :

1. Where quality of work is more important than quantity of work (i.e., high class tailoring)

2. Where output cannot be measured in quantitative terms, e.g., in the case of indirect workers like watch man, cleaners and sweepers, etc.

3. Where output is beyond the control of the worker, e.g., in process industries, where the work of a worker is dependent on the work of other workers.
4. Where work is being done on a small scale so that close supervision is possible.

5. Where the worker is a learner or an apprentice.

Time Rate System

Advantages:

1) **Simplicity** - Calculation of wage is easily understood
2) **Security to Workers** - Assured Payment of certain amount Quality of Work
3) **Economical** - No Detailed Records are maitained
4) **Accepted by Trade Union** - Because it treats all workers same
5) **Unity of Labour** - Feelinh of unity among labour

Disdvantages:

1. **Lack of Incentive:** No Positive Inducement to Efficient workers
2. **Lower Production:** Tend to be slow in work
3. **More Supervision:** Appointment of supervisors increases supervision costs.
4. **Idle Time:** workers waste a lot of time
5. **Costing Difficulties:** Difficulties in the calculation of labour cost per unit because the output is quite fluctuating.
6. **It Makes Workers Lazy and Dull:** try to avoid work, and thus production suffers.

Piece Rate

Workers are paid in proportion to the work done by them. The rate is fixed per unit of output, per article, per commodity, etc. The worker is paid for the total units manufactured. The system is thus is result oriented

For example, if the rate per unit is Rs. 5 and the worker manufacturers 100 units in a week, his week's wages shall be Rs. 500 (i.e., 100 x 5).

This method suitable under :

1. Where the output of workers can be measured.

2. Where production is standardised and repetitive in nature.

3. When the aim is continuous maximum production.

4. Where workers continue at the same job for a long period.

5. Where the standard time required to complete a job can be measured accurately

Piece Rate

Advantages:

1. Incentive to Efficient Workers
2. Increase in Production:
3. Decrease in Supervision:
4. Equitable Wages:
5. Simple and Easy:
6. Simplifies Costing:
7. Decreased Cost:

Disdvantages:

1. Lack of Secured Wages:
2. Inferior Quality of the Product:
3. Injurious to Health of Workers:
4. Misuse of Equipment and Materials:
5. Unsuitable in Certain Cases:
6. Difficulties in Fixing Piece Rate:
7. Opposed by Trade Unions:

Time & Piece Rate

Incentive Plans / Bonus System

- ➤ Attempt to combine the good points Time & Piece Rate systems.
- ➤ Purpose - To motivate worker to produce more
- ➤ More Production - Higher Wages
- ➤ More Production - Low Cost Per unit by Spreading Fixed Cost
- ➤ It will reduce Labour Turnover
- ➤ To keep moral of the workers high

This method suitable under :

1. industries where proper time and motion studies can be undertaken and proper standards of time and output can be fixed.

2. industries where overhead charges are considerable and which can be reduced through increased production resulting from incentive schemes.

Time & Piece Rate

Advantages:

1) Assurance of Time Rate: Whether they attain standard or not
2) In-efficiency is not penalised
3) Efficiency is rewarded
4) Increase Productivity
5) Opportunity Given to workers to increase efficiency
6) Reduce Labour Turnover
7) Reduce Cost Per unit
8) Gains are shared by Wokers and Employer both

Disdvantages:

1. Not Suitable where the overheads are less
2) Not suitable where proper standard can not be fixed
3) Difficult to calculate Indirect Labour Cot
4) It requires careful determination of Standard time and standard output
5) The quality of the product may suffer
6) Once incentive is introduce, It will be very difficult to withdraw the scheme later

Time Rate System

1) Time Rate System at Ordinary Level

The Payment is made based on the time for which they work

Each worker is Assured of minimum Wages

Payment = Hours Worked X Rate Per Hour

2) Time Rate at High Wage Level

The Time Rate is high than the Time rate in Ordinary Level. High Rate is an incentive.

If there is no increase in production, High wage increases Labour Cost

Payment = Hours Worked X High Rate Per Hour

3) Guaranteed Time Rate

The Payment is at the time rates but considering cost of living;

a) Merit Awards for Personal Qualities
b) Skill
c) Ability
d) Punctuality
e) Performance, etc.

Only the Quantity of the work taken into account and not the time taken

Payment = Rate Per Unit X Number of Unit Produced

Piece Rate

Straight Piece Rate System

Normal Piece Rate is Given on All output irrespective of Below Or Above Given Standard Quantity Produced

Tailor Differential Piece Rate

	Output %	Payment
1)	Below Standard	80% of Piece Rate
2)	Equal to Standard	120% of Piece Rate
3)	Above the Standard	120% of Piece Rate

Merrick Differential Piece Rate

	Output %	Payment
1)	Upto 83%	Ordinary Piece Rate
2)	83% to 100%	110% of Piece Rate
3)	Over 100%	120% of Piece Rate

Gantts Task Bonus Plan

	Output %	Payment
1)	Below Standard	Time Rate
2)	Equal to Standard	Bonus of 20% of Time Rate
3)	Over 100%	High Piece Rate for Entire Ouput

Piece Rate with Guaranteed Day Rate

Time Rate Or Piece Rate – Whichever is higher

Q. Calculate Earnings of the worker A, B and C under Piece Rate System
Normal Rate Per Hour - Rs.5.40
Standard Time Per Hour - 1 Minute

Output per day is as follows:
Worker A - 390 Units
Worker B - 450 Units
Worker C - 600 Units

Working Hours Per Day are 8

First we need to Calculate
➤ Standard Quantity for per day
➤ Standard Rate Per Unit (As we need to Calculate Piece Rate)

Std Qty - 8 Hrs X 60 Units = **480 Units**
Std Rate - Cost / Units = 5.40 / 60 = **Re.0.09 per unit**

I - STREIGHT PIECE RATE

= Total Quantity X Piece Rate

Worker A = 390 Units X 0.09
= **Rs.35.10**
Worker B = 450 Units X 0.09
= **Rs.40.50**
Worker C = 600 Units X 0.09
= **Rs.54**

II - TAILOR'S PIECE RATE

STND QTY = 480 (100%)
STND RATE = Re 0.09 per unit
Worker A = 390 Units X 0.072
(0.09X80%) = **Rs.28.08**
Worker B = 450 Units X 0.072
(0.09X80%) = **Rs.32.40**
Worker C = 600 Units X 0.108
(0.09X120%) = **Rs.64.80**

III - MERRICK PIECE RATE

STND QTY = 480 (100%)
STND RATE = Re 0.09 per Unit
Worker A (Efficiency = 390/480 = **81.25%**)
= 390 X 0.09 (0.09X100%)= **Rs.35.10**
Worker B (Efficiency = 450/480 = **93.75%**)
= 450 X 0.099 (0.09X110%) = **Rs.44.55**
Worker C (Efficiency = 600/480 = **125%**) =
= 600 X 0.108 (0.09X120%) = **Rs.64.80**

Time & Piece Rate / Bonus System

Halsey Premium Plan

- **A worker who takes the same time or more time than allowed (Standard) time receives his time rate.**
- In case Job is completed less than the allowed (Standard) time the worker is paid 50% of the Saved Time

Rowan System

- **Similar to the Halsey Plan, but a different method is used**
- The Bonus Hours are Calculated as the proportion of the time taken which the time saved bears to the time allowed

Emerson Efficiency Bonus System

	Output %	Payment
1)	Up to 66.67%	Time Rate
2)	At 100%	Time Rate + 20% Bonus
3)	Over 100%	1 % for every 1% increament

Time & Piece Rate / Bonus System (Bonus Plan

Halsey Premium Plan

Standard Time: 8 hrs
Rate per Hour: Rs 2

Worker A taken 8 Hours
Worker B taken 10 Hours
Worker C taken 6 Hours

FORMULA

= Standard Time + Bonus

= (Std Time X Time Taken) + Time Save X 1/2 Rate

Worker A = 8 Hrs X Rs.2 = **Rs.16**

Worker B = 10 Hrs X Rs.2 = **Rs.20**

Worker C = (6 Hrs X 2) + [2 X 1/2(2)]

= (6 Hrs X 2) + (2 X 1) = Rs.14

Time & Piece Rate / Bonus System (Bonus Plan

Rowan Premium Plan

Standard Time: 8 hrs
Rate per Hour: Rs 2

Worker A taken 8 Hours
Worker B taken 10 Hours
Worker C taken 6 Hours

FORMULA

= **Standard Time** + **Bonus**

= (Std Time X Time Taken) + Time Save X $\dfrac{\text{Time Taken}}{\text{Stnd Time}}$

Worker A = 8 Hrs X Rs.2 =   Rs.16.00

Worker B = 10 Hrs X Rs.2 =   Rs.20.00

Worker C = (6 Hrs X 2) + [2 X 6/8)

=   12   +   1.5 =   Rs.13.50