

Process Costing

Process costing is defined by Kohler as: “A method of accounting whereby costs are charged to processes or operations and averaged over units produced; it is employed principally where a finished product is the result of a more or less continuous operation, as in paper mills, refineries, canneries and chemical plants; distinguished from job costing, where costs are assigned to specific orders, lots or units.

FEATURES/CHARACTERISTICS OF PROCESS COSTING

- Process Costing Method is applicable where the output results from a continuous or repetitive operations or processes. Products are identical and cannot be segregated.
- It enables the ascertainment of cost of the product at each process or stage of manufacture.
- The output consists of products, which are homogenous.
- Production is carried on in different stages (each of which is called a process) having a continuous flow.

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FEATURES/CHARACTERISTICS OF PROCESS COSTING

- The input will pass through two or more processes before it takes the shape of the output. The output of each process becomes the input for the next process until the final product is obtained, with the last process giving the final product.
- The output of a process except the last may also be saleable in which case the process may generate some profit.
- The input of a process except the first may be capable of being acquired from the outside sources.
- The output of a process is transferred to the next process generally at cost to the process. It may also be transferred at market price to enable checking efficiency of operations in comparison to the market conditions.
- Normal and abnormal losses may arise in the processes.

APPLICATION OF PROCESS COSTING

There are number of industries where Process costing system can be used except where job, Batch or Unit Operation Costing is necessary. The following are examples of industries where process costing is applied:

1. Where the final product merges only after two or more process such as **paper** -the raw material, bamboo is made into pulp; pulp is a made into paper and then it is finished, glazed etc. for sale;
2. The product of one process becomes the raw material of another process or operation e.g. **refined groundnut oil** is the material for making vegetable ghee

Advantages:

1. It is possible to determine process costs periodically at short intervals. Average unit cost can be computed weekly or even daily.
2. It is simple and less expensive to find out the process costs.
3. It is possible to have managerial control by evaluating the performance of each process.
4. It is easy to allocate the expenses to processes in order to have accurate costs.
5. It is easy to quote the prices with standardization of process. Standard costing can be established easily in process type of manufacture.

The following are the main disadvantages of Process Costing:

1. Cost obtained at the end of the accounting period are only of historical value and are not very useful for effective control.
2. Valuation of work-in-progress is generally done of estimated basis which introduces further inaccuracies in total cost.
3. Where different products arise in the same process, it is not possible to exactly ascertain the total cost of the products.
4. If any error occurs while calculating average costs, it will be carried through all the processes to the valuation of work in process and finished goods.
5. The computation of average cost is more difficult in those cases where more than one type of product is manufactured and a division of the cost element is necessary.

TREATMENT OF LOSSES IN PROCESS COSTING

It is rare that the output of a process is equal to its input. In most of the cases, the output of a process is less than the input.

The difference between the input and output and output is called process loss. The process loss may be in the form of loss in **weight, scrapes or wastes.**

These process losses may be classified into:

- 1) Normal Loss
- 2) Abnormal Loss

NORMAL LOSS

The fundamental principle of costing is that the good units should bear the amount of normal loss. Normal loss is anticipated and in a process it is inevitable. It is included in total cost of the product due to which

cost per unit is increases. The cost of normal loss is therefore not worked out. The number of units of normal loss is credited to the Process Account and if they have some scrap value or realizable value the amount is also credited to the process account. If there is no scrap value or realizable value, only the units are credited to the process account.

ABNORMAL LOSS:

If the units lost in the production process are more than the normal loss, the difference between the two is the abnormal loss. It is excluded from total cost due to which **it does not affect the cost per unit of the product.**

The relevant process of account is credited and abnormal loss account is debited with the abnormal loss valued at full cost of finished output. The amount realized from sale of scrap of abnormal loss units is credited to the abnormal loss account and the balance in the abnormal loss account is transferred to the Costing Profit and Loss Account.

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If the actual production units are more than the anticipated units after deducting the normal loss, the difference between the two is known as abnormal gain. It is excluded from total cost due to which it does not affect the cost per unit of the product. The valuation of abnormal gain is done in the same manner like that of the abnormal loss. The units and the amount is debited to the relevant Process Account and credited to the Abnormal Gain Account.

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FORMAT OF PROCESS ACCOUNT

Process Account Format

Process I A/c

Particulars	Units	Rs.	Particulars	Units	Rs.
To Direct Material	XX	XXX	By Normal Loss A/c	XX	XXX
To Direct Wages		XXX	By Abnormal Loss A/c	XX	XXX
To Direct Expenses		XXX	By Process II A/c (output transferred. to next process)	XX	XXX
To Production Overheads		XXX	By Closing Stock A/c	XX	XXX
To Abnormal Gains	XX	XXX			
	XX	XXX		XX	XXX

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	Process X	Process Y
	Rs.	Rs.
Materials Consumed	6,000	3,000
Wages	7,000	4,000
Manufacturing expenses	2,000	2,000

10,000 units were brought into Process X, costing Rs. 5,000. The outputs were :

Process X	9,500 units
Process Y	8,500 units

Prepare Process Cost Accounts showing the cost of the output.

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Solution

Process X Account

Dr.				Cr.			
	Qnt.	Rate	Amount		Qnt.	Rate	Amount
		Rs.	Rs.		Rs.	Rs.	
To Units introduced	10,000	0.50	5,000	By Normal Loss			
" Materials			6,000	Scrap - 5% of			
" Wages			7,000	10,000	500	0.08	40
" Manufacturing Expenses			2,000	" Process Y A/c	9,500	2.10	19,960
				(output transferred)			
	10,000		20,000		10,000		20,000

Process Y Account

Dr.				Cr.			
	Qnt.	Rate	Amount		Qnt.	Rate	Amount
		Rs.	Rs.		Rs.	Rs.	
To Process X A/c	9,500	2.10	19,960	By Normal Loss			
" Materials			3,000	Scrap 10% of	950	0.10	95
" Wages			4,000	9,500			
" Manufacturing Expenses			2,000	" Abnormal Loss	50	3.376	169
				" Output transferred to Finished Stock A/c	8,500	3.376	28,696
	9,500		28,960		9,500		28,960

Working Notes :

$$\text{Process X Cost per unit} = \frac{\text{Total Cost} - \text{Value of Scrap}}{\text{Normal Production}} = \frac{20,000 - 40}{9,500} = \text{Rs. 2,101 approx.}$$

$$\text{Process Y Cost per unit} = \frac{28,960 - 95}{9,500 - 950} = \frac{28,865}{8,550} = \text{Rs. 3.376}$$

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References

1. Shukla, M.C., Grewal, T.S. & Gupta, M. P. Cost Accounting: Text and Problems. S. Chand & Co. Ltd., New Delhi.
2. Arora, M.N. Cost Accounting – Principles and Practice. Vikas Publishing House, New Delhi.
3. Jain , S.P. & Narang, K. L. Cost Accounting: Principles and Methods. Kalyani Publishers, Jalandhar.
4. Usry, M. E. & Lawrence, H. H. Cost Accounting: Planning and Control. South Western Publishing Co.