Foundations of Accounting & Finance

Prof. Arun Kumar Gopalaswamy

Department of Management Studies - IIT Madras

Week - 06

Lecture – 26

Preparation of Cost Sheet - Part II

Cost of Goods Manufactured *(In-Class Exercise: 1.3 Contd.)*

Use the additional information provided below to the exercise 1.2 and Calculate the Cost of goods manufactured.

- A factory holds opening WIP goods worth $25,000.
- The closing stock of WIP is $35,000

Factory overheads	Amount
Depreciation of machines – both dedicated and common-use	$12,500
Heating, lighting and water	$22,000

The factory holds the opening work-in-process goods worth about $25,000, with the closing work-in-process goods valued at approximately $35,000. Now, regarding the final calculation of the works cost or cost of production, let us denote the opening work-in-process as 'a' and the closing work-in-process as 'b'.

To calculate the works cost or cost of production we use the following formula:

Works Cost (P) = Works cost gross+ Opening WIP - Closing WIP

Factory overhead	N	1,21,800
Works cost GROSS (GROSS CoP)	O = M + N	1,92,300
opening work in process	a	25,000
Closing work in process	b	35,000
WORKS COST/COST OF PRODUCTION/COST OF GOODS MANUFACTURED	**P = O+a-b**	**1,82,300**

Cost of goods sold

Cost of goods sold is the next step after determining the cost of production. Unlike cost of sale, which includes various expenses, cost of goods sold only considers the value of finished goods inventory. This distinction is important because it focuses solely on the cost associated with the goods that are sold during a specific period.

Imagine a scenario where no manufacturing occurs in a given year. In this case, no direct material costs, direct labour costs, overhead expenses, prime costs, or work-in-process costs are incurred. However, this doesn't mean there is no cost of goods sold. Even if no manufacturing activities take place, there may still be finished goods inventory from the previous year. These goods represent a cost that has already been incurred and are now being sold.

Therefore, the cost of goods sold includes the cost of the finished goods that were manufactured in the past. It's the cost associated with the goods that are currently being sold, regardless of whether any new production occurs in the current period.

Cost of sale

Cost of sale is the value of the goods is the final value of the goods that is sold including the selling and distribution expenses. In the cost of goods sold we do not include the selling and distribution expenses.

Exercise 1.3

Use the excel sheet developed for Exercise 1.3 and add the following information to calculate Cost of goods sold and Cost of sales:

- The factory holds opening inventory of finished goods worth $95,000.
- The value of closing stock of finished goods is $45,000
- During the period, the company incurs the following overheads.

Company overheads	Amount
Sales commission and sales managers' salaries	$85,500
Office building heating, lighting and insurance	$37,000
Sales promotion advertising	$22,000

The factory holds an opening inventory of finished goods worth about $95,000. We are only concerned with the cost of goods sold at the moment, not the cost of sale. So, let us focus on the

cost of goods sold. The factory's opening inventory of finished goods is $95,000 (denoted as small letter c), and the closing inventory of finished goods (denoted as small letter d) is $45,000.

Therefore, the cost of goods sold (denoted as Q) is equal to the cost of goods manufactured (P) plus the opening stock of finished goods minus the closing stock of finished goods. So, the formula is Q = P + C - D.

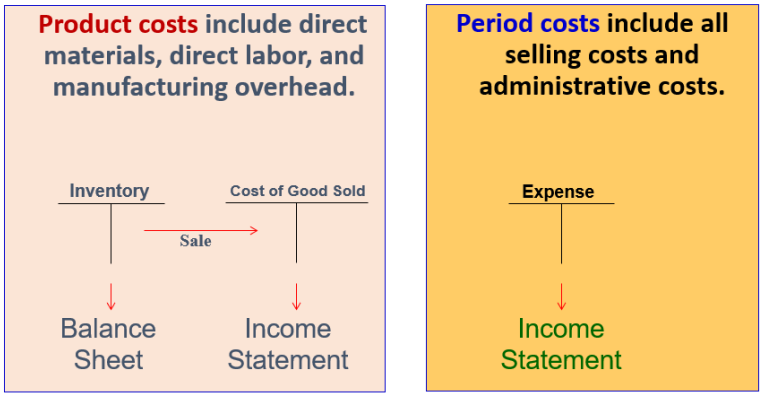
Substituting the values, we get the cost of goods sold as $232,300.

WORKS COST/COST OF PRODUCTION/COST OF GOODS MANUFACTURED	P = O+a-b	1,82,300
Opening inventory of finished goods	c	95,000
closing inventory of finished goods	d	45,000
COST OF GOODS SOLD	Q = P+c-d	2,32,300

To arrive at the cost of sale we add the sales promotion advertising cost to the cost of goods sold.

Cost Classifications

After discussing the cost of goods sold, we move on to other cost classifications. These include product costs, period costs, and non-manufacturing costs, such as selling and administrative expenses.



Product costs, directly associated with production, impact both inventory and the cost of goods sold in the income statement. On the other hand, period costs are time-bound expenses, such as administrative salaries and sales commissions, which affect only the income statement.

Non-manufacturing costs, which include administrative and selling expenses, are added to the cost of goods produced or manufactured to derive the cost of sale. This figure reflects the total cost incurred to sell goods, considering both production-related costs and non-manufacturing expenses.

To calculate the cost of sale, we consider the cost of goods sold and add the selling distribution overhead and office and administrative overhead to arrive at the final cost of sale.

Non-manufacturing overhead

Let us break down the non-manufacturing overhead costs. First, we will address administrative overhead, which includes expenses related to managing the organization. This encompasses sales commissions for sales managers, sales managers' salaries, office building expenses such as heating, lighting, and insurance. These administrative costs amount to approximately $85,500 in this case.

Additionally, we have selling and distribution overheads, which involve costs associated with promoting and advertising sales. Sales promotion and advertising expenses total around $22,000.

Combining these expenses, the total administrative overhead (R) is determined. Then, we calculate the total selling distribution expenditure (S). Finally, we sum up all non-manufacturing expenditures (represented as T = R + S), which include both administrative and selling distribution costs. In this scenario, the total non-manufacturing expenditure amounts to $144,500.

COST OF GOODS SOLD	**Q = P+c-d**	**2,32,300**
Administrative overhead		
office building heating lighting and insurance		37,000
	R	**37,000**
selling and distribution overhead		
sales commission and sales manager's salaries		85,500
sales promotion and advertising		22,000
	S	**1,07,500**
Total non manufacutring expenses	**T = R + S**	**1,44,500**

The cost of sale is determined by adding the non-manufacturing expenditure to the cost of goods sold (represented as U = T + Q). Essentially, it is the total expense incurred in selling the goods, inclusive of both manufacturing and non-manufacturing costs.

COST OF GOODS SOLD	Q = P+c-d	2,32,300
Administrative overhead		
office building heating lighting and insurance		37,000
	R	37,000
selling and distribution overhead		
sales commission and sales manager's salaries		85,500
sales promotion and advertising		22,000
	S	1,07,500
Total non manufacutring expenses	**T = R + S**	**1,44,500**
Cost of sale	**U = T + Q**	**3,76,800**

Exercise 1.5

Continuing from Exercise 1.4, find out the profit or loss with the following further information.

- The gross total sales for the year amounted to $3,82,760.
- Some of the goods that were sold were returned by customers during the year amounting to $10,400

The gross sales amount to $382,760. After deducting sales returns of $10,400, the net sales amount to $372,360. Next, to determine the profit or loss, we subtract the cost of sale (denoted as U) from the net sales. Let us denote this difference as Y. Therefore, Y = X - U. This calculation gives us the profit or loss incurred in this particular case.

Cost of sale	**U = T + Q**	**3,76,800**
Sales (Gross)	V	3,82,760
Less: Sales returns	W	10,400
Net Sales	**X = V - W**	**3,72,360**
LESS: Cost of SALE	U	3,76,800
Profit / Loss	**Y = X - U**	**-4,440**

Purpose of cost sheet

The purpose of cost sheet is to understand the categorisation of expenditures and amount of expenditure under each category and identify areas for cost control. By analysing various cost components as a percentage of sales, we can pinpoint where adjustments may be necessary to improve profitability.

First, we calculate the percentage of direct material cost and labour cost relative to sales. These calculations reveal that 4.3% of the sales value is attributed to material costs, while 13.43% is allocated to labour expenses. We also examine overall expenditure percentages, including direct

expenditure, prime cost, factory overhead, works cost, cost of goods sold, administrative overhead, and selling and distribution overhead.

Upon reviewing these percentages, we notice significant expenditures in various categories. For instance, factory overhead represents 32.71% of sales, while the cost of goods sold accounts for 62.39% of sales. Administrative overhead is 9.94%, and selling and distribution overhead is 28.87%. Additionally, non-manufacturing overhead comprises 38.81% of sales.

To control costs, we can assess each expenditure category and explore opportunities for optimization. For example, reducing work in process inventory or adjusting finished goods inventory levels can impact overall costs. Similarly, monitoring labour costs, selling and distribution expenses, and other overheads can help manage expenditures effectively.

By utilizing the cost sheet, which classifies costs into various categories, we gain insights into expenditure distribution and inventory positions. This information enables us to implement cost control mechanisms and improve overall financial performance.

In summary, the cost sheet provides valuable data for understanding expenditure patterns, identifying areas for cost reduction, and implementing effective cost control measures.

Direct Materials			
Materials purchased	A	20,000	
Add: Freight	B	1,500	
Less: Purchase returns	C	3,000	
cost of materials purchased	D= A+B-C	*18,500*	
ADD: Opening inventory of Raw material	E	2,000	
Less: Closing inventory of Raw material	F	4,500	
Total direct materials consumed	**G = D+E-F**	**16,000**	4.30%
Direct labor			
Actual incurred	H	45,000	
Accured labor cost	I	5,000	
Total Direct labor cost incurrred	**J = H+I**	**50,000**	13.43%
Direct Expenses			
Actual & accured	K	4,500	
Total direct expenses incurred	**L**	**4,500**	1.2%
PRIME COST	**M = G+J+L**	**70,500**	18.93%
Factory overhead			
cleaning supplies		3,800	
onsite materia inspection cost		3,500	
appointed a factory supervisor		60,000	
machine maintenance		20,000	
depreciation of machines		12,500	
heating lighting and water		22,000	
Factory overhead	**N**	**1,21,800**	32.71%
Works cost GROSS (GROSS CoP)	O = M + N	1,92,300	
opening work in process	a	25,000	
Closing work in process	b	35,000	
WORKS COST/COST OF PRODUCTION/COST OF GOODS MANUFACTURED	**P = O+a-b**	**1,82,300**	48.96%
Opening inventory of finished goods	c	95,000	
closing inventory of finished goods	d	45,000	
COST OF GOODS SOLD	**Q = P+c-d**	**2,32,300**	62.39%
Administrative overhead			
office building heating lighting and insurance		37,000	
	R	**37,000**	9.94%
selling and distribution overhead			
sales commission and sales manager's salaries		85,500	
sales promotion and advertising		22,000	
	S	**1,07,500**	28.87%
Total non manufacutring expenses	**T = R + S**	**1,44,500**	38.81%
Cost of sale	**U = T + Q**	**3,76,800**	
Sales (Gross)	V	3,82,760	
Less: Sales returns	W	10,400	
Net Sales	**X = V - W**	**3,72,360**	
LESS: Cost of SALE	U	3,76,800	
Profit / Loss	**Y = X - U**	**-4,440**	