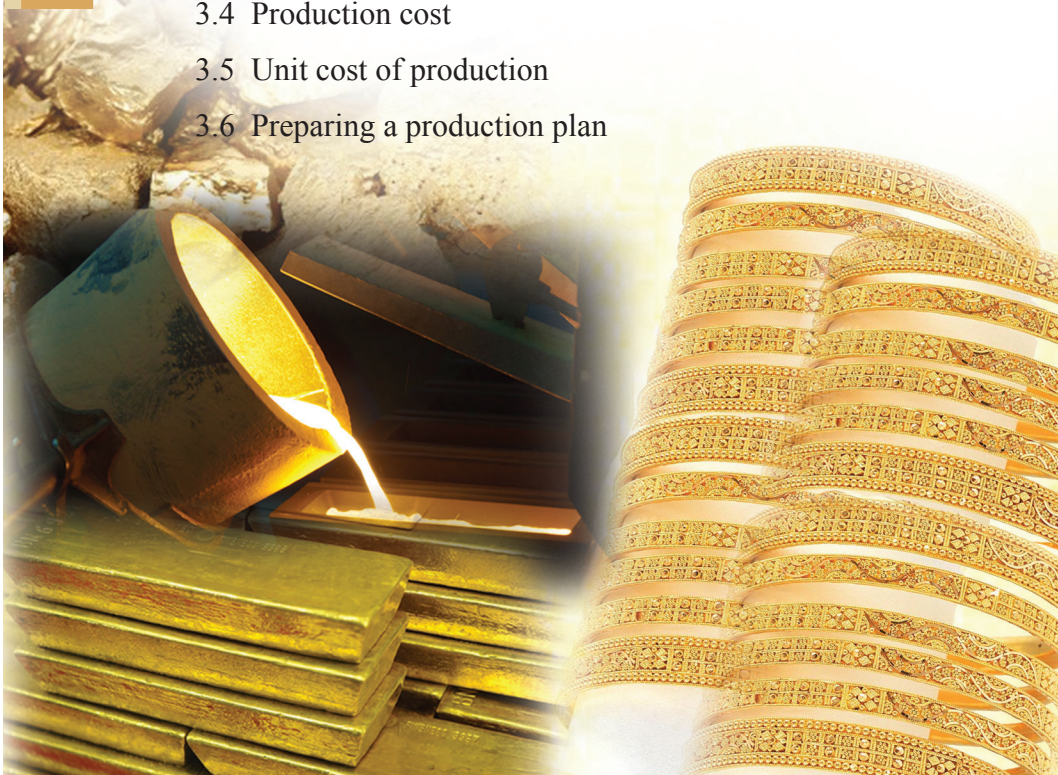


Chapter 03

Production plan

This chapter discusses the followings.

- 3.1 Introduction to a production plan
- 3.2 Production process
- 3.3 Production fixed assets
- 3.4 Production cost
- 3.5 Unit cost of production
- 3.6 Preparing a production plan



3.1 Introduction to a production plan

A production plan is another important element in a business plan. A production plan is prepared with the aim of calculating the production cost and the cost per one unit of the product.

You have already studied the marketing plan. There, the entrepreneur estimated the quantity of goods or services that he/she expects to sell. The next step is estimating the cost for producing that quantity of goods or services. This requires a production plan.

When producing any good or service, it is necessary to incur a cost. For instance, think of your exercise books. When producing exercise books, you will initially need paper, stapler pins and printed covers. You will also need machinery for cutting up and binding the books. In addition, you need employees to do all the work.

All of these result in some cost. When a large quantity of goods or services is produced, you will need more material and more workers, and the cost will increase as well. Therefore, a proper production plan must be prepared, taking all the expenses into account.

A production plan is the document estimating the cost for a number of production units.

Information included in a production plan

- ▮ Production process
- ▮ Production fixed assets
- ▮ Production cost
 - Material
 - Labour
 - Other costs (Production overheads)
- ▮ Unit cost

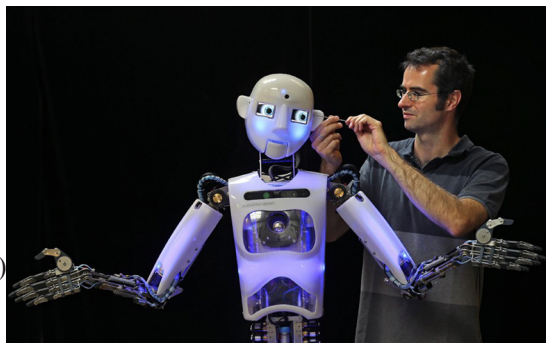



Figure 3.1

Now let us study these in more detail.

3.2 Production process

Production process describes how the goods or service will be produced. This includes details on what kind of input will be used, what changes will be made to the input, and what the final product will be. Here, input refers to the resources needed to produce some goods or service.

Let us try to understand the production process through the following example on how to make a cup of tea.

Input	Process of conversion	Output
Water	Put the water in to the kettle and boil	A cup of tea 
Sugar	Wash the utensils	
Tea leaves	Put milk powder and sugar into the jug and mix well	
Milk powder	Put the tea leaves in a jug and adding boiled water	
A teapot	Strain off the tea leaves to the jug where the milk powder and sugar and stir well	
A gas burner	Strain the milk tea into the cup which has been washed	
Gas		
A cup		
A jug		
A strainer		
A spoon		
A tray		
Labour		

Similarly, there is a production process for any product, indicating the relationship between the input and the output. This can be displayed as follows:



Activity 01

Explain the production process for each of the following:

- A wooden table
- A shirt
- A brick (made of clay)

3.3 Production fixed assets

Buildings, machinery, equipment etc that are used long term, again and again in the production process are known as production fixed assets.

3.4 Production cost

Production cost refers to the total cost incurred for material, labour and other expenses (production overheads) during the production of a product.

$$\text{Production cost} = \text{material} + \text{labour} + \text{other expenses}$$

Let us look at each of these separately.

Material and material cost

The input used in producing any goods or service is called material. The money spent on the material is the material cost.

In the previous example, water, sugar, tea leaves and milk powder can be considered material, and the cost incurred for them is the material cost.

Labour and labour cost

The process of converting input into output requires human labour. A payment must be made for labour, and this can be identified as labour cost. These payments are called salary and wages.

Other expenses incurred in production

Apart from the above, there are other expenses which are incurred through production activities. Such expenses can be taken as other expenses incurred in production. In the previous example, if there were an electric bulb lit at the time of making tea, it would also amount to a certain cost. Such general expenses are considered under this category. In addition, based on the lifetime of a fixed asset, a portion of its value should be deducted in the form of an expense. This is called depreciation.

In a manufacturing plant, electricity used for lighting, salary for the security guard, insurance coverage for the plant, depreciation of fixed assets etc are examples for other expenses.

3.5 Unit cost of production

When the total production cost is divided by the number of units produced, we get the production cost of one unit.

$$\text{Unit cost} = \frac{\text{Total production cost}}{\text{Number of units}}$$

3.6 Preparing a production plan

To further clarify the concepts discussed above, let us study the production plan prepared for the following case.

Given below is the estimate on production expenditure for the business owned by Maya Randiya. This enterprise manufactures 12 000 cement-and-sand concrete bricks per month.

Monthly expenditure estimate

Cement – 150 bags (Rs. 900 per bag)

Sand – 50 cubes (Rs. 6 000 per cube)

Lubricant oil – 20 liters (Rs. 50 per liter)

Water Rs. 3 000

Electricity Rs. 3 000

Maintenance Rs. 1 000

Trained labour – 1 person (Rs. 25 000 per month)

Untrained labour – 1 person (Rs. 10 000 per month)

Machinery depreciation Rs. 2 000

**Business of Maya Randiya
Production Plan**

Item	Monthly requirement	Unit price Rs.	Total expenditure
Cement (bags)	150	900	135 000
Sand (cubes)	50	6 000	300 000
Lubricant oil	20	50	1 000
Water	-	-	3 000
Electricity	-	-	3 000
Maintenance	-	-	1 000
Trained labour	01	25 000	25 000
Untrained labour	01	10 000	10 000
Machinery depreciation	-	-	2 000
Total production cost	-	-	480 000
Unit cost	480 000 ÷ 12 000		40



Activity 02

Given below is the list of daily expenses incurred by “Praneetha Sweets”, which produces 25kg of Kalu Dodol per day. Based on this, calculate the total production cost and the unit cost.

Item	Daily requirement	Unit price	Total expenditure
Sugar	15 kg	100	1 500
Rice flour	20 kg	100	2 000
Coconut (large)	20	50	1 000
Cashew nuts, cardamom, etc.	200 g	-	600
Fire wood (bundles)	04	100	400
Labour	1	1 500	1 500

Let's Answer

01. How would you identify the production plan?
02. What are the parts of a production plan?
03. What are 'production fixed assets'?
04. Explain the production process using an example.
05. Indicate how to calculate the unit production cost.

