

# Meaning and Objective of Production Planning & Control, Functions

Production planning and control is a tool available to the management to achieve the stated objectives. Thus, a production system is encompassed by the four factors. *i.e.*, quantity, quality, cost and time. Production planning starts with the analysis of the given data, *i.e.*, demand for products, delivery schedule etc., and on the basis of the information available, a scheme of utilization of firms resources like machines, materials and men are worked out to obtain the target in the most economical way.

Once the plan is prepared, then execution of plan is performed in line with the details given in the plan. Production control comes into action if there is any deviation between the actual and planned. The corrective action is taken so as to achieve the targets set as per plan by using control techniques.

Thus production planning and control can be defined as the “*direction and coordination of firms’ resources towards attaining the prefixed goals.*” Production planning and control helps to achieve uninterrupted flow of materials through production line by making available the materials at right time and required quantity.

The present techno-economic scenario of India emphasize on competitiveness in manufacturing. Indian industries have to streamline the production activities and attain the maximum utilization of firms’ resources to enhance the productivity. Production planning and control serves as a useful tool to coordinate the activities of the production system by proper planning and control system. Production system can be compared to the nervous system with PPC as a brain.

## **Production planning and control is needed to achieve:**

1. Effective utilization of firms’ resources.
2. To achieve the production objectives with respect to quality, quantity, cost and timeliness of delivery.
3. To obtain the uninterrupted production flow in order to meet customers varied demand with respect to quality and committed delivery schedule.
4. To help the company to supply good quality products to the customer on the continuous basis at competitive rates.

## **Need of Production Planning and Control**

Production planning is a pre-production activity. It is the pre-determination of manufacturing requirements such as manpower, materials, machines and manufacturing process. Ray wild defines “Production planning is the determination, acquisition and arrangement of all facilities necessary for future production of products.”

It represents the design of production system. Apart from planning the resources, it is going to organize the production. Based on the estimated demand for company's products, it is going to establish the production programme to meet the targets set using the various resources.

## **Production Control**

In spite of planning to the minute details, most of the time it is not possible to achieve production 100 per cent as per the plan. There may be innumerable factors which affect the production system and because of which there is a deviation from the actual plan. Some of the factors that affect are:

1. Non-availability of materials (due to shortage, etc.);
2. Plant, equipment and machine breakdown;
3. Changes in demand and rush orders;
4. Absenteeism of workers; and
5. Lack of coordination and communication between various functional areas of business.

Thus, if there is a deviation between actual production and planned production, the control function comes into action. Production control through control mechanism tries to take corrective action to match the planned and actual production. Thus, production control reviews the progress of the work, and takes corrective steps in order to ensure that programmed production takes place. The essential steps in control activity are:

1. Initiating the production,
2. Progressing, and
3. Corrective action based upon the feedback and reporting back to the production planning.

Following are the objectives of production planning and control functions:

1. Systematic planning of production activities to achieve the highest efficiency in production of goods/services.
2. To organize the production facilities like machines, men, etc., to achieve stated production objectives with respect to quantity and quality time and cost.
3. Optimum scheduling of resources.
4. Coordinate with other departments relating to production to achieve regular balanced and uninterrupted production flow.
5. To conform to delivery commitments.
6. Materials planning and control.
7. To be able to make adjustments due to changes in demand and rush orders.

# Roles & Responsibilities of PPC Manager

- Manage production control activities to reduce outages and incidents.
- Manage production planning and scheduling for on-time delivery.
- Recommend process improvements for high quality, cost effectiveness and excellent customer services.
- Evaluate system performance and recommend improvements.
- Supervise team members in their assigned job duties.
- Organize job trainings to employees to achieve production objectives.
- Ensure that team follows security and safety policies.
- Review the job orders with customers and production team to determine pricings and schedules.
- Monitor execution of job orders and adjust job schedule to meet the deadlines.
- Communicate the status of job orders to customers on regular basis.
- Attend daily meetings to prioritize and plan production activities to maintain on-time delivery.
- Review daily reports to identify and address equipment malfunctions, material shortages and other factory problems.
- Determine equipment, materials and staff needs to meet production schedule.
- Coordinate with Department Manager to develop company policies and procedures.
- Perform inventory management for timely delivery and for minimizing transportation charges.

## Forecasting Different Techniques of Production Forecast

### 1. **Brainstorming Technique**

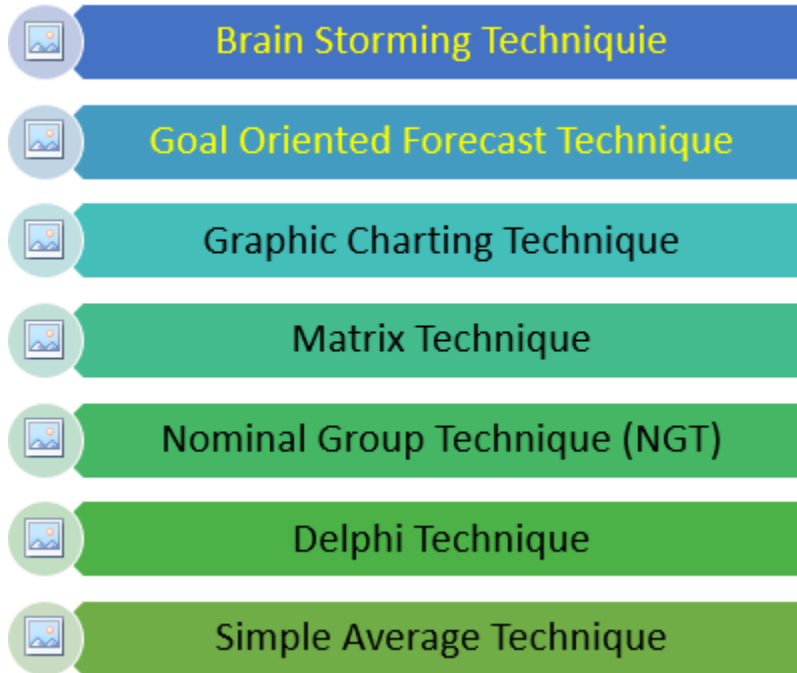
Brainstorming technique is used to forecast demand, especially for new products. In this method, many experts sit together and each expert gives his own idea (forecast) and reason for it. One idea leads to many more ideas. The group of experts will develop much more ideas than one person. Based on these ideas, demand can be forecasted.

### 2. **Goal Oriented Forecast Technique**

In this technique, a goal is first fixed. Then the technological developments which are required for achieving that goal is identified. Later, a forecast is made about when these technological developments would take place in the future. So, an estimate is made about the timing of these technological developments in an upcoming future. This method is used by large companies, which have their own research and development departments.

### 3. **Graphic Charting Technique**

Graphic charting technique is used to forecast future technological developments by plotting past technological developments on a logarithmic scale. This technique is based on the assumption that knowledge expands. This technique estimate, when the next major (big) technological development is likely to take place.



### 4. **Matrix Technique**

Matrix is a combination of two or more matters relating to the production process. A matrix is prepared with technological developments, product functions and time factor. Matrix technique is comprehensive. It is flexible and so it can adjust with the changing times. This technique is used only by large companies.

### 5. **Nominal Group Technique (NGT)**

In nominal group technique (NGT), the group members think independently. Each group member contributes his own ideas. This technique does not allow interaction between the group members at an early stage. Interaction takes place only when the ideas are presented by every single member of the group.

### 6. **Delphi Technique**

Delphi technique is very much similar to the brainstorming technique. The only difference between brainstorming and Delphi technique is that in a Delphi method, group members don't

interact personally. Here, such personal interaction is impossible because group members are physically present at different places.

## 7. **Simple Average Technique**

In simple average technique, forecasts are based on the average value for a given period of time.

A simple average (SA) is the average of demand (sales) for all previous periods. The demands of all periods are equally weighted.

SA equals 'Sum of Demands for all periods' divided by 'Number of periods.'

Average calculations are made at different intervals in order to reduce error due to seasonal variations. Instead of taking the simple average of the full year's sales, quarterly averages or monthly averages are taken. This gives realistic trends. Averaging reduces the chances of being misled by gross fluctuations that may take place in any single period. However, if the underlying pattern changes over time, simple averaging will not detect the change.