

## **Importance of Production Planning and Control in Small Manufacturing Enterprises**

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**Abstract:** SMEs are growing nowadays. The companies are dependent on SMEs. SMEs are acting as vendor for them. For fulfilling the order of the big companies the SMEs have to deliver the product within schedule time. This has compelled the SMEs to look into the production planning and control of the unit. If the SMEs properly apply the PPC, the production system is going to be fastened and tries to focus over that of the SMEs by taking pragmatic approach in that regard.

**Keywords:** Control, Planning, Production, Vendor

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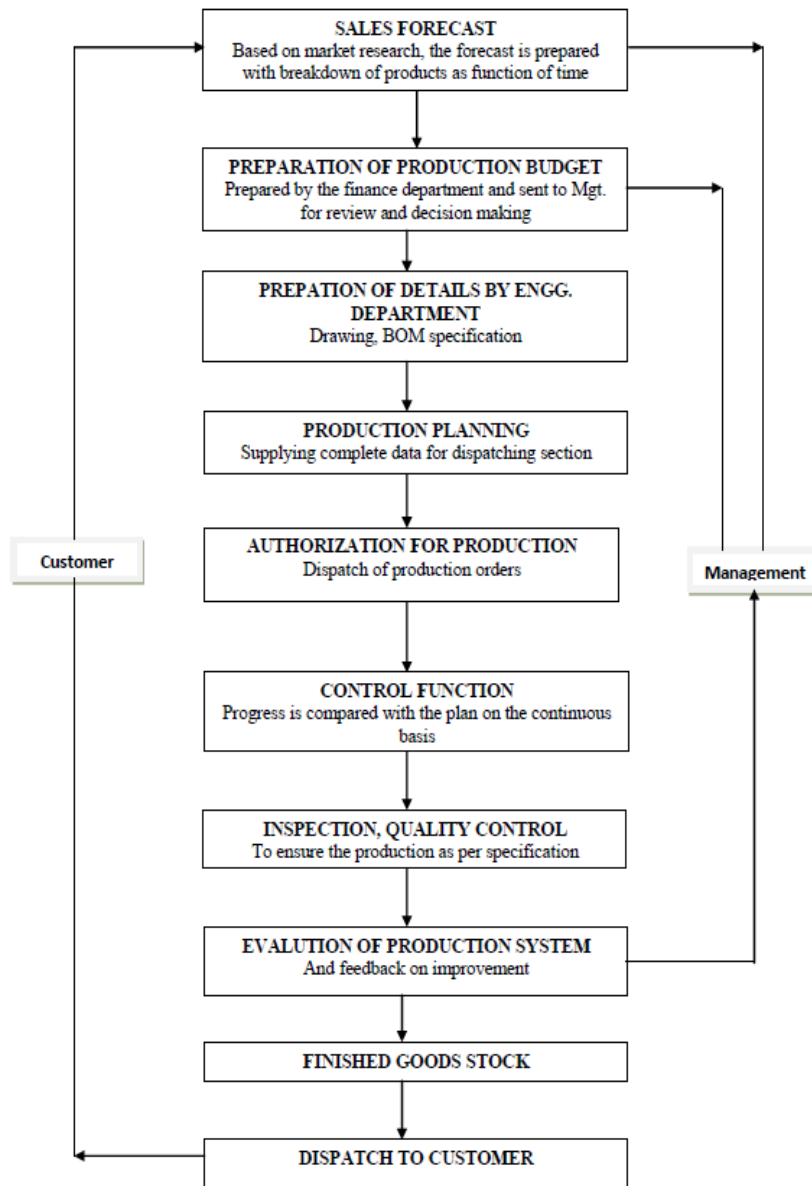
### **I. Introduction**

For any production unit production planning and control (PPC) plays a crucial role in this regard. The big companies are implementing PPC but the SMEs not giving due importance to that context because of lack of knowledge and idea in doing so. SMEs are labour intensive industry. If the production system is not implementing the PPC, automatically the inventory as well as other resources will not be properly utilized.

The SMEs must focus on the PPC that is going to give its result in a positive way by the improvement of productivity and profit. In addition to that while making routine for proper plant layout, raw materials requirement are to be considered. While doing schedule, utilization of resources and maintenance of machineries are to be taken into account considered before going for dispatching. The dispatching that is followed by follow-up function of PPC.

### **II. Literature Review**

According to Saini, in the small firms, most of the activities are concentrated on a few persons, who are equipped with more general abilities and the less of operations management domain skills. The effectiveness of such firms is reported as poor. According to Panizzolo, research in the area of modernizing the PPC usage in SMEs can contribute much to improve SME performance. Most of the research literature in the advancement of PPC is reported from large firms. But the importance of modern PPC in SMEs and the related benefits derived from improved SME performance to the economy are being realizing by the business world. According to Charles A. Koepke, production planning and control may be defined as the coordination of the series of functions according to a plan which will economically utilize the plant facilities and regulate the order movement of goods during the entire manufacturing cycle, from the procurement of all materials to the shipping of finished goods at a predetermined rate. According to Suzigan (1989), the transition to a new growth pattern and a "new technological trajectory", are accelerated from 1977-78 with the development of new technologies, products and manufacturing processes. Micro and small enterprises grow in importance every day in the economic scenario in Brazil. As per opinion of Dolabela (1999), micro, small and medium enterprises are important agents of development communicators. Hax and Meal (1975) introduced the notion of hierarchical production planning and provide a specific framework for planning hierarchy, whereby there is an optimization model with each level of the hierarchy. A capacitated Material Requirement Planning (MRP)-based model is proposed by Horiguchi et al. (2001). The finite capacity planning gives better predictability than dispatching rules such as Critical Ratio (Rose 2002).



**Fig.1.** Production Procedure

### III. Need For Ppc

The present techno-economic scenario of the world emphasized on competitiveness in manufacturing. To be in competition SMEs have to streamline the production activities and attain the maximum utilization of firm 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 nervous system with PPC as a brain. Production planning and control is needed to achieve effective utilization of SMEs resources, production objective with respect to quality, quantity, cost and timeliness of delivery, to obtain uninterrupted production flow in order to customer varied demand with respect to quality and committed delivery schedule and to help the company to supply a good quality products to the customer on the continuous basis at competitive rates.

Production planning is a pre-production activity. It is the pre-determination of manufacturing requirements such as manpower, materials, machines and manufacturing process.

As per Ray Wild definition “production planning is the determination, acquisition and arrangement of all facilities necessary for future production of product. It represents the design of production system. Apart from planning of the resources, it is going to organize the production”. Based on the demand for SME’s products, it is going to establish the production programme to meet the target set for using the various resources.

#### IV. Objectives of Ppc

- Systematic planning of production activities to achieve the highest efficiency in production of goods.
- To organize the production facilities like machines, men, etc. to stated production objectives with respect to quantity and quality time and cost.
- Optimum scheduling of resources.
- Coordinate with department relating to achieve regular balanced and uninterrupted production flow.
- To confirm delivery commitments.
- Materials planning and control.
- To be able to make adjustments due to changes in demand and order.

#### V. Casestudy

ABC Company is a manufacturing enterprise. It is located in the Hooghly district of West Bengal in India. The main product of the enterprise is lamp which is used in the cars. In the competitive market it cannot reach at the dead line of the customer due to inadequate planning, lack of inventory control and rejection of product and due to these reasons, the higher authority of the organization wants to change the existing production planning & control system and to face the competitive market in a better way.

#### VI. Methodology

The particular SMEs unit has been observed minutely. The variable production processes have been analyzed along with the report of the customer feedback. The information is collected from purchase department. The past record of the productivity is studied. The interaction made across the hierarchy of the production unit to find out what kind of PPC they are performing at present. In that way a detailed analysis is being made to find the root cause of the problem in PPC of the concerned SME.

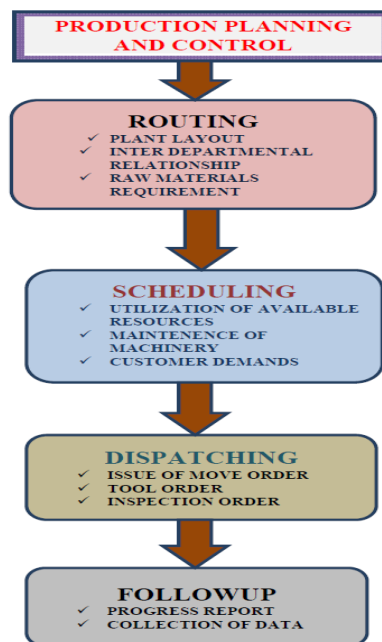


Fig. 2 Production Planning and Control

Production planning and control is an important tool in a manufacturing enterprise because it consists of four main steps like- routing, scheduling, dispatching and follow up. The first step is routing. Routing is nothing but a selection of path through which all steps of operations or sequence of operations takes place. It is followed by plant layout; inter departmental relationship and raw material. Raw material is the initial product in the production system which is transformed ultimately into finish product. The second step is scheduling. Scheduling indicates time specification. It deals with proper utilization of resources like-man, machine, materials, etc., proper maintenance of machineries and customer deadlines. The third steps, dispatching gives the authorization to the worker to start the work. It deals with issue of move order, tool order, inspection order, etc. The last phase of the PPC is follow up. This phase is also known as controlling phase. It indicates delays or deviations from the planning stage. It is directly related to progress report and data collection.

## **VII. Conclusion**

The production planning and control is an important part for any SME. The production system of the SME can be smoothened by systematic production procedure as well as proper and judicial application of PPC in its system. This will reduce the idle time of the worker and optimum utilization of inventory while doing the production in the SMEs. The routing, scheduling, dispatching and follow up are to be done minutely considering various factors and parameters that are applicable for the SMEs. The proper production, planning and control in the SME will give the advantage in the competitive market and to face the challenges with a firm edge.

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