



PRODUCTION PLANNING AND CONTROL IN KERALA SIDCO GOVERNMENT INSTRUMENT WORKSHOP, TRIVANDRUM - A SURVEY REPORT.

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Abstract: The study is entitled “Production Planning and Control in Kerala SIDCO Government Instrument Workshop, Trivandrum - A Survey Report”. Production planning and control address a fundamental problem of low productivity, inventory management and resource utilization. Production planning is required for scheduling, dispatch, inspection, quality management, inventory management, supply management and equipment management. Production control ensures that production team can achieve required production target, optimum utilization of resources, quality management and cost savings. The objective of the study is to identify whether production planning and control practices lead to increased productivity in Kerala SIDCO Government Instrument Workshop Trivandrum. To find out the optimum utilization of resources and to analyze the efficient use of equipment and facilities in Kerala SIDCO Government Instrument Workshop Trivandrum. The primary data were collected using questionnaire and personal interview techniques. Secondary data is second-hand data collected by other parties and already having undergone statistical analysis. The sample size collected for the study is 50 employees. The collected data were analyzed by using relevant statistical techniques like Percentage Analysis, Chi-squared test Weighted Average method. This study revealed that SIDCO has a low production planning system and they need to implement some changes to achieve maximum productivity in the near future.

Keywords - Production Planning and Control, SIDCO, Government Instrument Workshop.

I. INTRODUCTION

An issue which usually generates a great deal of attention from most managers, administrators and those involved in Production Management is the issue of how to increase their productivity. For efficient, effective and economical operation in a manufacturing unit of an organization, it is essential to integrate the production planning and control system. While planning and controlling are one of the main managerial concepts that gives great importance to the success of an organization. The more the productivity of a company the more is its profit and its success. Production planning and control address a fundamental problem of low productivity, inventory management and resource utilization. Production planning is required for scheduling, dispatch, inspection, quality management, inventory management, supply management and equipment management. Production control ensures that production team can achieve required production target, optimum utilization of resources, quality management and cost savings.

Production planning is one part of production planning and control dealing with basic concepts of what to produce, when to produce, how much to produce, etc. It involves taking a long-term view at overall production planning. Production planning and control is involved with implementation of the plans, i.e., detailed job scheduling, assignment of workloads to machines (and people), and actual work flow through the system. Production is an organized activity whereby raw materials are converted into useful products. Production work is carried out in a broad range of production and service sectors. Production system involves the optimum use of natural resources such as people, energy, machinery, materials and time. Coordinate production planning and monitoring with the different departments: like manufacturing, marketing, distribution, warehouse and other divisions depending on the organizational design. Production preparation and control collects data from marketing departments relating to orders. Production plan is prepared in production planning and control, based on marketing and production data. Thus, production planning and control can be defined as the “direction and coordination of firms resources towards attaining the prefixed goals”.

II. COMPANY PROFILE

SIDCO, a Government owned Public Sector Corporation, was established in November 1975 for the development and promotion for Small Scale Industries in Kerala. God's own Country, Kerala, is gifted with abundant natural resources essential for establishing Industrial Units and SIDCO is taking the initiative to set up industrial units. Kerala SIDCO as a 'Total Solution Provider' for Small Scale Sector offers all facilities and assistance to set up Small Scale Units across Kerala. The corporation is rendering valuable assistance to the industrial sector in the State, including Consultancy Services at the beginning of the project to the Identification of Industrial Site, Commissioning of project, providing infrastructure facilities, Distribution of essential raw materials, Marketing of the MSME Products, Undertaking civil and electrical works etc.

III. PRODUCT PROFILE

SIDCO produces their own products and sells them to the Government, schools and colleges laboratory etc. Their main customers are Government department, hospitals, police department, and central Govt. Health department. Their main products are...

- Plastic granules
- Wax
- Coal, sheet
- Cement
- Land survey instrument
- Steel furniture & ceiling
- Pressure die cast
- Jigs and fixtures
- Lab equipment
- Computer tables

IV. STATEMENT OF PROBLEM

This report is a problem-oriented study conducted in Kerala SIDCO Government Instrument Workshop". Production planning and control address a fundamental problem of low productivity, inventory management and resource utilization. Production planning is required for scheduling, dispatch, inspection, quality management, inventory management, supply management and equipment management.

V. NEED FOR THE STUDY

Planning and control are an essential ingredient for success of an operation unit. The benefits of production planning and control are as follows: It ensures that optimum utilization of production capacity is achieved, by proper scheduling of the machine items which reduces the idle time as well as over use.

VI. OBJECTIVES OF THE STUDY

- To identify whether production planning and control practices lead to increased productivity in Kerala SIDCO Government Instrument Workshop, Trivandrum.
- To find out the optimum utilization of resources in Kerala SIDCO Government Instrument Workshop, Trivandrum.
- To analyze the efficient use of equipment and facilities in Kerala SIDCO Government Instrument Workshop, Trivandrum.

VII. RESEARCH DESIGN

7.1 Sampling Method

Research methodology is a way of explaining how a researcher intends to carry out their research. It's a logical, systematic plan to resolve a research problem. A methodology details a researcher's approach to the research to ensure reliable, valid results that address their aims and objectives. Researching organizational goals and objectives have always been a challenge. There are many ways of meeting these goals and communication plays an integral part in doing so through organizational communication, and stimulation and motivation of employees could be achieved. It encompasses what data they're going to collect and where from, as well as how it's being collected and analyzed.

7.2 Sources of Data Collection

Before an analyst begins collecting data, they must answer three questions first:

- What's the goal or purpose of this research?
- What kinds of data are they planning on gathering?
- What methods and procedures will be used to collect, store, and process the information?

The data collection used for this research work is the collection of primary and secondary data.

a) Primary Data

Primary data were collected using Questionnaire and personal interview techniques. This process is the initial information gathering step, performed before anyone carries out any further or related research. Primary data results are highly accurate provided the researcher collects the information. It is carried out by collection from the respondents by a structured questionnaire, through observation, interview and also with discussion with the management as well as with the employees.

b) Secondary Data

Secondary data is second-hand data collected by other parties and already having undergone statistical analysis. This data is either information that the researcher has tasked other people to collect or information the researcher has looked up. Secondary data is collected from organization's records, brochures, text, journals, other project works and company's official website. The data collected from sources other than primary sources are called secondary data. The sources of secondary data are:

- Company Brochures.
- Company Websites.
- Company Records

7.3 Population of the Study

The sample size collected for the study is 50 employees

7.4 Sample Design

A sample design is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample. Sample design has to be determined before the data collection.

7.5 Tools Used for Analysis

- Percentage Analysis
- Chi-Square Analysis
- Weighted Average Method

7.6 Period of Study

The period of study is from 02/05/2022 to 14/07/2022.

7.6 Limitations of the Study

- The study was made only on one enterprise and inter firm comparison was not possible.
- It is not possible to study each and every production activity provided by SIDCO.
- The study is confined to only limited area so that the results cannot be generalized.
- Time is the major limitation in the course of study.
- Production planning and control is a vast subject so only the common factors that are influencing are considered for the study.

VIII. ANALYSIS AND INTERPRETATION OF DATA

8.1 Percentage Analysis

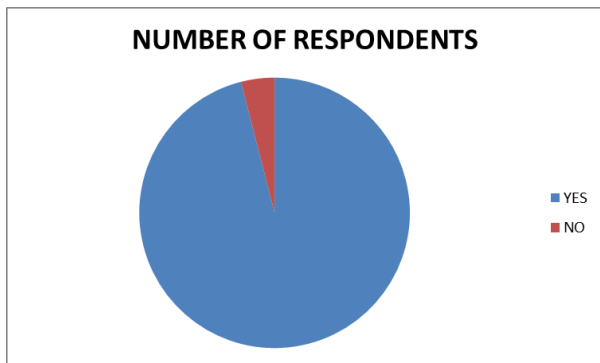
The present chapter provides a detailed in-depth analysis on the field survey observations on welfare measures adopted in SIDCO. The response obtained from the distribution of structured questionnaire to the sample respondents are tabularized percentage analysis is applied. The results along with the interpretations are specified below.

8.1.1 Importance of Production Planning and Control to the success of any Manufacturing Company:

Response	No. of Respondents	Respondents Percentage (%)
Yes	48	96
No	2	4
Total	50	100

Source: Primary Data

Figure showing Importance of Production Planning and Control to the success of any Manufacturing Company



Interpretation

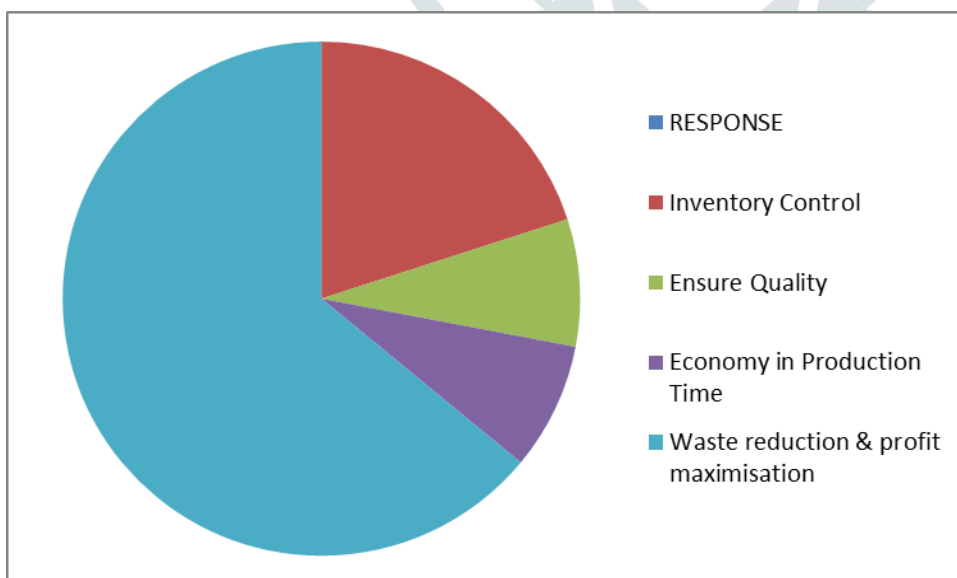
From the above table and figure, it is found that 96% responded as Yes and 4% responded as No.

8.1.2 Objectives of Production Planning:

Response	No. of Participants	Respondents Percentage (%)
Inventory Control	10	20
Ensure Quality	4	8
Economy in Production Time	4	8
Waste Reduction & Profit Maximisation	32	64
Total	50	100

Source: Primary Data

Figure showing Objectives of Production Planning



Interpretation

From the above table and graph, it is found that 20% responded as inventory control, 8% responded as ensure quality, 8% responded as economy in production time and 64% responded as waste reduction and profit maximization.

8.2 CHI-SQUARE ANALYSIS

Null Hypothesis - Ho: There is no significant relation between the employees and employee productivity.

Alternative Hypothesis - H1: There is significant relation between employees and productivity.

Observed Frequency	Expected Frequency	O-E	(-)	(-)
33	9.6	0.4	0.16	0.0166
8	14.4	-0.4	0.16	0.0111
6	14.4	0.4	0.16	0.0111
3	21.6	-0.4	0.16	0.0007
2	23.4	0.4	0.16	0.0005

$$E=0.0395$$

$$\chi^2 = \sum (O - E)^2$$

$$\text{Degree of Freedom} = (C-1)(R-1)$$

$$= (2-1)(2-1)$$

=1

IX. FINDINGS

- 96% of the respondents responded that production planning and control is essential to success for any manufacturing company
- 64% of the respondents said that waste reduction and profit maximization are the main objectives of production planning.
- 96% agree that planning contributes to efficient use of facilities and equipment.
- 84% of the respondents said as per the customer needs the production is planned.
- 68% of the respondents gave 3 scale rating for the employee's motivation understood by the organization.
- 82% of the respondents agree that the production has slowed down substantially.
- 94% of the respondents agree that the company's vision is motivating them.
- 52% of the respondents responded neutral that the resources are utilized as per their need for production.
- 96% of the respondents said Yes that the equipment used in the company needs upgradation.
- 84% of the respondents agree that the company has a proper inventory management.
- 72% of the employees responded neutral that the employees are aligned with the Company's mission.
- 78% of the respondents say that control measures are taken to increase the productivity.
- 76% of the respondents rated the importance of planning and control measures to increase the productivity as very important.
- 90% of the respondents have heard the importance of ERP (Enterprise Resource Planning).
- 70% of the respondents strongly agree that new software solutions can help with scheduling, inventory and monitoring workflow.
- 88% of the respondents agree that revision of plan must be done to increase the productivity.

X. SUGGESTIONS

- The company needs to upgrade their equipment to increase the productivity.
- Some software solutions will help in future for efficient scheduling, inventory and monitoring workflow.
- The company should take some control measures to increase productivity by proper revision of plans.
- From the analysis, 78% of the respondents are not satisfied with the strategic intent of the company so they need to take some further steps to check and rectify it.
- The resources need to be utilised only as per the need in order to increase the productivity.
- The company needs to implement Enterprise Resource Planning (ERP) software that help to track all of all the moving parts of manufacturing and distribution.
- The employee's motivation must be understood well by the company as labour workforce is also an essential one for a company's productivity.
- The company needs to take corrective actions and revise plans to increase the productivity.
- Some of its employees are not satisfied with the strategic intent of the company as it needs to be rectified and found out the reason behind.
- Revision of plan must be done soon to help the company with better and efficient towards productivity.

XI. CONCLUSION

Without efficient planning and control no business company can fulfil its objective of earning a profit. Production planning and control not only aids the companies to determine the convenient production procedure they need to follow but also reveals the risk factors which they are likely to face during the manufacturing process. For optimal production planning, one needs to make sure

all the processes and elements connected to it are properly managed, from the availability of materials, equipment, and labour to machine performance and production schedule. After doing this project I am in a position to conclude that SIDCO has a low production planning system and they need to implement some changes to achieve maximum productivity in the near future.

REFERENCES

- Dabre, Dr Mahesh C. "A Study of Role of Production Planning System." Indian Journal of Applied Research 3, no. 5 (October 2011).
- Fargher, Hugh E., and Richard A. Smith. "Method and system for production planning." U.S. Patent No. 5,586,021. 17 Dec. 1996.
- ZHANG, Z. & BARSON, R.J.: "A framework for Production Management". Proceedings of POM 99 Conference, Charleston SC, March 20-23, 1999.
- Krug, H. "Growth Models for Production Planning." Acta Horticulturae, no. 174 (December 1985).
- Mitropoulos, Costas, Dennis W. McLeavey, and Seetharama L. Narasimhan. "Production Planning and Inventory Control." Journal of the Operational Research Society 36, no. 6 (June 1985).
- Olhager, Jan, and Joakim Wikner. "Production planning and control tools." Production Planning & Control 11, no. 3 (January 2000).
- Jack Hammesfahr, R. D., James A. Pope, and Alireza Ardalan. "Strategic Planning for Production Capacity." International Journal of Operations & Production Management 13, no. 5 (May 1993).

