

Use of Information Technology to Improve Production Management in Industries

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Abstract

Production management, also called operations management, planning and control of industrial processes to ensure that they move smoothly at the required level. Techniques of production management are employed in service as well as in manufacturing industries. It is a responsibility similar in level and scope to other specialties such as marketing or human resource and financial management. Production management includes responsibility for product and process design, planning and control issues involving capacity and quality, and organization and supervision of the workforce in manufacturing operations. Information Technology plays an important role in production management. This review paper illustrates the use of information technology to improve production management in industries

Keywords: Production Management, information technology.

I. Introduction

Industry improved in three aspects of production inputs, outputs and products can be investigated this means that any company can improve the efficiency of production inputs, improve production processes by reducing costs and time or increase product quality in a better place.

In today's world, information is the most valuable asset of any organization so that the importance of information technology and its effects has grown tremendously and sense its growth and development.

Meaning of Production Management

Production Management can be defined as the management of the conversion process, which converts land, labor, capital, and management inputs into desired outputs of goods and services. It is also concerned with the design and the operation of systems for manufacture, transport, supply or service. Production management involves application of planning, organizing, directing and controlling the production process. Production Management refers to the application of management principles to the production function in a factory.

- (i) First is the development of factory system of production. Until the emergence of the concept of manufacturing, there was no such thing as management as we know it. It is true that people operated business of one type or another, but for the most part, these people were owners of business and did not regard themselves as managers as well,
- (ii) Essentially stems from the first, namely, the development of the large corporation with many owners and the necessity to hire people to operate the business,
- (iii) Stems from the work of many of the pioneers of scientific management who were able to demonstrate the value, from a performance and profit point of view, of some of the techniques they were developing.

The main activities of production management can be listed as:

- (i) Specification and procurement of input resources namely management, material, and land, labour, equipment and capital.
- (ii) Product design and development to determine the production process for transforming the input factors into output of goods and services.
- (iii) Supervision and control of transformation process for efficient production of goods and services.

Functions of Production Management

The concept of production management is related mainly to the organizations engaged in production of goods and services. Earlier these organizations were mostly in the form of one man shops having insignificant problems of managing the productions.

But with development and expansion of production organizations in the shape of industries more complicated problems like location and lay out, inventory control, quality control, routing and scheduling of the production process etc. came into existence which required more detailed analysis and study of the whole phenomenon.

This resulted in the development of production management in the area of industry management. In the beginning the main function of production management was to control labour costs which at that time constituted the major proportion of costs associated with production.

But with development of industry system towards mechanization and automation the indirect labour costs increased tremendously in comparison to direct labour costs, e.g., designing and packing of the products, production and inventory control, plant layout and location, transportation of raw materials and finished products etc. The planning and control of all these activities required more expertise and special techniques. In modern times production management has to perform a variety of functions, namely:

- (i) Design and development of production process.
- (ii) Production planning and control.
- (iii) Implementation of the plan and related activities to produce the desired output.
- (iv) Administration and co-ordination of the activities of various components and departments responsible for producing the necessary goods and services.

However, the responsibility of determining the output characteristics and the distribution strategy followed by an organization including pricing and selling policies are normally outside the scope of Production Management.

Scope of Production Management

The scope of production management is indeed vast. Commencing with the selection of location, production management covers such activities as acquisition of land, constructing building, procuring and installing machinery, purchasing and storing raw materials and converting them into saleable products. Added to the above are other related topics such as quality management, maintenance management, production planning and control, methods improvement and work simplification and other related areas.

The Basic Principles of Production Management

Production management involves the planning, organisation, direction and execution of production activities. The ultimate goal of any production management solution is to convert a collection of raw materials into a finished product.

These constituents come together to provide consumers and businesses with products that they need or want.

The production management principles are often referred to as operation management principles, and they are designed to facilitate the production of goods that are of the required quality and quantity.

II. Role Of Information Technology

IT plays an important role in various sectors and industries. Similarly, IT strives to make things simpler in the manufacturing sector as well.

In an industry that automates things for the benefit of humankind, IT helps to make the manufacturing process less cumbersome and more automated. IT helps drastically in delivering just-in-time insights, swift visibility, and seamless innovation for implementing new-age solutions.

Consumers are spending truckloads in emerging economies, but the focus now is much on manufacturing excellence and innovation rather than just state-of-the-art machine production. Manufacturers have to push their industry further and farther in terms of complex routines especially, make-to-order and make-to-stock processes so that they can deliver products on a configure-to-order requirements market.

Intense competition is one of the key points of concern for the manufacturing industry. Manufacturers have to develop and deliver cost-effective decisions, which are sure to stand the test of time. The regulations also impose flexible controls so that the enterprise thrives in the right direction.

Countering Supply chain complexity is important since the traditional supply chain is now not in use. Companies are procuring information and machinery from low-cost centers that are currently very popular. The highly complex supply chains are hence full of hassles, which prompted the need for efficient management and optimization.

Realizing value from all IT investments is also a challenge for the manufacturing sector, but that is now changing. With IT increasing the flexibility in global operations, the manufacturing industry is ready to simplify and standardize their automation systems and support organizations.

Global manufacturers spend heavily on several operations and for increasing efficiencies and quality and for complying with regulatory norms. IT companies now offer custom solutions for the industry with the required bandwidth to innovate on diverse business models.

The latest trends also indicate various multi-dimensional services spanning IT that aim to transform businesses, change the design, and boost value-added services including infrastructure management and the like.

Production Management Software

SYSPRO ERP Software provides a fully integrated set of tools to help you plan, execute, record, track and control your output.

Streamlining the Planning Process

For more efficient operations, SYSPRO Requirements Planning uses projected demand and supply to assist you in planning and creating realistic production, purchasing and supply transfer schedules. It also identifies capacity constraints and maintains optimal stock holdings in a multi-site and multi-warehouse environment.

Synchronize Supply with Demand

Smart MES (Manufacturing Execution System) Manager for SYSPRO, powered by LYNQ, helps manufacturers compete in today's market. Planning Manager, Workforce Manager and Factory Manager have been designed to help you increase output and reduce costs by automating your business processes and connecting your factory.

Design and Engineering Collaboration

To improve efficiencies, SYSPRO solutions foster the centralized management and control of the product design process, while its comprehensive security, customization and multi-lingual capabilities enable you to provide tailored access to external collaborative partners around the globe.

Manage Inventory

For improved customer service and profitable management, effective inventory management should be a priority for every manufacturing or distribution business. These businesses need a unified view of inventory, which requires real-time data at each stocking location – in transit, at the finished goods warehouse, on the factory floor, expected components and raw material from suppliers, and outstanding orders from customers.

Production management software from SYSPRO provides comprehensive inventory management tools to ensure there is visibility of inventory across the supply chain to meet the demands of the business, assisting in the elimination of over-stocking and tying up of capital.

Manage Product and Part Traceability

To ensure operational efficiencies and meet the critical compliance requirements, SYSPRO provides traceability from material origins through manufacture to final destination. Our Lot Traceability and Serial Tracking functionality afford full visibility to the origins, build and sales destination of products, providing the means to easily trace and analyze the source of defects, should they occur.

Reduce Time-to-Market

In industries that require customizable end-products, flexibility, speed and accuracy in meeting customer demand are essential. SYSPRO provides you with the tools in order to manage your business successfully, ensuring a healthy profit while staying competitive.

Improved Electronic Collaboration with Trading Partners

Production management software from SYSPRO enhances your ability to harness e-Commerce technologies effectively, giving you the potential to transform your business and accelerate commercial success and growth.

III. Conclusion

Production management focuses on carefully managing the process to produce and to distribute products and services. We believe that product lines present an opportunity for increased efficiencies and economies, more reliable and predictable and higher quality production, a more robust relationship with a

production, launching and management in current and new markets.

At last we concluded that management is not only a important key but also play a vital role in before the production and the use of information technologies will lead to better production management of industries. This leads to a competitive advantage for the industry, development agencies, and appropriate reaction against competitors and make good use of the opportunities and threats, identify organization's strengths and weaknesses.

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