

Analysis and Propounding Of Operation Management

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ABSTRACT:

The discipline of operation management, which focuses on the efficient planning, organizing, and regulating of organizational processes to accomplish successful production and delivery of products and services, is examined and proposed in this essay. Process design, capacity planning, quality management, supply chain management, and performance measurement are just a few of the important topics and methods covered. The importance of operation management in boosting operational effectiveness, customer happiness, and overall organizational success is examined in the research. This study seeks to shed light on the practical application and strategic significance of operation management in contemporary corporate operations.

KEYWORDS:

Capacity Planning, Operation Management, Process Design, Quality Management, Supply Chain Management.

I. INTRODUCTION

Soon after its inception, man began to engage in the activity of production. Agriculture was the earliest form of production. In terms of capacity and efficiency, the variety of industrial and manufacturing operations has increased since then. Machines have mostly supplanted men in fundamental tasks nowadays. Production activities. Men exclusively oversee machines and are themselves monitored. As a result, manufacturing is a considerably more complicated function. It is also one of the most important roles of contemporary management. Operations management is the administration of the component of an organisation in charge of producing products and/or services. These items and services may be found all around you. Every book you read, video you watch, email you send, phone call you make, and medical care you get includes the operations function of one or more organizations. So does everything you wear, consume, travel in, sit on, and use to connect to the Internet. However, in order to understand Operations Management, one must first understand Operating Systems.

An operating system is described as a collection of resources used to provide products or services. Operating systems may be found in retail establishments, hospitals, transport and taxi services, tailors, motels, and dentists. Any operating system uses physical resources to turn inputs into outputs, the purpose of which is to meet consumer desires. In order to create commodities or services, inputs must be transformed or converted into outputs. Using one or more transformation processes, various inputs like as capital, labor, and information are utilised to generate commodities or services. e.g., storing, transporting, and cutting. To guarantee that the intended result is produced, an organization collects measurements feedback at key stages of the transformation process and compares them to previously defined criteria to decide whether corrective action is required [1]–[3].

It is crucial to realize that products and services often coexist. For example, getting your car's oil changed is a service, but the oil that is given is a good. Likewise, home painting is a service, but the

paint is excellent. The combination of products and services exists on a scale. It might vary from largely providing commodities with minimal service to predominantly providing services with few items. Companies often provide product packages, which are a mix of items and services, since there are very few pure goods or pure services. These product bundles include components of both products manufacturing and service delivery. This makes operations management more intriguing, but also more difficult. Operations management is the administration of an organisation's productive resources or production system, which turns inputs into goods and services. There are three main schools of thought:

1. Traditional.
2. Personality.
3. Simulation.

Classical Management

1. Economic efficiency as the organisation's total production effectiveness: Scientific management.
2. Process management: management as a continuous process of planning, organizing, and regulating.

Behavioral Management

1. **Human Relationship:** Behavioral scientists recognize that humans are complete and have numerous needs, and that the subordinatesupervisor connection has a direct impact on them. Productivity.
2. **Behavioral Science:** The study of how leadership, motivation, communication, interpersonal interactions, and attitude modification impact human behavior.

Modelling as Management

Management emphasises modelling in the following areas:

1. Decisionmaking.
2. System Administration.
3. Mathematical Simulation.

Production Functions

Production may be described as the transition of inputs men, machines, materials, money, methods, and management into outputs (Figure. 1). Output may be either products or services delivered. Goods produced refers to manufacturing concerns, whereas services provided refers to service operations such as banks, hospitals, guesthouses, and so on. Production management is similar to operations management in this regard. Production, along with marketing and finance, is a fundamental company activity; additional management areas include HRD Personnel & Human Relations and Materials Management, among others. Marketing creates demand for products and services, finance supplies funds and equipment, and manufacturing creates the goods or services. In this sense, it is critical to the success of a company's strategic objectives or goals. Moreover, since the production function creates products and services, it often employs the majority of the company's workforce and accounts for a considerable amount of the firm's assets[4]–[6]. Moreover, manufacturing has a significant impact on both the craftsmanship of the items as well as the cost of production. In this regard, producing is a visible face of the corporation and hence the core function of an organisations; consequently, production is referred to as the heart of any organisations.

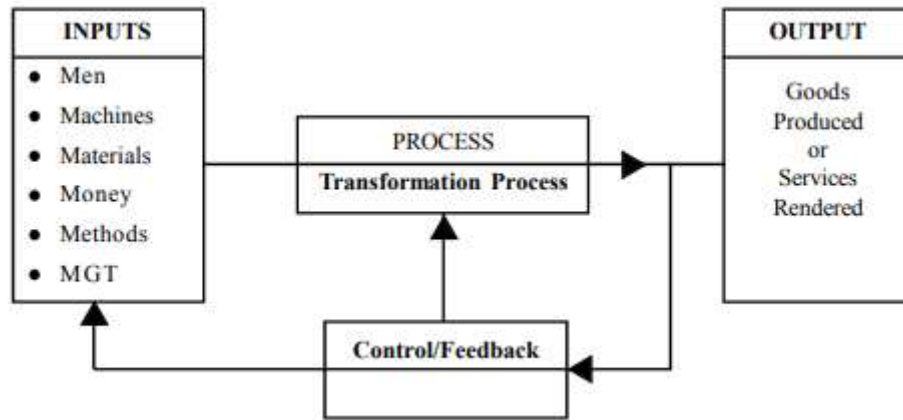


Figure 1: Represent the Production as a System [Springer].

Functions and Responsibilities of Production Management

Production management is seen as a neverending cycle of planning, Organising, and controlling:

1. **Planning:** Any actions that create a path of action are included in this category. These actions serve as a reference for future decisions. It comprises product planning, facilities planning, and conversion process design.
2. **Organizing:** Any actions that form a system of duties organisations structure and authority are included in this category. As a result, it establishes the actions necessary to fulfil the operations and subsystems objectives, as well as assigns authority and responsibility for carrying them out.
3. **Controlling:** Any operations that guarantee that actual performance matches planned performance are included in this category. This is accomplished by creating the standards and communication networks required to guarantee that the organizing, staffing, and directing functions pursue acceptable plans and achieve goals.

The primary goal of production management is to provide highquality products and services. In the current situation, the goal of every organization is to grow profitability via increased efficiency, higher production, and improved quality, as well as to offer customers more trust by supplying excellent goods at the appropriate price and at the right time JIT concept. This may be accomplished using the following methods:

1. Optimum resource use men, machines and materials.
2. By maximizing the utilization of personnel and machinery and minimizing material waste.
3. Using statistical quality control approaches to ensure product quality at the lowest possible cost.
4. Helping to overall productivity via decisionmaking and quantitative methodologies.

Activities relating to Analysis and Control of Production

This includes the preparation of shortterm production schedules, a plan for maintaining raw material and finished and semifinished stock records, and specifying how the company's production resources will be used in the future in response to predicted demand for products and services. After planning, the next management production role is to control the production plans since they cannot be activated unless they are effectively directed and regulated. To that end, the production manager must oversee job assignment, service work progress, and any disparities between actual and planned performance. A production manager must oversee the production control activity by:

1. Controlling inventories such as materials, bought components, completed items, and so on.
2. Work in progress control using production control.
3. Quality control through process control.

II. DISCUSSION

Relating Production Management with other Management Functions

To address these objectives, well-designed manufacturing and service production use a firm's inherent competences the qualities that are unique to that organization. A highly competent or creative staff, powerful distributors, or the capacity to swiftly create new goods or adjust manufacturing output rates are examples of such strengths. A smart production manager will collaborate with other areas to maximise the organization's capabilities[7]. We may also examine the interface needs from the perspective of Production Management procedures. In general, processes combine people, machines, equipment, procedures, and materials in a logical sequence of stages or activities. The complete value chain begins with suppliers and concludes with consumers. Inputs are the sources of things like as capital, equipment, labour, information, and energy that are utilised to generate the intended outputs. In most cases, the production function selects inputs in conjunction with other functions. Outputs are the finished products, whether they be physical items or intangible services. The following are some of the interactions with other functional areas of the organization:

Marketing Interface: Marketing is in charge of recognizing client demands, creating and sustaining demand for the firm's goods, assuring customer happiness, and exploring new markets and product possibilities. The manufacturing and production plan is heavily influenced by the firm's strategic positioning and market segmentation choices. Moreover, marketing serves as the primary information gatekeeper between production and product markets. Marketing establishes the kind of goods that a consumer values. This begins with product creation and continues with positioning, price, forecasts, and promotions prior to as well as following product introduction. Multidisciplinary collaboration in manufacturing and marketing choices dates back many decades. Disputes between production and marketing in most firms stem from a lack of wide consensus on crucial organizational issues such as product line breadth, time to delivery, and service or quality standards. In most firms, the contact between these two activities provides significant leverage; enhanced knowledge and trust between production and marketing drives many organizations to higher levels of performance.

Introduction Management Finance Interface: The interface of financial decision making is comprised of capital equipment, cost control policies, price volume choices, and inventories. Since asset acquisition and management are critical components of decision making, finance and production must collaborate to understand the nature of production technology and the practice performance gap in their company. Tracking performance necessitates the development of standard, objective platforms for performance assessment inside the company. Finance offers product and service cost data that managers may use to analyses operational success. Production managers must understand financial methods, restrictions, and capacities. The extent of cooperation between operational planning and budgeting frequently determines their efficacy.

Design Interface Production Management: Product lifecycles are becoming shorter, increasing the pressures on the product development process. This is particularly true in industries with high clock speeds. To launch more innovative goods quicker, the design and production management operations must be tightly integrated. Efforts such as concurrent engineering and early supplier participation in the product design process not only increase the role of production but also enhance the perception of value given in the product and service concept design process. Moreover, process development and technology are in charge of the manufacturing procedures required to create the goods. This function has a significant influence on output. As a result, collaboration across these three departments, namely process engineering, design, and manufacturing, improves organisational performance.

Production Management Human Resource Interface: Any plant manager in the world would dismiss the need of competent people management in operating a successful business. The human resource function encompasses operational concepts like as continuous improvement and overall quality, which depend heavily on human input. People and production function organization considerations interact heavily with structural and infrastructural decisions. Such challenges, however, are not limited to the

production function they affect other activities and are addressed more effectively via the human resource management function. Customers' impressions of a firm are often created through their interactions with customer contact professionals, such as customer service agents, in the service industry. As more firms choose for 'flexitime,' the production function must build unique process configurations to accommodate personnel while causing little disturbance to the flow of work. Production Management and Human Resources must work together to recruit and train staff.

Production Management Information Systems: Information systems provide, analyse, and coordinate production's information demands. The distributed processing environment, as well as the organization's expansion and evolution of Enterprise Resource Planning ERP systems, have a direct influence on productivity. It enables companies to produce relevant information and make it accessible when it is required. Every company planning, including hiring, cash flow, and marketing initiatives, is driven by operational plans. Technology plays a critical role in Computer Integrated Manufacturing CIM systems.

Similar operations are carried out in various companies at different places or by different personnel at the same site. A manufacturer having factories all across the globe is one example. Knowledge, on the other hand, is seldom, if ever, shared among personnel doing comparable duties. Information technology allows for the management and exchange of knowledge. It vastly enhances the work of knowledge management. Process automation advancements enable businesses to reimagine their key processes and develop better systems to meet the demands of product and service diversity. Ecommerce provides new demands for process management while also presenting new opportunity for process reconfiguration. Most progress in information technology is squandered if the technical efficiency does not adapt to the difficulties posed by increasing information and knowledge availability. This method stresses cross functional thinking and connects it to the context of the organization's overall operations. Production Management assesses the performance of people, processes, and technology in order for a company to work better, quicker, and more productively. It delivers goods and services to clients and supports business strategy by collaborating with marketing, finance, and human resource departments.

Differences between Production and Operation Management

Operations Management is the branch of management that deals with the oversight, planning, and redesigning of company operations in the manufacturing of both services and things. This includes the obligation for ensuring that a company's activities are carried out in an efficient and effective way for both parties. Product management refers to the organisational lifecycle activity inside a business that deals with the forecasting, planning, or marketing of products or a specific product at all phases of that product's life cycle. Operations and production management both have a significant influence on our industry. While Operations Management is concerned with the administration and planning of business operations in the production and service of goods, Product Management is the organisational life cycle procedure within a company that is concerned with the prediction, planning, and marketing of goods at all stages of that particular product or products' life cycle. Production is the aspect of a company that creates, constructs, or makes a product for use and distribution.

Tasks and a deadline. This is further defined as the administration of a certain project. A Project Manager is often in charge of guaranteeing project completion on schedule, delegating work to developers and designers, and assuring customer satisfaction. Operations Management is the continual management of a company's everyday operations, such as technical assistance, network management, and so on. There is no predetermined end point in Operations Management. An operations Manager is often engaged in all aspects of a company's operations, ensuring that everything runs smoothly and that employees deliver on time. Consider the following example: In terms of operations management, a web agency may have many projects running at the same time, and once these projects are deployed, the project is finished. However, the operations manager is still occupied with the day today support and management of the deployed project, ensuring that it is still running correctly, fixing various problems, and so on [8]–[10].

III. CONCLUSION

Management is the section of a company that deals with clerical concerns, such as hiring, payroll, obtaining raw materials, bill paying, and other office responsibilities. Production management is the planning, organization, staffing, directing, controlling, and coordinating of people and material resources for the facility's execution in a given function to fulfil established goals within time, cost, and quality restrictions. Operations management is a multifaceted profession that includes a range of ideas and methods. Organisations may increase operational effectiveness, customer happiness, and overall success by studying and advocating operation management. For organisations to survive in the cutthroat business climate of today, effective process design, capacity planning, quality management, supply chain management, and performance monitoring are essential. Adopting operation management practises and concepts may result in more efficient operations, lower costs, improved client experiences, and long-term growth.

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