CHAPTER I - INTRODUCTION

INTRODUCTION

To get the highest value out of our resources, we must design production processes that make products most efficiently to be used. Once the processes exist, we need to manage their operation so they produce goods most economically. Managing the operation means planning for and controlling the resources used in the process: labor, capital, and material. All are important, but the major way in which management plans and controls is through the flow of materials. The flow of materials controls the performance of the process. If the right materials in the right quantities are not available at the right time, the process cannot produce what it should. Labor and machinery will be poorly utilized. The profitability, and even the existence, of the company will be threatened.

1.1. .Definition and Scope of Materials Management .

A. Definitions of Materials Management

- Materials management is the planning, organizing and controlling of the flow of materials from the initial purchase through internal operations to distribution of finished goods. (American production and Inventory Control Society)
- Materials management can be defined as an organizational concept of the foster and total system approach to plan, acquire, store, move and control materials (raw materials, supplies, work-in-process, and semi-finished goods) inorder to optimize all company resources (includes materials, people, money and facilities) and provide customer service consistent with company policy. (Magnd & Amos)
- Materials management is a process of coordinating all resources through the process of planning, organizing, staffing, directing/ leading and controlling to achieve desired objectives with the use of human beings. (By Geroger Terry)
- Materials management can also be defined as a body of Knowledge which helps the manger to improve the productivity of capital by reducing materials costs, preventing large amount of capital being locked up for long periods and improving the capital turnover ratio. Materials managers must derive its objective by understanding of local environment and at the same time, looking in to consideration the human factor, their attitude, sense and approach to new ideas. [By Harold Koontz]

Scanned by CamScanner

- ⇨ Materials management is a total concept having its definite organization to plan and control all types of materials, its supply, and its flow from raw stage to finished stage so as to deliver the product to customer as per his requirements in time. (International Federation of Purchasing and Materials Management)
- ⇨ Materials management is the process of management which coordinates, supervises, and execute the task associated with the flow of materials to, within and out of an organization in an integrated fashion (A.K.Datta)

When we sum up the above definitions; Materials management can be defined as an organizations concept which is designed to enhance coordination and control of the various materials activities including an activity to plan, purchase, store, handle, distribute, use, and control of materials in order to contribute to organizational success and profitability.

B. Scope of Material Managements

Materials management covers all aspects of materials, costs, materials supply and utilization. It covers the whole or rang of functions involved in converting raw materials and ancillary supplies in to finished products. It is concerned with the planning & programming of materials and equipments, market research for purchase; pre design and value analysis, procurements of all materials, packaging and packing materials stores control and inventory control; transportation of raw materials and materials handling, disposal of scrap and operation research for materials.

Materials management covers that aspect of industrials management which concerned with the activities involved in the acquisition, storage and flow of all materials directly and indirectly employed in the prediction and marketing of finished goods.

Thus, the following functions or activities are listed as a logical boundary of materials management:

1. Materials forecasting, planning, budgeting and programming
2. Scheduling, purchasing
3. Receiving, and receiving inspection
4. Inventory control, storage and warehousing
5. Materials handling and movement control
6. Dispatch, shipping and disposal (including wastes, scraps and surplus materials)

Scanned by CamScanner

1.2. Origin and Transition

i. Origin

Organizations in which materials mgt. play its roles have rarely been created with a single stroke of the organization builders. They have evolved gradually and in many cases have not yet matured. The scarcity of materials, which was felt during World War I in USA to a very large extent and it, has become difficult for production managers to supply the War goods. This has created it necessary to organize the Materials Management department for managing large inventories in stores and to analyze the problems arising to control and economize inventory cost problems and shortage elimination.

With the development of principles of scientific management by F.W. Taylor in 20thcentury, the economic use of materials in all the organizations was critically felt to reducethe cost of production.The early years of developments in the field of materials purchase and supply systematically begins from 1850. Charles Babbage's book on the economy of machinery and manufacturingpublished in 1832 refers to the importance of purchasing function. Babbage is also known as"Materials Man".

The growth of Rail Road industries by 1866 started in America. The Book on 'The Handling of Railway Supplies and their Purchase and Disposition' in 1887 discussed the purchasing issues.

The concept of materials management was widely spread during World War II. Professor Howard T. Lewis of the Harvard Business School made the extensive studies in Industrial Purchasing Practice. W.N. Michelle, N.F. Harriman, L.F. Buffy, Donald G. Clark, Edward T. Gushee, Russell Forbes, Stuart F. Hewritz and George A. Reward had contributed largely to purchasing and materials management in procuring, receiving, inventory control and supply.

World War II introduced a new period in purchasing history. The emphasis on obtaining required and scarce materials influenced a growth in purchasing interest. In 1933, nine colleges offered courses related to purchasing which was increased to forty-nine colleges in 1945 in America. The membership of the National Association of Purchasing Agents increased from 3400 in 1934 to 5500 in 1940.

Widespread agreement between countries taken place with the overall objective to solve materials problems including materials planning, inventory control, purchasing, quality control, stores control

Scanned by CamScanner

materials movement and surplus disposal. The purchasing strategies and behaviors that evolved over in 1980 gave rise to foreign global competition.

Purchasing approaches beyond 2000 reflects a changing emphasis towards the improvement of quality of materials, supplier relationship, more co-operative approach, long-term strategies of cost management and database materials management systems for materials planning and utilization in industries to bring about overall improvement in production systems, in-cost reduction through economy and increased sales.

ii. **Transition**

The transition of materials management has followed the following pattern in phased manner.

First phase: Executives who are primarily concerned with other functions have carried on almost unconsciously all materials mgt. functions as sidelines.

Second phase: The major materials management functions are recognized formally, but these activities report to variety of executives and are not centralized organizationally.

Third phase: Materials management functions concerned with purchased materials are grouped together under a senior executive, who behave like a line manager.

Fourth phase: Materials management functions become a genuine value adding activity for purchased materials.

1.3. Importance of materials management in corporate policy

It is necessary to have an integrated approach to materials management of various functions such as materials planning, purchasing, receiving stores, inventory control, scrap and surplus disposal. In case some of the functions were to be separately handled, conflict of interests would occur. Purchase department if allowed to operate independently, may take decisions, which result in sub-optimization such as discount in buying as important factor without taking into account of the impact of inventory carrying cost. Therefore, to balance the conflicting objectives from the total organizational point of view, an integrated system, which results in economy is essential. Also, it enables the inter-related functions to exercise better control and co-ordination.

Lack of availability of adequate materials disturbs the normal operation or production and causing unnecessary delay of production or work stoppage. The stoppage of work in turn causing additional

Scanned by CamScanner

costs such as; cost of depreciation of fixed assets, salary of permanent employee, loss of sales, dissatisfaction of customer...etc. Thus, effective management of material is crucial for the performance of any organization.

Benefits of integrated materials management approach

A number of expectations may be formulated for operational function from integrated materials management approach. These are;

1. ***Reliable and accurate performance for required result***

This will dependon reliable and accurate information up on which decisions are made and actions are based. In all aspect of management supervision and control, the base for good performance is timely information and up-to-date records. A good system of feedback reports must be established before optimum result can be expected.

2. ***Strict adherence to plan and schedule***

Careful planning ensures effective uses of men, machinery, materials, facilities, and finance.

3. ***Timely and optimum materials procurement.***

Procurement policy must ensure that materials of right quality, in the right quantity, available in the right price within a given condition of delivery.

4. ***Optimum inventory turnover***

Inventory turnover rate is defined as annual sales divided by the average monthly stock. This indicates as well as determines the speed at which materials comes in and goes out from stock. Ideally, there should be a high turnover rate of inventory, which equates the rapid movement of materials and low stoking costs.

5. ***Good vendor vendee relationship***

Closely related to improved materials acquisition and delivery performance is the necessity to maintain good supplier relationship, since this has a direct influence on the ability to get materials in acceptable manner.

6. ***Optimum materials logistics and product distribution:*** According to customer needs, transporting required materials in the required qualities and in a good condition so as to be made

Scanned by CamScanner

available at the correct location and time at the minimum cost in order to satisfy the market needs and company objectives.

7. ***Control over all material cost***

Materials management is expected to coordinate all activities keeping in view low purchasing cost, making way for optimum use of facilities and equipment with high usage rate and minimum of wastes. This will directly contribute towards corporate profit and increase productivity of materials.

8. ***Coordination, elimination/minimization of duplication of functions :*** These objectives are easier to achieve under an integrated system of materials management.
9. ***Conflict resolution:*** This is made easier under overall supervision of an executive authority.

⇨ Objectives of Materials Management

The objectives of materials management as such should be supported in every way by:

i. Maintaining continuity of productive operations by ensuring a uniform flow of materials.
ii. Reducing materials costs by systematic use of scientific techniques.
iii. Releasing working capital for productive purpose by efficient control of inventories.
iv. Increasing the competitiveness of end products by ensuring right quality at the right price especially in foreign market.
v. Saving foreign exchange through economic use of foreign purchases and import substitution.
vi. Establishing good buyer –seller-relation.
vii. Ensuring low departmental cost and high efficiency.
viii. Setting high ethical standards. In this way it is clear that materials mgt covers all aspects of materials, including flow of materials cost, quality, supply, conservation and utilization.

The prime objective is to supply the user department with the required quantity at a constant rate with uniform quality so that production or service rendered is not held up. At the same time materials manager has to ensure the optimum usage of facilities like capital, storage space and other aspects of materials management. Increased production and sales are necessary to bring about the same increase in profit, which result in reducing material costs or increasing production and sales to the extent of 30% to 40% which is not easy.

Scanned by CamScanner

The primary task of modern materials management with an integrated view in purchasing materials of; Right Quality, Right Quantity, at the Right Price from Right Source, at the Right Time, using Right mode of Transport.

⇨ Relationship Between Materials Management And Other Functional Units

Generally the materials management unit is related to other functional units in a number of ways. Inorder to use the synergic effect all organizational units have to work together.

a. *Materials Management and Finance*

The finance section is responsible for maintaining cash flow and providing advice in preparing operating budgets. It also supplies the finance to buy the materials & control how well the money is used. To have smooth relationship between finance and materials management, the later should spend only reasonable costs for ordering, handling & inventory.

b. *Materials Management & Manufacturing.*

In this case the material managementsection supplies all the necessary materials to manufacturing section. So there is a need to have smooth relationship between them. The materials management section should supply the right quantity materials/part with the right of quality at the right time and at a reasonable price. If the materials management section fails to accomplish its task the overall production of the organization will be collapsed. So, this section should develop its plan based on the plans of the manufacturing section plan.

c. *Marketing and Materials Management.*

The marketing section is the key section for the overall operation of the organization. In- order to meet customer needs /wants we should have close cooperation between them. The basis for manufacturing section work is the sales forecast.

In sum, the services of the materials management section are essential for all functional units of the organization. So it is a dynamic activity that ensures the small flow of supplies through the entire organizational activities.

Scanned by CamScanner