**AFRICAN CENTER FOR PROJECT DEVELOPMENT INSTITUTE ACPM NAIROBI KENYA**

**MODULE 2 ASSIGNMENTS**

**THIS ASSIGNMENT IS SUBMITED TO DEPARTMENT OF PROCUREMENT FOR THE PARPETIAL FULFILMENT OF THE RQUIREMENT FOR THE COURSE OF POST GRADUATE DIPLOMA IN PROCUREMNT AND SUPPLY CHAIN MANAGEMENT.**

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# Module Two Assignments

1. **What are the objectives of Materials management? What are its advantages?**

* **Material management** is the planning, directing, controlling and co-ordination of all those activities concerned with material and inventory requirements, from the point of their inception to their introduction into manufacturing process. Materiel management has both primary and secondary objectives ,

**Primary objectives** these are low prices, high inventory turnover, low cost acquisition and possession, continuity of supply, consistency of quality, low payroll cost, favorable relations with supplier development of personnel and goods records.

**Secondary objectives** these are object that achieve primary objectives.

Below are both primary and secondary objectives.

* To obtain materials at the minimum price, however, this minimum price must not compromise on the quality of goods and the continuity of supply.
* To minimize the inventory of an organization without sacrificing the timely availability of materials.
* Proper, cost effective material procurement.
* Proper storage of materials so as to minimize wastages and material hold ups.
* Making available the material TIMELY A good material management system will keep up to data records of all the information generated in it, preferably using a computer-based system. In addition to these primary objectives a materials management system indirectly fulfills many secondary objectives also. These secondary objectives are normally related to the functions of a material management system.
* Identifying new or better sources of supply
* Development and sustenance of relationships with the vendors
* Creating a standardized quality of the products • Performing the value analysis of inventory. This can be related to the cost of materials.
* Creating a smooth flow of materials and information among the various sections of materials management system. The material management system works under the broad basic objectives of an organization that is “maximum profit with sustained growth and research, satisfied customers and staff of the organization’’.
* Continuity of supply by maintaining a uniform flow of materials.
* Reducing the costs of materials purchased and handling by using scientific techniques and electronic tools. The use of scientific tools and techniques for materials and information management.
* Minimizing holdups of working capital and performing effective inventory control.
* Releasing working capital by ensuring effective control over inventories.
* Providing high quality at the lowest price.
* Development of better relationships with customers and suppliers.

Although material management has got some objective however it has also advantages as summarized below.

* Better accountability on part of materials as well as other departments as no one can shift blame to others.
* As materials management is handled by single authority, it can result in better coordination, as it becomes the central point for any material related problems.
* Materials management department makes sure that better quality material is supplied timely to the requesting departments. This can result in better performance of the organization.
* A materials management system is typically controlled through an information system, thus, can help in taking decisions related to material in the organization.
* One indirect advantage of material management is that good quality material develops the ethical and moral standard in an organization.

1. **What are the activities of materials and information flow in an organization?**

#### **Production and Material Control:** Production manager prepares schedules of production to be carried in future. The requirements of parts and materials are determined as per production schedules. Production schedules are prepared on the basis of orders received or anticipated demand for goods. It is ensured that every type or part of material is made available so that production is carried on smoothly.

* **Purchasing**: Purchasing department is authorized to make buying arrangements on the basis of requisitions issued by other departments. Purchasing is a managerial activity that goes beyond the simple act of buying and includes the planning and policy activities covering a wide range of related and complementary activities.
* Non-Production Stores: Non-production materials like office supplies, perishable tools and maintenance, repair and operating supplies are maintained as per the needs of the business. These stores may not be required daily but their availability in stores is essential.
* **Transportation:** The transporting of materials from suppliers is an important function of materials management. The traffic department is responsible for arranging transportation service. The vehicles may be purchased for the business or these may be chartered from outside. It all depends upon the quantity and frequency of buying materials. The purpose is to arrange cheap and quick transport facilities for incoming materials.
* **Material Handling**: It is concerned with the movement of materials within a manufacturing establishment and the cost of handling materials is kept under control. It is also seen that there are no wastages or losses of materials during their movement. Special equipment’s may be acquired for material handling.
* **Receiving**: The receiving department is responsible for the unloading of materials, counting the units, determining their quality and sending them to stores etc. The purchasing department is also informed about the receipt of various materials.
* **Purpose**: The purpose of the paper is to identify improvement possibilities in the data processing and information flow relating to product quality in the processes of automotive component production, which might result in the acceleration of decision making on product quality and reduction of defects and related costs. The expected results of the proposed improvement are presented in the paper.
* **Methodology/Approach:** Modelling and simulations of the component production processes with the current and proposed state of information flow were made in the QPR software to test the effect of the changes in the information flows. Subsequently, the results of the simulations of both process models were compared from the perspective of quality.
* **Findings:** Results of the simulations showed the positive effect of the proposed changes reflecting in the lower number of defects compared to the current state. Based on the accurate and timely received information on product quality, needed interventions to the process can be realized to reduce the defects.
* **Research Limitation/implication:** The limitation of the paper is the exact estimation of benefits after the improvement implementation. The expected benefits were defined on the base of test operation.
* **Originality/Value of paper:** The originality of the paper is in the applicability of the proposed solution in organizations operating in the automotive industry or other data-driven manufacturing organizations calling for timely and accurate information access to achieve a high level of quality, effectiveness and efficiency in the production processes.

1. **What is the scope of materials management?**

* Although the scope of a material management system is vast, yet we can define the following Functions as its scope functions. Material Planning and Controlling: One of the key functions that identify the scope of the materials management is the materials planning and control. This function is based on the sales forecast and the production plans of an organization. And the below are functions.
* Estimation of materials requirements
* Preparation of materials budget of the organization
* Estimating the levels of inventories required in the organization
* Scheduling the orders placed with the vendors to ensure availability of material
* Controlling by monitoring of production Vis a Vis sales. Purchasing: The purchasing is another Major function for the materials management. This function contains the following activities.
* Identification and selection of possible Suppliers.
* Finalizing the terms and references of purchases that are to be made.
* Placing the purchase orders this activity may be staggered as per the inventory control function.
* Managing the purchase orders till delivery of materials.
* Minimization of material losses due to obsolescence and handling. This activity controls the timely disposal and efficient handling of materials.
* Maintenance of stores records along with proper location and stocking of materials.
* Physical verification of stocks and reconciling.
* Performing inventory setting and control. Some such activities include performing ABC analysis, fixing economical ordering quantities, identification of selling safety stock levels, performing lead-time analysis.

1. **Define the various roles of materials management in the context of internal and external interfaces to materials management system.**

* Materials Management is a system that tries to ensure the following for an organization in context of both internal and external interfaces as show below.
* Availability of products desired by customers. These products should be Materials Flow Systems prepared with best obtainable cost of manufacture.
* Quality and cost of manufacture should be most affordable for the organization. Although Quality and cost of production are the responsibilities of the Production Manager, however, material management can support this process by the timely delivery of quality material.
* Advice the sales pricing. Although pricing is a sales function, but Materials Management with proper record keeping can be used for generating price data for the various destinations. For example, the cost of the materials used for a product can be determined through this system. Thus, material management can helps in determining the cost of the product.
* Purchasing and procurement activities sometimes it determines the details of past performance of vendors, quality and more, details which may help in proper selection of vendors. If so needed the orders can even be distributed over time.
* Receiving and inspection data is very important quality control activity during this process, where information about the quality is registered.
* Production planning information/ sales information does impact the process of material management.

1. **Describe the role of material management in performing various functions in an organization?**

* **Market forecasting:** One of the key role-played by materials management is to forecast the future demands. For example, if a university like Harvard is printing study material for its students, it need to manage the raw materials and well as the finished product that is the printed blocks. The first point here would be to ascertain what would be the demand of study material for the various Programs. And increase in demand for the last few years and expected enrolments for programs that are new students.
* **Production:** One of the key roles of material management system would be to see that the process of production goes unhindered. For example, once again the case of the university as above, printing would require availability of printing paper and art card paper - required for covers If any of the two papers is out of stocks the printing process cannot continue.
* **Finance:** The material management is strategically very much linked to cost reduction. He cost may include the inventory cost and thus, have a major impact on the material budget. For example, one must procure the paper for the university, so that the paper requirement of printing in fulfilled in time, however, this should not cause any unnecessary hold up of the finance.
* **Inventory Control:** One of the key strategic roles of material management would be to minimize the inventory of an organization. This also results in cost minimization. In general a production schedule is made in an organization. This should be synchronized with the material procurement and supply so that the production process is not hampered. For example, as stated above the material should be procured in January-February such that the printing process can proceed smoothly.
* **Inspection or quality control:** This is a very interesting interface as the quality of material for different types of an organization is impacted during materials management cycles. though materials management is not directly responsible for quality, yet it can cause indirect effects on the quality of products. For example, if we buy paper 3-4 months in advance then proper storage conditions may need to be kept in store to avoid any deterioration of quality of the paper.
* **Material handling, traffic and physical distribution logistics:** The role here is to see that the material is handled and distributed easily. For example, the paper stores of the university may be located outside the campus and may be near the place where most of the printing presses are located. Also since the university sends the study materials through post, a unit of distribution may be located **near some head post office.**

1. **Discuss the scope of a product. Elucidate the term taking two products of your choice and comment on the satisfaction you derived by adoption.**

* **Define a product**: By and large all human beings irrespective of their economic status social and cultural influences, and literacy levels would buy and use/consume various products during their lifetime thus deriving want satisfaction in relation to their inherent and latent needs existing at a given point of time. Our product Scope will include all those features which will support to develop a feeling in your customers that solution is here to shape their life.
* You should remember that size of the firm, nature of the products/industry, consumers, relevant markets, competition and top management decisions and vision all collectivity determine the responsibilities of the product management department in a business organization. Each individual member within the department are assigned to play a specific role based on their levels in the hierarchy. Thus all the member of the department both independently and jointly with the members of other departments would be responsible to discharge well defined tasks for effective coordination and implementation of various product related strategic decisions. The following are the major areas of responsibilities
* All related activities and tasks of STP strategies (segmenting, targeting and positioning)
* Short term and long term production planning in consultation with manufacturing.
* Meticulous planning for promotional activities with communication and advertising department.
* Planning and forecasting sales and market potential with sale department.
* Coordinating marketing research activities within house/external agencies.
* Co-coordinating with advertising agencies and other external agencies like Government for seeking statutory license.

1. **Product mix and line decisions are viewed as strategic tools to increase market share and keep competition at bay. Discuss.**

* **Product mix.** Is also known as product assortment, refers to the total number of product lines a company offers to its customers. For example, your company may sell multiple lines of products. Your product lines may be fairly similar, such as dish washing liquid and bar soap, which are both used for cleaning and use similar technologies. Or your product lines may be vastly different, such as diapers and razors. As already made a mention, it is the set of all products lines and items that a particular company offers to buyers The width of the product mix refers to the number of different product lines a company carries. For example, Philips India Ltd. Product mix consists the following product Lines namely music systems and video system (Television), lighting system and medical electronics catering to different markets across various segment.
* Helps in defining firm’s product portfolio based on width, depth and consistency.
* Appeals to diverse consumer needs across various segments, thus helps in maximizing shelf space and sustain dealer support. In the earlier discussion we have cited two examples namely Philips India offering products which are closely related and has consistency in its mix while in case of Wipro, it offers different products (unrelated) product lines like, consumer electronics, Information Technology products, and FMCG products making it a diversify mix of product offered to the market.
* **Line stretching**: As the name suggests, the decisions pertaining to adding or dropping items from the line as and when it is profitable to do so. Line stretching could be upwards, downwards or both ways. Downward stretch is apt when the company finds its offerings are at a high price end of the market and then stretch their line downwards for example, Daewoo motors, small car "Matiz" was originally introduced as a premium high end car with one single variant catering to the top end or the elite segment.
* **Product line:** Product line includes all closely related or similar products offered by the firm for example Audio systems offered by Philips is a product line. While televisions offered by the same company (Philips) is another product line. While product mix encompasses and includes all individual products available offered by the firm. Thus the above example of Philips Audio systems and televisions collectivity form the product mix of Philips India Ltd. From the above we can now conclude that product mix includes all the product lines offered by the firm and further each product line has a range of models, sizes, styles.

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