[**D018 - Diploma in Procurement and Supply Management**](http://portal.onlineresourcecenter.nl/prolearn/public/studentnotes)

**: Module 2**

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**ASSIGNMENTS**

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

The materials management objectives are categorized into:

1. Primary objective

2. Secondary objectives

1. Primary Objectives:

“Making available (supply) of materials in specified quantity and quality at economic cost and maintaining the continuity of supply. Minimization of investments in materials and inventory costs, and assuring high inventory turnover.”

2. Secondary Objectives:

Secondary objectives help to achieve the primary objectives.

The secondary objectives can be stated as:

1. Purchasing the items from a reliable source at economic price.

2. Reduction of costs by using various cost reduction techniques such as variety reduction, standardization and simplification, value analysis, inventory control, purchase research etc.

3. Co-ordination of the functions such as planning, scheduling, storage and maintenance of materials.

Advantages.

Material management is directly associated with the operational efficiency of an organization. A good material management system ensures the availability right materials in the production process with minimum wastage so as to cut losses. Here are the few ways which show the importance of material management and how it influences your project performance: –

**Time**

Time is widely recognized as a primary criterion for performance measurement. **Poor material management can have a negative effect on project time, like the insufficient stock of materials, lead to idling time as workers try not to exhaust the stockpile or it is worsened by the work stoppage.** Due to this shortage, materials need to be reordered and causes longer idling time. Consequently, the work progress will be delayed. Therefore, the availability of sufficient quantity of materials affects the projects time.

**Cost**

Cost is one of the major consideration in the entire cycle of projects. Effective material management is able to reduce the overall cost of material. For example, in the purchasing process, discounts and bulk order may be economical as it reduced the transportation and ordering cost, thus, by minimizing the procurement cost of materials, the higher chances for reducing the overall project cost and concurrently increasing company profit.  
However, the reasonable time needs to be considered so that the materials are not ordered too early or it may affect the company capital, interest charges, and storage charges. Wrong calculations can lead to over or under stocking which will be bad for the industry.**A proper MM system helps in determining the number of materials to be ordered to reduce cost without any obstructions in production**.

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

Activities of Materials and information flow in an organization are all those activities concerned with material and inventory requirements, from the point of their inception to their introduction into manufacturing process.”

As per De Rose all those functions which start with the procurement of materials and end with completion of manufacturing are a part of material management and the activities are as follow,

1. 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.

2. Purchasing:

Purchasing department is authorized to make buying arrangements on the basis of requisitions issued by other departments. This department keeps contracts with suppliers and collects quotations etc. at regular intervals. The effort by this department is to purchase proper quality goods at reasonable prices. 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.

3. 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. The non-availability of such stores may lead to stoppage of work.

4. 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.

5. Materials 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.

6. 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.

1. What is the scope of materials management?

The scope of materials management encompasses all the aspects of the materials i.e. material costs, material supply and material utilization. Materials management is concerned with material planning and materials control activities

The scope of a material management system is vast, yet we can define the following functions as its scope functions.

1. 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. The activities of this function are: • 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 and sales.
2. 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 • Giving clearance to payment of received good; and • Analyzing the performance of the suppliers and rating them.
3. Stores and Inventory Control: This function helps in physical control of materials. It has the following list of activities: • 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 etc.
4. Define the various roles of materials management in the context of internal and external interfaces to materials management system.

Materials management is concerned with management functions supporting the complete cycle of material flow, from the purchase and internal control of production materials to planning and control of work in process, to warehousing, shipping and distribution of the finished product.

The various roles are as follow,

1. **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; this forecast can be made on the basis of material usage patterns and increase in demand for the last few years, in addition expected enrolments for programs that are new, this information can be predicted on the basis of response to new programs of similar type/ area during last few years. Thus, materials management has a great role to play for an organization. But remember here, a forecast is always an estimation.
2. **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. In addition, please note that the demands have been predicted thus the material requirements can be calculated with this data. In production organizations making predictions is even more difficult as the sales are to be predicted without much of a basis.
3. **Finance:** The material management is strategically very much linked to cost reduction. The 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. The holdup time should be minimum. For example, if study materials are to be sent to student in the month of May-June then procurement of paper may be done in January February so that study material can be printed in March-April.
4. **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.
5. **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. The products, whose quality deteriorates with time, are very likely candidates in this category. 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.
6. **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.
7. Describe the role of material management in performing various functions in an organization?

Materials Management is a social technology, which demands professional expertise of its own and have a direct impact on the cost effectiveness of an organization. It can also be defined in terms of the functions that are needed for the coordination of planning, sourcing, moving, storing and controlling materials in an optimum manner so as to provide a pre-decided service to the customer at a minimum cost. Thus, roles of material management in performing various functions in an organization are,

1. Decision on making the material or buying it.

Such a decision may be taken if:

• Supplies are not adequately obtained successfully in the past ·

• The quality of supplied goods is not of standard

•· The volume requirement of sales is exceeding the possible manufacturing capacity

•· The material fails in the cost analysis

1. Materials Forecasting

Materials Management: An Overview

The materials management needs to forecast the requirements. Some of the questions that need to considered for it are:

• Is this material being needed for long time?

• Will there be any requirement after 10 years for this material? Will the supplier exist after 10 years

• Are there any changes or technological break- though for this material?

• Are the prices going to rise in the future?

1. Materials Planning and Budgeting

Materials planning is of the major control activity that an organization needs to put in place. It is feasible because of materials management.

1. Selection of Potential information sources

This will include selection of suppliers, and other market research information such as price trends, corporate environment etc. The materials management data may help this task.

1. Purchasing with a difference

Purchasing commits a lot of capital of an organization. Materials management information allows very creative purchasing by organization as it sees most of the trends. It also helps while purchasing in uncertain situation.

1. Forecasting of Price

This is most essential function thus, has been kept separately also. A good price forecasting system based on material management and market research information may bring an organization into a win-win situation.

1. Store Management and inventory control with a difference

Materials management helps in the store functions such as: control of material being received, proper storage, minimization of obsolescence, highlighting of unused stocks, ensuring good housekeeping, verification of stock, timely delivery of goods, proper storage and presentation of materials, dealing with scrap materials etc.

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.
2. Kikoys.

Kikoys are a garment which was traditionally for men, as in many hot countries (and Scotland!) men wear a wraparound of some sort. These tropical garments are obviously worn due to the heat (except in Scotland!) and are particularly comfortable.  
Few require anything more than a little confidence to hold them up and some are tied with amazing skill and complexity but the Kikoy itself is simply wrapped around the middle, or hips, or anywhere and rolled over outwards a couple of times.   
The Kikoy does need to be fairly tight, with a certain amount of tension, but not too tight, the mistake is to try and wrap it really tightly as this could result in an embarrassing and unscheduled show of leg! Inspired by the abundance of exuberant colours found on the East African coastline, Kikoys are woven of the brightest hue colour combinations that would alarm most people! Possibly originating from something that the Arab traders wore as they plied the coastline, the Kikoy has developed its very own character of Kenya and Tanzania and is a symbol of safaris in both beautiful countries. There is a band of devoted Kikoy wearers which is steadily increasing in size as more and more people discover the delights of a Kikoy. And when it comes to satisfaction, they are 100% Cotton Kikoy with soft toweling inner, quick drying, colorful, perfect holiday accessory, This is a lovely product. They would be lovely to use as beach sarongs or anything else. The service is very good and delivery prompt. I recommend this product.

1. Gum Arabic,

Sudan is the world’s largest producer of gum arabic, which is one of the four important agricultural export commodities from Sudan, along with livestock, cotton and sesame. Over the last 20 years, gum arabic export value amounted on average to $US 40 million annually. While there has been government intervention in the marketing of all agricultural exports in the past, gum arabic is the only one for which government controls remain. Gum arabic is mostly produced by small-scale farmers in traditional rainfed farming areas. They represent up to 20 percent of Sudan’s population and are among the poorest. The impact of the current gum arabic marketing policy has not been beneficial to this group. This has led to reduced production and consequently exports, declining for the past forty years at an average rate of 2.2 percent per annum. One of the key commitments made by the Government of National Unity under the Joint Assessment Mission framework was to “abolish the export monopoly” over raw gum arabic. This commitment has not been implemented. The development of the processing industry over the last three years has resulted in increased domestic competition for raw gum, and in turn better prices paid to farmers as well as more value added captured in Sudan. This positive development comes at a propitious time as increased consumption of soft drinks and confectionary products, as well as rapid development of health and dietetic products is boosting the world demand for gum arabic.

Gum arabic is multifunctional: it is used as an emulsifier, stabilizer, film-former (it forms an impenetrable film around the flavour particle), texturizer and low-viscosity water binder. In the soft drink industry, gum arabic is used as an emulsifier and stabilizer of aromatic emulsions and spray-dried flavors for beverages. In confectionary, gum arabic is used to bind water, and prevent sugar crystallization. Its emulsification quality is important to enable fat to be distributed throughout the product and not move to the surface and make the food appear greasy. Gum arabic is also used as a suspending agent in syrups, antiseptic preparations, cosmetics and adhesives. As a suspending agent, it is also used in paints, inks, lithography and textiles. Gum arabic is not chemically modified and qualifies for "natural" labeling or "no artificial additives" claims. It is a high source of fiber - it contains no less than 85% soluble dietary fiber (dry basis) - and has low calorific value. Confectionary and soft drinks represent the core of the demand for gum arabic. The pharmaceutical industry used to integrate a significant portion of gum arabic but is a declining market. Technical applications (printing, glues, ceramics…) constitute a small outlet. Gum arabic has recently found a new range of applications in the dietetic food and health sub-sectors because of its high fiber content. Modified starch is a food additive which is prepared by treating starch or starch granules. Modified starch is used as a thickening agent, stabiliser, or an emulsifier. Modified starches effectively match the properties of gum arabic in certain processes: apart from food products, it is also found in pharmaceuticals. Food additives manufacturers have tried to develop gum arabic substitutes other than starches (corn-based, celluloses…) but it seems that none has the functionality of gum arabic. In addition to its non toxicity and “naturalness”, gum arabic has comparative technical advantages over substitutes: products incorporating gum arabic retain flavor better; their shelf lives is also superior.. According to the FAO Coppen Report (1999), the majority of international buyers and end-users perceive gum arabic from Sudan as the best in the world (top quality Hashab gum is referred to as "Kordofan gum" on international markets). In 1998, the Joint FAO/WHO Expert Committee on Food Additives (JECFA) specification for gum arabic for food use, which hitherto only included hashab, was modified to also include talha. Cheaper than hashab, talha has inferior technical properties for some gum arabic’s important uses such as in the soft drinks industry30. On the other hand its chemical properties are the same and it substitutes well for hashab in the confectionary industry where larger quantities of gum arabic are required in the final products.

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

A product mix (also called a product assortment) is the set of all products and items a particular seller offers for sale. A product mix is the assortment of product lines and individual offerings available from a marketer. Its two primary components are product line (a series of related products) and individual offerings (single products). Product mixes are assessed in terms of length, width, depth and consistency. For example, an organization's product mix consists of tobacco products, biscuits products and cosmetic products. The length of a product mix refers to the total number of items in the mix. We can also talk about the average length of a line. This is obtained by dividing the total length by the number of lines or an average product length.

The width of a product mix refers to how many product lines the mix has. For example, if an organization sells cosmetics, food products and bathing products, the width of the product mix is three i. e. cosmetics, food products and bathing products.

The depth of the product mix refers to variants are offered of each product in the line. If a product comes in two scents, two formulations and two additives, that product has a depth of eight as there are eight distinct variants. The average depth of a company’s product mix can be calculated by averaging the number of variants within the brand groups.

The consistency of the product mix refers to how closely related the various product lines are in end use, production requirements, distribution channels, or some other way. A company’s product lines are consistent insofar as they are consumer goods that perform same or similar functions for consumers and go through the same distribution channels. The lines are less consistent insofar as they perform different functions for the buyers and go through different distribution channels. While in product line, The increasing number of consumer goods and services offered in recent years suggests that product proliferation and in particular line extensions have become a favored strategy of product managers. Firms may compete through their product lines in two ways. First, firms have an incentive to extend their product lines in order to extract more consumer surplus. For example, by offering a wide range of products ranging from the BMW series 3 to the BMW series 7, BMW is able to target different segments of consumers. BMW’s strategy of vertical line extension involves price discrimination according to consumers’ willingness to pay for quality (Mussa and Rosen 1978, Moorthy 1984, Horsky and Nelson 1992). Even if products do not differ in price and quality, product lines may serve as competitive tools. For example, Coca Cola carries Diet Coke, Decaffeinated Coke, Diet Decaffeinated Coke etc., which all have the same price and quality but vary in other attributes. This type of line extension is referred to as horizontal. In this case product proliferation cannot be attributed to price discrimination. Rather, firms offer a full line of variety in order to keep customers loyal to the brand and prevent switching to competitors (Klemperer 1995). In this sense, these line extensions are directly driven by competitive considerations. A number of empirical studies has documented that by actively managing their product lines in addition to other marketing-mix instruments such as price and promotions, managers are better able to face competitive pressures. For example, by offering broader product lines, firms can increase their market share and profitability (Lancaster 1979, Kekre and Srinivasan 1990) and preempt competitive entry (Schmalensee 1978) as well as soften price competition and achieve higher margins (Putsis 1997, Kadiyali, Vilcassim and Chintagunta 1999). While these earlier studies have established the effects that product-line length can have on outcome measures such as market shares or profits.

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