CHAPTER 3:

PURCHASING MANAGEMENT

3.1. INTRODUCTION

The scarcity of raw materials has practically put the people in purchasing department in very tight positions. The purchasing department can be in a better position if the designer takes a little pain to consult the purchasing personnel about the technological capabilities of the vendors. The main outset of company's cash goes in material purchase thus purchasing people should take greater responsibilities and should analyze the existing procurement policy and should tune with the overall organizational objectives and policies.

The improvement in purchasing management by the help of standardization, value analysis, material substitution, transport saving, cost reduction by packing modification and scrap reclamation all can contribute to the profitability of an organization.

3.2 DEFINITION

Purchasing in its narrow sense, refer merely to the act of buying an item at a price. A broader meaning of purchasing makes it a managerial activity that goes beyond the simple act of buying and includes the planning and policy activities, research and development, service selection etc.

Purchasing is, therefore, the procurement of raw materials, supplies, machines, tools, and services required for equipment, maintenance and operation of a manufacturing plant.

Purchasing function also involves procurement by purchase of the proper materials, machinery, equipment and supplies for stores of used in the manufacture of a product adopted to marketing in the proper quantity at the proper time and at the lowest price consistent with quality desired.

3.3 IMPORTANCE OF PURCHASING

Purchasing management best reflects the role of purchasing in corporate operation and organization. There is a trend towards introducing materials mgt. in industry today, but to say that it has superseded purchasing would be to anticipate the future more than we feel is

warranted. Purchasing is still a clearly identifiable function in most business organizations. The term "Management" suggests that purchasing decision involve the weighting of alternative possibilities, and many of these alternatives involve the influence of other functions on the purchasing decisions. No organization can operate without materials, supplies and equipments. The efficiency of any business activity is contingent up on having materials, supplies and equipment available in proper quantity with proper quality at proper place and time, and at proper price. 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 such as research and development; proper section of materials and sources from which those materials may be bought.

3.4 PURCHASING OBJECTIVES

The objectives of purchasing is to conduct purchase function so as to minimize or eliminate disruption in production resulting from lack of any materials, equipment or supplies. Furthermore, this objective must be achieved with a minimum investment ins reserve inventories. Another objective of purchasing is the maintenance of adequate standards of quality for items purchased. The purchasing objective is *lowest ultimate cost rather than lowest initial cost.* Another objective of purchasing is the avoidance of duplication, waste and obsolescence with respect to the various items purchased. The mission of purchasing organization is the effective commitment of the company's funds. Its objective is the economic success of the business organization. In other words the objective of purchasing is not so much to procure the raw materials at the lowest price but to reduce the cost of the final product.

According to A.G. Pearson the prime objective of purchasing organization is "Effective Commitment of company's fund" and having goods of the right quality, form right source at right price and right quantity and time. These objectives of purchasing are known as 5R's of purchasing.

1. Right Quality

Cost and quality are critical dimensions. The interaction between the two is very complex. A right quality is not necessarily best quality. To a large degree manufacture's determine the

quality of goods by the desired quality of a product to make. The considerations are basic materials, grades, size, design, colors, patterns and durability.

The quality must be described precisely so that vendors should understand what is exactly needed. The exact specification of item should to be given, preferably interms of market grades, brand or trade names, commercial standards, on blue prints or physical characteristics, materials and method of manufacture.

2. **Right Quantity**

Quantity to be purchased varies with the production strategy and planning. Right quantity is the level of quantity which is not too much or too few. This can be made possible through the techniques of E.O.Q (Economic Order Quantity), which save the producer from the danger of stock outs as well as carrying cost of surplus inventory. Other strategical considerations in determining quantities are combination of items to reduce transportation costs, anticipation of market conditions both of raw materials/spares as well as the minimum quantity of finished goods.

3. **Right Source**

The source of supplier is determined normally by calling quotations and the lowest bidder is selected provided he has quoted as per the requirement of producer interms of quality and period of delivery. But such ideal situations do not appear in all cases and selection of supplier involves a strategic consideration of various factors. It is always prudent to select a manufacturer in case of patented standard products even if it means a little extra transportation. Secondly, the past records, financial capacity, technical ability and other resources play important role in selection of supplier.

The purchasing department has to maintain a vocabulary of suppliers of different goods and develop it further from the knowledge or data collection through journals, bulletins and news papers, trade directory, and exchange of information through buying associations.

4. **Right Price**

The right price is the worth interms of quality, time and adequacy of supply of an item obtained. It is no doubt easy and safe to go for standard products at a higher price but one has to keep in mind the utility of item in the ultimate worth of product.

5. Right Time

The ideal time of purchase period would be the minimum time for which the goods remain unconsumed. This could be achieved if the stockiest or manufacturer of raw materials supplies the day-to-day requirements in regular installments. This would save the storage. But the geographical and market conditions do not permit and it is where the ordering system comes into existence. The timing policies will depend up on fluctuating prices as well as problems arising out of monopolistic trade and sellers' maturity.

3.5. RELATIONSHIP BETWEEN THE PURCHASING DEPARTMENT AND OTHER FUNCTIONAL UNITS

All of an organizations department can have a relation with the purchasing department.

3.5.1. Engineering Department and Purchasing Department

It can stipulate technical specifications of the final product of the company and the technical specification of materials to be used in the process of production. This technical specification determines the prices of materials costs of assembly/fabrication and number of suppliers. From this points we can say that what is economical to procure is also economical to fabricate.

3.5.2. Production Department and Purchasing Department

The production schedule is the starting point for the procurement schedule. The procurement schedules could be workable when the production schedule arrives on time. If the production of schedule is late due to various reasons the following risks are expected to occur.

1. Premium price (higher price)
2. Premium transportation costs and costly special production runs (over time work)
3. Production stoppage (shut down) – it may not be possible to get the materials required for production purpose under the first two conditions, then the management will decide to shut down the production process.

Good relationship between engineering and production and purchasing as well would avoid minimize other above problems.

3.5.3. Marketing Department and Purchasing Department

Sales forecast is the bases for production schedule and thereby for purchasing. Purchasing people can have frequent contacts with suppliers and gets information. And they should give these information to sales personnel and the to the management as well.

Reciprocity – Purchasing materials from organizations that can buy finished products of the company. Reciprocity should be accepted as far as it does not affect/discourage other suppliers. Purchasing personnel could tell the sales personnel that which behavior or what things would irritate purchasers, and sales people should consult purchasing people instead of going to the library for further reading.

3.5.4. Finance Department and Purchasing Department

Purchasing schedule or any change in procurement should be communicated to finance department inorder to get sufficient fund at hand when required.

3.6. PURCHASING PROCEDURES

Purchasing procedures refers to the way in which a purchase transaction is carried through from its inception to its conclusion. Purchasing policies outline the broader objectives to be accomplished and guidelines within the desired results. Procedures outline in detail the function to be performed by the people involved in the purchasing operation. Forms and records used to implement procedures and policies. Therefore, procedures are chronological sequence of activities, wile rules are statements that do not require chronological sequence and aside to perform it.

Objectives of Purchasing Procedures

- ► It should facilitate accomplishment of task with minimum effort and directive.
- ► It should facilitate accomplishment and coordination (should be in written)

- Responsibility must be assigned clearly for accomplishment of each stage of each procedure. There should not be an assignment of more than one procedure to some one to avoid overlap of responsibility.
- Procedure permit management by exception; management should give their attention if clear procedures are forwarded to subordinates, managers, superiors can follow these responsibilities easily.

Steps In The Purchasing Cycle

2.6.1. Origination of Purchase Requisition.
2.6.2. Verification of Authority and Budget.
2.6.3. Request for Quotation or Bids.
2.6.4. Evaluation of Bids and Selection of Suppliers.
2.6.5. Placing the Purchase Order.
2.6.6. Follow–up and Expediting.
2.6.7. Receiving, Inspecting and Storing
2.6.8. Closing the order

Each of these steps will be discussed as follows.

3.6.1. Origination of Purchase Requisition (PR)

Purchase Requisition is a document generated by the using department or by the store that authorize material purchase. Here, if the policy of the organization states, "All the materials have to be made available to using department through the Store." then the store department is the only one which is authorized to fill the Purchase Requisition. From this we can infer that the need for purchase originates in the inventory control section or in the operating (using) department. This need for purchase is transmitted to the purchasing department by Purchase Requisition. This Purchase Requisition is a serially numbered internal document by which the need for purchase is transmitted or communicated. It is prepared by a minimum of two copies.

Information that a Purchase Requisition contains include:

1. Description of the materials
2. Quantity

3. Date of requires
4. Date of issue
5. Estimated unit cost
6. Operating account to be charged
7. An authorized signature

3.6.2. Verification of Authority and Budget

The responsibility of indenter (who fills the Purchase Requisition) is to incorporate of details items with full descriptions. However, the responsibility of the buyer (who receive the Purchase Requisition) is to check whether the PR is within the budget limit or not and also checking the accuracy of the document. In addition, he/she checks the stock level and see if cheaper material can equally do the same purpose,

3.6.3. Request for Quotation or Bids /Price Quotation/

This refers to identification and analysis of possible soured of supply. A Quotation is a statement (perform) acquired from potential suppliers. Requests for Quotation is a process of initiating potential suppliers that are willing to compete to supply the required material. The request depends on the type of materials because some materials need price quotations and other not.

Items which are purchased repetitively, from known suppliers, with small quantity and with low value doesn't require price quotation.

There are two types of Bids.

1. Open Bid – It is a type of bid where all potential suppliers are invited through mass media and advertising agents to participate in the bidding.
2. Closed Bid – In this case selected suppliers are approached (invited) to participate in the bid. Here, the invitation can be made through personal contact, telephone or formal letter.

Issuing of Enquires and Tender Collection

In the case of closed bid we use letters or printed enquiry form because we know the bidder. But in the case of Open tender, we use mass media.

Preparation of the tender involves;

- Bidding Notice
- Bidder's instruction
- Description of Materials
- Samples and blue prints (when required)
- Tender Documents

Inorder to give general description of the materials; delivery time and point, term of payment, last date of submitting bids, general term and condition should be included.

In the process of collecting tenders we need to set up separate boxes & seal the boxes on the due date & time. After collecting the tender, we need to open the tender. Tender opening involves the following activities.

- Earnest money deposit
- Time, date & place should be specified
- Representatives of purchasing department, suppliers, finance and using department should be present.
- These and other things should enter the tender opening register or minuted.
- The minute should contain price, delivery date, discount, delivery point, & others if any.

Here suppliers that do not pay bid bonds should get back their letters unopened and bid letters arriving between the closing date and the opening date should also be returned to the supplier unopened.

3.6.4. Evaluation of Bids & Selection of Suppliers

This is analysis of the potential suppler who fulfill the criteria of the organization. Suppliers are evaluated /reviewed by the following factors or selection criteria.

► Interms of price proposed by the suppliers.
► Interms of discount they offer.
► Interms of the shipping terms.
► Interms of delivery date.
► Interms of reliability of the supplier by analyzing past performance.
► Interms of reciprocity (this refers to mutual interchange of favors, privileges in good sense)

► Interms of quality of work & other services

Here the lowest bidder usually wins the tender, but some times this bidder may be denied or not awarded to supply. This happens because of the following reasons;

1. A higher bidder may provide better after sale service.
2. A higher bidder may have better plant facilities and be able to offer quality provided than the low bidder.
3. The low bidder may not be reliable.
4. The reciprocity may favor some company other than the low bidder.
5. The low bidder may be located so far from the company.
6. Exceptional goodwill may exist between higher bidder & the buyer.
7. The organization (buyer) may adhere to the policy of dealing with local suppliers.

3.6.5. Issuing of Purchase Order

The Purchase Requisition gives the purchasing agent authority to order the materials described in the requisitions. The purchasing agent should maintain or have access to an up-to-date list of vendors, which includes price, available discounts, estimated delivery time, and any other relevant information. From this list, the purchasing agent selects a vender form whom high quality materials can be obtained when needed at competitive cost. Then the purchasing agent then completes a Purchase Order which is a buyer's documents that formalizes a purchase transaction with the seller. So a Purchase Order is a serially numbered external document that is used to make purchases.

The Purchase Order should contain the following information. (See figure 2-1)

1. Suppliers name and address.
2. Quotation reference and date.
3. Description of items.
4. Quantity Ordered.
5. Unit Price.
6. Terms of Payment.
7. Date of the order.

8. Delivery date and
9. Signature of the purchasing agent

General terms and Conditions are included in the purchase order as a legal protection for the buyer. In addition, Engineering designs & other drawings shall accompany the purchase order.

Figure 2-1 Purchase Order (Prepared by Purchasing agent & sent to vendor to order materials.)

PURCHASE ORDER

Order Nº. 1982

XYZ Company

To: ABC Corporation
Nazreth,
Ethiopia

Mark order Nº. on invoice and on all package.

Date: Jan. 6, 2003
Term 3/10 eom n/60
Ship via Track / to arrive on Jan. 25,2003

Quantity	Description	Price
20,000 Gallon	Adhesive Compound Grade A	Br. 31,000

By: *Alem*
Purchasing agent

The purchase order should be prepared in a multiple snap out format; most generally it has 7 copies.

First Copy
Second Copy } These two are sent to the supplier, one as an acknowledgment.

Third Copy: to accounting department to inform fund be available.

Fourth Copy: should be sent to the store to intimate that shipment is arriving soon.

Fifth Copy: to the using department to enable them act accordingly.

Sixth Copy
Seventh Copy } These two copies are retained by the purchasing unit, of which the 6th copy is used for follow-up of purchase.

After the purchase order is prepared and distributed, if adjustment is required a letter or printed format called "Change Order" should be filled in the same copies as the purchase order and be distributed accordingly.

3.6.6. Follow-up and expediting the Order

Follow-up refers to reminding the supplier to insure the timely arrival of the Order. And expediting is speeding up or accelerating the receipt of the item before the agreed-up on time. The later requires good relationship between the purchasing unit & the supplier.

Here, we need to have the system which shows the date at which delivery check should be made.

These systems could be:

A. Manual - We may use a *calendar* file. This is keeping the follow up order on the required date when the next follow –up is scheduled. Or *suppliers* list. This is filling orders alphabetically on the top we are going to use a number running from 1 to 30/31 and we put a visible colored mark on the date the next follow-up is made.

B. Automated System - This is normally using a computerized system.

C. Communications - This may be through

- Letters or telephone
- Printed form & Pcs. for routine work
- People: Purchasing people or other people to follow these duties.

3.6.7. Receiving, Inspecting and Storing

When the items are received, the following receiving procedures are usually adopted.

1. Unloading and checking the consignment /shipment. Compare the consignment with the freight whether there is any damage or not.
2. Unpacking and checking the material – Compare for the right material that the packing ship contains with the materials received. Here, we need to check for the right quantity and General Condition of the material.
3. Completing the receiving report and distribute this report to:
    - First copy - to purchasing; if all orders are received the document will be closed
    - Second copy- to accounting department for effective payment.
    - Third copy-to the requesting department to intimate the items are received
    - Fourth copy – it should be retained by the receiving department.
4. Delivery of materials: these materials may be handled to the using department to the internal delivery system or to the Store. Finally, whoever is receiving the material will sing on the receiving report.

Inspection Report: whenever it is necessary to take technical inspection, we may make sample/all inspection. This depends on the nature of material and/or on the description of those materials. Based on this technical report, if the material is not useful (partly or wholly) the purchasing people will notify the supplier how to handle those items. In this case the possible courses action would be:

1. Return the material to the supplier.
2. Keep some of the more acceptable material and return the rest.
3. Keep all and rework it to the point where it is acceptable.

When is Inspection Justified?

This depends on economies of scale, which is based on two basic costs.

1. Cost of Inspection
2. Costs resulting from defectiveness entering the production operation and/or reaching customers.

Here the intention is to minimize the process average of these cots.

Example: A firm is buying a widget in lots of 1000/Week. The cost of inspection of a widget is 0.20Br. & the cost of defective to correct is Br.10.00. Finally, the process average (defective) 3%

The decision could be **100% inspection** or **No inspection**.

Solution:

Let N - be the Nº of widgets

CI - be the cost of Inspection

CD - be the cost of defectiveness

P - be the process average

Total (100%) Inspection Cost = NCI + NPCD

= 1000(0.20)+1000(0.03)(0)

= 200.00 Birr

No Inspection Cost = 1000(0)+1000(0.03)(10)

= 300.00 Birr

Now it is possible to identify the cost of inspection and no inspection at different values of P.

P	100% Inspection	No Inspection
1%	Br. 200.00	Br. 100.00
2%	Br. 200.00	Br. 200.00
3%	Br. 200.00	Br. 300.00

Hence value of P that make the buyer indifferent would be found by equating the two equations as follow:

NCI = NPCD; $\frac{NCI}{NPCD} = 0$

$P = \frac{CI}{CD}$

When P>CI/CD, 100% inspection is desired. Because total losts of inspection is less than costs of no inspection.

When P<CI/CD, 0% inspection is preferred.

Even though it is taken 100% inspection, there might be damages or unwanted items found, and therefore, inspection ranges from 85-95% accurate. On the other hand when taking sample inspection the summation of the sample average cost is taken in to account.

3.6.8. Closing the Order

After making the necessary payment to the ventor, Closing an order simply entails a consolidation of all documents and correspondence relevant to the order in filling them in closed order file which include a purchase requisition, the open order file of the purchase order, the acknowledgement, the receiving report, the inspection report and any note or correspondence pertaining to the order.

3.7. IMPORTANT ISSUES IN PURCHASING

2.7.1 Make or Buy decision

How a make or buy decision originates? This decision may originate in any one of the following events.

i. When we are planning to produce a new product or modifying the existing product.
ii. When the current performance of supplier is unsatisfactory.
iii. Changing demand in the external environment. (increase or decrease of demand.)

Now before buying or making the parts the costs should be evaluated. The relevant costs of buying are; purchase cost of the parts, transportation costs and receiving and inspection costs. The cost of making includes; In general,

- Delivered raw material costs
- Direct labor costs
- Incremental managerial costs
- Inventory Carrying costs
- Costs of Capital and
- Opportunity Costs.

Inorder to make a sound managerial decision, we should have to consider the factors specifically favoring the making or buying decisions.

Factors that specifically favor the making decisions

i. When the cost to make is substantially lower or less than the cost to buy.
ii. When the demand for the product is stable & at a higher value, so that the investment in equipment can be returned.
iii. When the companies manufacturing experience & equipment are well suited to the manufacturing of the product.
iv. When the suppliers are unable to meet specifications interms of quality & performance.
v. When the company has idle capacity like, idle space, skilled human resource, equipment to be utilized in manufacturing the product.
vi. When transportation costs can be saved by gathering local materials to make the products rather than having made at a distant plant.
vii. When research break through occurs & the company wants to maintain trade secrets concerning the product, materials in it & the process involved.

Considerations that favor buying than making.

i. When the cost to buy is substantially lower or less than the cost to make the item.
6. When the demand for the product is fluctuating, creating production problem.
7. When the quantities of item required is small.
8. When other companies hold trade secret or patents on a required product so that it is not possible to make it.
9. When obsolescence makes machine worthless or substantially reduce their value.
10. When high scrap or spoilage rates are inherent in the manufacture of the product and when the company is assured of getting the same from suppliers.

Illustration on Buying & Making decision

ABC metal work company produces parts that are shipped nation wide. It has an opportunity to produce plastic packing cases which are currently purchase at 0.70 Br. each. Annual demand for the product depends largely on economic conditions & this has been estimated at 45,000 units. If the company produces the cases itself, it must re-innovate on existing area & should purchase a

molding machine which will result in an annual fixed cost of 12,000 Br. Variable costs for labor, material & factory overhead are estimated at 0.65 Br./case.

Required:

a) Should the company Make or Buy the cases.
b) At what volume, it is more profitable to produce in house rather than purchase from an outside suppliers.

Solution:

a) Expected cost of making = Total variable costs + Fixed Cost
= 0.65(45,000) + 12,000
= 41,250.00 Birr

Expected Cost of buying = Unit Price x Annual Demand
0.70 x 45,000
31,500.00 Birr

Since the cost of buying is less than cost of making the company should buy the cases because there is a cost saving of 9,750 Birr.
Note that the fixed cost is avoidable i.e. when we buy the item from the external supplier there will be no fixed cost of 12,000 Birr.

b) In order to calculate the quantity level that favors making we need to first compute the breakeven point.

The breakeven point is the point where total revenue equals total cost.

i.e. TR = TC
P x Q = VC(Q) + FC
P x Q – VC(Q) = FC

$$Q = \frac{FC}{P - VC}$$

$$Q = \frac{12,000}{0.70-.065} = 240,000 \text{ units}$$

At this level of quantity cost of making is equivalent to cost of buying

$$0.65(240{,}000) + 12{,}000 = 0.70(240{,}000)$$
$$168{,}000 = 168{,}000$$

Therefore, it is more profitable to produce the items in house rater than purchase at any volume of greater than 240,000 units. Here you can check the answer by taking a quantity level that exceed 240,000 units. For example the cost of making 245,000 unit is 171500 but the cost of making these units is 171250 Birr.

3.7.2. Organization of Purchasing

The organization of purchasing is usually identified as centralized or decentralized purchasing.

i. Centralized Purchasing

This occurs when the authority and responsibility to handle the material needs of the organization is given to one department.

Merits of centralized purchasing (Compared to decentralized organization) includes the following

1. In centralized purchasing all orders goes to one office as a result a better control can be achieved over purchasing and inventories. It can also take advantage of cash discount & EOQ (which results in reduced carrying cost and ordering costs).
2. Since orders are consolidated a quantity discount can be taken. i.e.

   Order by one department for the entire organization ⇒ Large Quantity order ⇒ Quantity discount ⇒ Reduced Cost

3. There ty for the purchaser to specialize and concentrate on few products.
4. The quantity of orders processed in centralized purchasing may make electronic data processing feasible which may not be profitable in smaller or decentralized purchasing department.
5. More purchasing power is represented which enables the purchaser to have a better negotiating position and purchasing power.

ii. Decentralized Purchasing

This occurs when the various departments in the organization are established to satisfy material needs. It is usually used when branches are located in different parts of a country.

Merits include the following

1. It offers fast action since decision is made close to the using department.
2. It helps to satisfy the differing local needs.
3. Though negotiating with several suppliers has problems interms of quantity discount and quality, this does considerate the risk and avoid it in case of breakdowns, strikes and natural catastrophes which may cut-off one source of supplier.
4. Transportation cost may be lower by buying locally from suppliers which are near to each of the branches.
5. Local goodwill may be generated when buying from suppliers located in the same community.

iii. Computerization Purchasing

This occurs when both the centralized and decentralized purchasing are operated in an organization. Items of high value and those that require high technical analysis and knowledge of experts are purchased under centralized purchasing. But those items of low value and of routine use are purchased under decentralization.

3.7.3 Who will determine Quality?

The quality of product is usually determined by the engineering/production department and purchasing department as follows.

Engineering/production people are responsible to specify the technical aspects of quality (in collaboration with sales personnel) of material which is meant for production. And other material using departments should also specify the quality/specification of materials they require.

The purchasing department then also determine the economical aspect of these materials.

Here the right to challenge should be given or exercised by the purchasing department. This can be the right to question all materials that are required, to reconsider (reevaluate) the technical specification for economic reasons. This can be by giving information to the concerned people which helps to revise the specification. On the other hand this challenge with one department make the other department to be alert while preparing quality specifications. Therefore, since the purchasing department personnel have an exposure to the outside environment it is better to communicate with them while preparing specifications.

3.7.3.1 How to Describe Quality

Quality description performs three main purposes.

i. It makes it possible to describe the items listed on the Purchasing Order.
ii. It makes the supplier know exactly what type of material, and
iii. It serves as a basis of inspection.

3.7.3.2 Methods of Quality Description

There are various methods of describing the quality of a product. Some of these are:

A) ***Market Grades:***- Grades are a position in scale of qualities and the grade of a commodity is determined by comparing that product with pre-established agreed upon standards. (e.g. cotton, coffee, tobacco, hide, etc…)

B) ***Trade/Brand names***:- A brand name is a pledge/promise to customer, because once a customer can adapt to a particular product, he can not shift unless he found a change in taste, and other things in it. Sales of a products under a trade/brand name is easy to describe and is also easy to inspect. Therefore, inspection and description time will be reduced.

Limitation of a brand name

- A material that is bought under a brand name is higher interms of price compared to those without brand name.
- It tends to exclude other suppliers with similar products. These limitation can be minimized by ordering those materials based on the purpose for which the materials are intended for. For example OMO or equivalent.

- There is lack of consistent quality unless the manufacturer has a good production and quality control mechanism.

C) ***Commercial Standards***:- A Standard is uniform identification that is agreed upon. Commercial standards are complete descriptions of a standardized materials.

Advantage of Commercial Standard

- They are cheaper than those purchased without commercial standards.
- Materials like bolts, nuts and electrical supplies that are produced per specification can fit to standard application, irrespective of where they are made
- Avoids mis understanding (leaves no room between the buyer or the seller). They have the same understanding as to quality of the material.

  One limitation of Commercial standard is that its inspection cost is high, it is very hard to inspect all of the materials ordered and received, because it should be checked against commercial standards.

D) ***Physical/Chemical Specification***:- Specifications are detailed descriptions of the general features/ characteristics of a particular items that are used to define a specific product quality. These are listing of materials, components used in making a product. It is verbal and/or quantitative description. It is one means of communication between the buyer and the sellers.

The materials under this category may not be specified by market grads, trade/brand name or it may not be standardized to be specified. Hence, it could be described by physical/chemical property.

Advantages

Describing quality by physical/chemical specification, on organization can save premium prices that would be paid on branded materials.

Here, these materials could have a unique feature as compared to those materials available in the market. Therefore, these special order products may have additional prices to be produced. Hence addition or deletion is possible.

Limitations

- The buyer can assume complete responsibility as far as it is made as per specifications.
- Require special inspection by comparing with the specification of those materials received.

Physical specification is a detailed physical condition, sizes or dimensions in measurable things. Chemical specification involves specifying the products interms of chemical composition and it explains the products reaction to exposure.

E. ***Performance Specification*:-** Theoretically it is the best type of specification. It describes an item in words interms of what the item is required to perform. For example an electric wire having a specific degree of resistance.

Advantages

- Ease of preparing specification
- Assurance of obtaining the precise performance described
- Inclusion of all applicable new developments.

Potential Disadvantages

- ***In appropriate use*;** users choose these because it is easy and they tend to overuse.
- ***Poor supplier selection*;** it is not known in advanced from what materials it have been made and the supplier may not technologically capable unless he is honest.
- ***Unfair pricing*;** Overhanging of prices

F) Materials and Methods of Manufacturers Specification:-

Here the buyer dictates the supplier, by telling what type of materials are required, what type of technology we need for our process of production, etc. In this case the buyer is assumed to have full knowledge of technological progress.

☼ Material specification describes the material from which the product is made such as plastic made, wood made or metal etc…

☼ Method specification describes the method of manufacturing such as hand made, machine etc…

Advantages

- Widest competition is possible
- Good pricing is assured

Disadvantages

- It puts great responsibility on the buyer.
- It can deny a company the latest advancements in both technological developments and manufacturing process.
- Expenses to prepare and expensive to inspect for compliance.

G) Engineering Design and Prints:- This method can be used with other methods of describing quality. Specially, precise shape, dimensions and special relationships are requirements, then this method can be used. It is applicable to the purchase of construction, electronic and electrical assemblies, machine parts etc…

Advantages

- They are accurate and precise.
- They are the most practical way of describing mechanical items requiring extremely close technologies.
- They permit wide competition.
- They clearly establish the standards for inspection.

Disadvantage

- High cost that is associated with the design and drafting work of the item required.

H) Combination method:-

When any one of these methods is not adequate to describe a material that is required, a combination of these methods is necessary to be used. Regardless of the method or methods used to describe quality only the minimum quality needed for the product to perform the function intended should be specified.

3.7.4 Type of Purchasing

This is the right time aspect of purchasing. The quality of materials affect the price and time of purchase. Organizations should have time of purchase for their production process, because materials could have increase/decrease in price seasonably depending on the circumstances.

Here based on time dimension, there are four time based types of purchasing. These are

1. Hand to mouth
2. Current Requirement
3. Forward buying
4. Speculative buying

1. Hand –to-mouth buying

Hand to mouth buying policy is a practice of buying materials to satisfy immediate operating requirements smaller than those normally considered economical.

Some of the reasons for exercising this method are:

- When there is no enough cash - flow in the organization.
- When there is too much inventory & insufficient storage space.
- When a drop – in prices is expected in the future.
- When an engineering changes are expected in the future.

Advantages:

- It saves money when prices are dropping
- It prevents inventory losses that result due to technological change and
- It provides the firm required additional cash for operating purposes.

Limitations:

- It leads to higher buying and administrative expenses. (ordering costs, price discounts, etc.)
- There is a risk of running out of stock.

2. Current –Requirement Buying

This is a buying practice in excess of a hand –to mouth quantity. This is the most common method of buying to satisfy short range requirements. The method obtains the most economical quantity by using EOQ models which balances the costs, quantity discount, inventory cost, obsolescence cost… in to account.

3. Forward Buying

This is a buying practice in excess of current requirement by taking in to account the supply and demand interaction of the operation. It does not include purchases with a view to make a profit out of it.

Advantages:

- It helps to fulfill known needs at a best price, quantity discount, volume, freight rate etc.
- To achieve the expected profit level, if an organization has a contractual agreement to supply its products for a specific period, it should have enough inventory inorder to get constant profit level for its operation.
- It reduces the risk of stock outs.

Limitations:

- Price risk is involved, it may fall.
- Added inventory carrying change.

There are also various reasons for forward buying.

- To provide a margin of insurance for possible strikes from the side of the supplier or similar developments like carrier interruptions.
- To take advantage of quantity discounts and favorable transportation rates by consolidating shipments
- To protect the company against risk of forecasted shortage of materials.

4. Speculative Buying

Strictly speaking speculative is buying materials with the intention of making a profit out of the transaction by selling the material at higher price later. On the other hand it may also be bought for own use believing that the foreseeable future need of this material arises.

Responsibilities of Speculative Buying

Buying and selling materials later at higher price is the major source of the company's income, and hence the responsibility should also be towards the top executive (GM), because the survival of the company and the risk associated to these operations is based on such speculations. On the other hand buying materials to use in the process at later times should be the responsibility of the top executive depending on the time the material is to be used and the risk associated to it. If the risk diminishes the lower level executive can have the responsibility, as the risk increases the responsibility shifts to the higher executive.

Under all buying polices there is a speculation of price to rise, and look for future reduction of price. In hand to mouth and forward buying we are speculating inorder to protect the company from paying higher prices in the future, while in speculative buying we are expecting generate profit out of it.

3.7.5 Discount in Purchasing

The other important factor which can influence the buyer in suppler selection or tender evaluation is discount. A discount is a reduction allowed by a seller to a buyer when the buyer meets certain stated condition in buying. The following part will provide the detail explanation of the most commonly used types of discount in purchasing.

i. Cash Discount

These are given to purchaser who pays their bill on time. It is used as a means of encouraging early payment before the expiration of the discount period. For example, if the cash discount is 2/10,net 30. It means the buyer can get a 2% discount when he settles his bills within 10 days; if not he can settle the bills within 30 days without any discount.

ii. Quantity Discounts

This is given to a buyer for purchasing increasingly larger quantity of materials; these can be obtained because of;

1. For purchasing a specific quantity of item at one time, or
2. For purchasing a specified birr total of any number of items at one time.
3. For purchasing a specified birr total of any number of items over an agreed –up on time period. (Cumulative discount).

Here the purchaser should take the inventory purchasing policy in to consideration with the quantity discount, because of the inventory carrying cost of large quantity.

iii. Trade Discounts

These are reduction from list price allowed to various classes of buyer and distributors to compensate them for performing certain marketing function for the Orignal seller of the product.

iv. Seasonal Discounts

This is granted for purchasing seasonal nature products during the off-season period. For example, a winter discount may be given to all summer products.

3.8 Value Analysis

This is an attempt to see any material or any component can be substituted or eliminated so as to achieve the proper function at a lower cost. Value analysis is concerned with scrutiny of the design function and cost of any product, material or service with the object of reducing cost by modification of design material specification, more efficient process, change in source of supply or possibly the elimination of an item or its incorporation in to a related item without sacrificing reliability and quality.

The two basic conceptual tools in the operation of value analysis are:

1. *Design analysis of the required material* design analysis in tails a methodical step by step study of all phases of the design of a given item in relation to the function it performs. Decomposing on item to its parts so as to see and examine each parts in relation to their function avoids or eliminate redundant or idle ones.
This can be examined by:

- Can any part be eliminated without impairing the operation of the other unit?
- Can the design of the part be simplified to reduce its basic cost?
- Can design of the parts be changed to permit the use of simplified and less costly production method?
- Can less expensive, but equally satisfactory materials be used in the part?

2. *Cost analysis of the required material* cost analysis involves the investigation of the supplier's probable cost of producing a given materials.

To get actual selling price of a suppler.

- Construct estimated elemental cost for labor, material, manufacturing overhead and general overhead.
- Total these cost, to arrive at approximate actual costs of producing for an efficient producer.
- Make-up reasonable profit and arrive at selling price.

Possible procedure in value analysis

1. Select the material that is right for value analysis.
2. Gather information about the material which includes, drawings, costs, scrap rate etc.
3. Define the prime functions; prime function of a material can be defined using two words; verb and noun.

Example: A barrel Contain fuel.
A drill makes hole.

4. Estimate the present cost of each function.
5. Generate alternatives, using brain storming-insist people to give new ideas.
6. Evaluate alternatives interms of cost, feasibility, undesirable consequence, etc…
7. Present proposals.
8. IF approval is secured implement the plan; translate the approved proposal to engineering change order.

In sum, the purpose of value analysis is to bring together the combined talents of purchasers and its vendors as well as engineers and other operating personnel to review the components of materials used in the making of the product with the view to improve its function and lower its cost.