



NATIONAL OPEN UNIVERSITY OF NIGERIA

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**COURSE TITLE:
PROCUREMENT & SUPPLY MANAGEMENT**

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Course Title

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MODULE 1

Unit 1	The Conceptual Framework and Objectives of Procurement and Supply Function
Unit 2	Procurement Cycle and the Internal Organisational Relationship
Unit 3	Purchasing Organisation and the Concept of Centralisation and Decentralisation of Purchasing Authority
Unit 4	Quality Assurance Activities
Unit 5	Supplier's Selection Activities

UNIT 1 THE CONCEPTUAL FRAMEWORK AND OBJECTIVES OF PROCUREMENT AND SUPPLY FUNCTION**CONTENTS**

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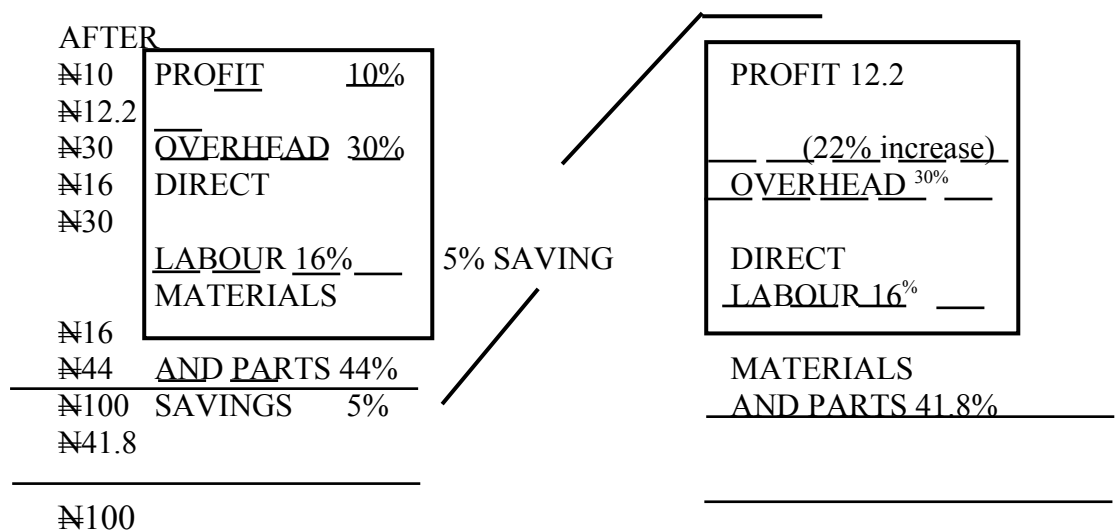
1.0 INTRODUCTION

There are only two fundamental inputs in which management, be it in the private or public sector of an economy, is primarily interested: (i) Men and (ii) Materials. Management is equally interested in other resources. However, from management point of view, materials management offers greater promise as a cost-reducing device. The reason(s) are not far fetched. The basic goal of a business activity is the development and manufacturing of products that can be marketed at a profit. This goal is accomplished by the appropriate blending of what management authorities historically have called the five M's: Machines, Manpower, Materials, Money, and Management. Materials today are the lifeblood in the industry. Materials of the appropriate quality must be available at the right time, in the right quality, at the needed location and an acceptable total cost.

Failure to fulfill any of these responsibilities concerning materials adds to company costs and decreases company profit just as would do outmoded production methods, inefficient personnel, and ineffective marketing activities.

Procurement is an important phase in the control of the flow of materials into the manufacturing plant from the vendor or supplier. Basically, no inventories are created until either raw materials or purchased components are bought. The classes of inventory thus controlled are purchased parts or raw materials. It has therefore been suggested that two of the most important control areas for all businesses, regardless of size, are purchasing and inventory. As a business function, and in term of naira spent, purchasing is by far the biggest spending department of any manufacturing company. Purchased materials consume over half of a manufacturing firm's sales revenue. Consequently, the profit potential of effective management of the purchasing activities is enormous compared with other practical management alternatives.

You can spend wisely and pay less for what you buy. It is generally agreed that it is easier to buy well than it is to sell well. Wise purchasing can reduce operational costs appreciably and also improve profitability. The effect of five percent saving on materials and parts is illustrated in figure 1 below.



(Naira in Thousand)

Fig: 1.1 Effect of reduction – A 5 per cent saving on materials and parts can increase profit by 22 per cent

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Define and give meaning to the terms-procurement and supply
- Identify the key procurement variables
- Comment effectively on the functions performed by a typical purchasing department.
- List the objectives of the purchasing function
- Highlight the advantages of effective purchasing to an organisation

3.0 MAIN CONTENT

3.1 The Concept of Procurement

Procurement or better still, Purchasing (The two terms shall be used interchangeably in this book), is one of the basic functions common to all types of business enterprises. These functions are so basic because no business can operate without them. By its very nature, purchasing is a “service” function, orientated towards catering for the supply requirements of various departments by making purchases of materials, requirements, supplies or services, etc. which they need. Carter (1989) thus described purchasing as:

The department, which is concerned with the process of ascertaining the organization's material and service needs, selecting suppliers, agreeing on terms, placing orders and receiving goods and services.

Most English dictionaries have stated that procurement means buying, while supply is stated to mean the art of providing articles or materials.’

Viewing purchasing broadly, Siropolis (1977) conceptualized purchasing in terms of the essential activities or task associated with the acquisition of the materials, services and equipment used in the operation of an organisation. According to him, the purchasing function involves:

- 1) pinpointing the need for materials and services
- 2) searching out and selecting suppliers
- 3) settling with suppliers such matters as price and payment terms
- 4) signing the contract or order
- 5) following through to make sure suppliers live up to their end \ side of the agreement.

In summary therefore, Siropolis (1977) defined purchasing as a business function this way:

It is the entrepreneur's responsibility to buy materials and services of the right quality, in the right quantity, at the right time, from the right supplier, at the right price.

Lysons, K. (2000, p.1) in answer to a question, which he posed as "what is purchasing" defined purchasing as:

The function responsible for obtaining by purchase, lease or other legal means, equipment, materials, components, supplies and services required by an undertaking for use in production or resale

Production as a concept broadly means the process of coordinating men and materials (i.e. human and physical resources) to create from raw materials, physical goods and services that will satisfy human wants and needs. In other words, production is an input –output relationship. Lysons (2000) further observed that:

...in this definition, the term production is used in the economic sense of creating utilities, i.e., goods and services that satisfy wants. It is not, therefore, confined to manufacturing output but also applies to servicing, distribution, etc.

By this last explanation, it could be argued that any persons or organisations who take part in getting to the final consumer are part and parcel of the production process. Therefore, the so called middlemen who engage in buying and selling which is another name for purchasing in the distributary trade are part of the productive agents-purchasing, storage, and distribution – and are not parasites as it is traditionally believed.

The foregoing definitions demonstrate that purchasing plays an important role in production activities. Today, purchasing is not the same as the buying of yester-years.

Menon (1993) argued that BUYING is merely the act of procuring an item of materials at a price. This is what is done at a bazaar service. It is a static concept. Menon's definition however makes PROCUREMENT a very strategic activity in a company, as is marketing. The primary aim of the purchasing function is the improvement of profits, by actively searching out and implementing new ideas for improving the company's products in order to achieve these objectives:

- 1) Reducing costs of materials,
- 2) Finding out substitute materials that are more economical, and
- 3) By eliminating elements of costs in purchasing which do not add to value.

Procurement is thus a much broader concept than buying and covers a wide range of managerial functions right from participation in corporate planning and policy activities to product improvement, working capital management and profit improvement.

There is however a fundamental distinction between purchasing as a function and the purchasing department. Dobler et al (1996) suggested they are not necessarily the same. As a function, purchasing is common to all types of business operations. The purchasing department, however, is an organisational unit of a firm whose duties may include responsibility for part or all of the purchasing – and perhaps additional activities as well. In any case, the purchasing functions usually performed most effectively and efficiently be a central unit made up of buying specialist, who at times may work in conjunction with a more comprehensive cross-functional team of specialists.

3.2 The Key Procurement Variables

Needle, David (1992) identified the key Procurement variables as source, quantity, quality, time and price. These variables are examined each in turn in the following discussion:

1. **Source Management:** This is faced with a number of decisions concerning the source of the firm's raw materials and components. The obvious strategy is one, which maximizes the other four variables, obtaining supplies in the quantity and quality required, when they are needed, and an acceptable price. In achieving these aims, managements must decide whether to produce their own materials and components or buy them from other manufacturer; and if the latter, whether to opt for a single supplier or buy from a number of different suppliers.
2. **Quantity:** The major purchasing decision here is how much to order at any a time. This is a function of cost, storage capacity, and the nature of the production system.

3. **Quality:** The quality of incoming raw materials as components is a vital ingredient in the quality control function. The purchasing department or the materials manager is usually responsible for the acceptance sampling and inspection of incoming materials.
4. **Time and Price:** The timing of a purchase is, like order quantity, a function of the needs of the production system, storage capacity and price.

3.3 The Function of Purchasing Department

Apart from purchasing per se, a purchase department would have several complementary activities. Menon (1993) stated some of the important ones to include:

- 1) Market research for new materials and development of new source of supply.
- 2) Follow-up with suppliers to ensure proper delivery.
- 3) Quality assurance in respect of supplies made by vendors, (this includes supplier education, visiting the vendor's factor to ensure in-process quality assurance).
- 4) Inspection of materials for quality in order to that the specifications are complied with.
- 5) Development of proper and streamlined systems and procedures relating to the purchasing function to ensure that work is carried out efficiently and at the lowest reasonable operating cost.
- 6) Co-ordination with in other functions with the materials department like transportation, receiving, store-keeping, inventory control, accounting etc.
- 7) Co-ordination with the production, sales and finance departments regarding alteration in production schedules or delivery rates, or changes in materials, product or packaging specification.

3.4 Objective of Purchasing

According to Dobler et al (1996), the objectives of purchasing can be viewed from three levels.

- i) A very general managerial level,
 - ii) A more specific functional or operational level, and
 - iii) A detailed levels at which precise strategic buying plans are formulated.
- From a top managerial perspective, the general objectives have traditionally been expressed as the five rights that management expects the department to achieve i.e. the acquisition of materials:

of the right quality, from the right price. In practice, however, the department can rarely fulfill all these equally, because in some buying situations, conflicts inherently exist between some of the objectives. So usually, some trade-offs must be made. From a practical point of view, supply personnel seek a reasonable balance among these elements of the purchasing mix.

- From an operating or functional perspective, an objective broadly becomes a developed set of statements that provide practical and useful targets for decision-making purposes. In these cases, the following broad statement of objectives is suggested:
 - 1) To support company operations with an uninterrupted flow of materials and services. This is the most fundamental of all the purchasing and supply objectives. In a logical sense, this is a key reason for the existence of the department.
 - 2) To buy competitively and wisely. Buying competitively keeps the buyers on the edge of the companies' activities. Buyers should know what's going on in the outside world. They must keep abreast of the forces of demand and supply that regulate price and material availability. They must be aware of the best practices and the latest developments and ultimately buying to the company's best advantage.
 - 3) To keep inventory investment and inventory losses at a practical minimum. The purchasing job is to achieve a reasonable balance between the required level of inventory to support operations and the cost of carrying the inventory.
 - 4) To develop effective and reliable sources of supply.
 - 5) To develop good relationships with the supplier's community and continuing relationships with active suppliers.

Good relationship with suppliers is imperative, and good relationships with potential suppliers are invaluable. The achievement of the objective number 4 above, on a continuing basis, is virtually impossible if mutually satisfactory continuing relationships are not maintained.
 - 6) To maintain sound co-operative relationships with other departments, providing information and advice as necessary to ensure the effective operation of the organisation as a whole.
 - 7) To develop staff, policies, procedures and organisation to ensure the achievement of the foregoing objectives.

It is a truism, however, that the objective of the purchasing department will vary a great deal, depending upon the organisation's policy, complexity, size, operations, etc.

- The third level focuses on the detailed objectives that are developed when precise buying plans are made (usually annually) for each major category of materials the firm uses in its operations. These precise set of objectives for each material typically varies because the usage requirements, the operating conditions, and the markets in which each material is purchased usually are different.

3.5 Advantages of Effective Procurement

Deriving from the above objectives, we might identify the following as being the principal benefits to be gained from the effective management of the procurement process:

- (1) Lower prices of materials and items used
- (2) Faster inventory turnover
- (3) Continuity of supply
- (4) Reduced replenishment lead times
- (5) Reduced transportation cost
- (6) Reduced materials obsolescence
- (7) Improved vendor relationships
- (8) Better control of quality
- (9) Effective administration and immunisation of organisation effort
- (10) Maintenance of adequate records and provision of information for the operations managers.

SELF ASSESSMENT EXERCISE

What operational or functional level objective should Purchasing seek to achieve as a business function?

4.0 CONCLUSION

Clearly, the procurement or purchase of items and material has relevance in all types of organisation or operating system, since in all such systems there will be some dependence upon the use of physical items. Whilst the principles and objectives of purchasing might also be applied in the acquisition of labour, capital, etc. the purchasing process is concerned primarily with obtaining physical items for use in, and conversion through, the operating system. Most operating system requires such items. Hospitals for example require a regular reliable

supply of consumable items such as medicines, sterile equipment, etc. Transport operations are dependent upon adequate supply of consumable materials such as fuel, tyres, etc. Supply organisations naturally are dependent upon an adequate, reliable and efficient supply of those items which are to be passed to customers, whilst manufacturing organisations are entirely dependent upon the supply of consumable and non-consumable materials and items.

5.0 SUMMARY

Procurement is one of the basic functions common to all types of business enterprises. These functions are so basic because no business can operate without them. As a business function and in terms of naira spent, purchasing is far the biggest spending department of any manufacturing company. Purchased materials consume over half of a manufacturing firm's sales revenue. It is however generally agreed that it is easier to buy well than it is to sell well. Wise purchasing can reduce operational costs appreciably and also improve profitability

6.0 TUTOR-MARKED ASSIGNMENT

What sense, do you make of the statement, “no purchasing, no organisation”

7.0 REFERENCES/FURTHER READING

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UNIT 2 PROCUREMENT CYCLE AND THE INTERNAL ORGANISATIONAL RELATIONSHIP

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Procurement Procedure or Cycle
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1.0 INTRODUCTION

Every business concern acting as a merchant middleman has a set of operating procedures to effect purchases from suitable sources of supplies. A procedure may be defined as a series of steps to be taken in doing a task. It is a detailed guide of action for the personnel doing a specific work. Procedures set out definite tasks with their time sequence to be undertaken by assigned employees within the limits laid down by the policy. It is therefore necessary to develop operating procedures to implement purchasing policies. In developing operating procedures, one has to keep in mind the basic factors in management, i.e. efficiency and economy. Procedures should therefore:

- 1) Be simple and result, oriented and not cumbersome and unnecessarily complicated.
- 2) Facilitate a proper co-ordination between various departments and people and:
- 3) Make for quick, easy and accurate communication. Paper work, for example, should be reduced to the minimum but must be consistent with the basic requirements in respect of audit and managerial control. Proper forms should be designed to ease clerical work and reduce human error to the minimum.

2.0 OBJECTIVES

By the time you have read through this unit, you should be able to:

- explain the nature and basic features of the term procedure
- list and comment on each step of the purchasing cycle
- describe the nature of interrelationships between the purchasing department and other organizational unit or departments

3.0 MAIN CONTENT

3.1 Procurement Procedure or Cycle

The usual steps in the procurement procedure (or more technically, the purchasing cycle) are:

- 1) **Receipt and Analysis of the Procurement Requisition:** A properly signed and approved purchase requisition authorizes the purchase department to order the materials, specifies what kind is desired, how much and when as well as where it is to be delivered in the plant. The requisition form usually gives full particular of stocks demanded such as quality, description, stock on hand, average consumption, probable price, etc.
- 2) **Selection of Potential Sources of Supply:** A procurement group must constantly keep itself informed as to the best places to buy all items of materials required. This is no small task. Effective procurement cannot be accomplished on a status-quo basis. If the purchase requisition is for a new item, then from the list of potential sources, a selection should be made for inquiry by the use of the request for quotation.
- 3) **Issuance of Request for Quotations:** The title of this form is self-explanatory (see figure 1.2 below) it is sent by the purchasing group to all the selected possible source of supply. It should be as complete as a purchase order except for the statement of the price to be paid. It is up to the vendor to submit his price, this is his quotation. Because this form is so much like the purchase order form, it is a common practice to print in bold type across the form this statement: **THIS IS NOT AN ORDER.**

QUOTATION REQUEST				
<div style="text-align: center;">•</div> <div style="text-align: center;">•</div> <div style="text-align: center;">•</div> <div style="text-align: center;">•</div> <div style="text-align: center;">•</div> <div style="text-align: center;">•</div> <div style="text-align: center;">•</div>				
		IMPORTANT THIS IS NOT AN ORDER OUR PURCHASE ORDERS ARE SUBJECT TO CONDITIONS AND INSTRUCTIONS ON THE REVERSE SIDE HERE WITH		
		DATE	REFERENCE NO	
QUOTATION REQUEST		NAME AND ADDRESS OF ISSUING DEPT		
INSTRUCTION TO VENDOR				
PLEASE SUMIT TO YOUR QUOTAT5ION ON THIS SHEETY FOR MATERIALS LISTED BELLOW TO BE DELIEVERED F.O.SIF YOU'RE UNABLE TO FURNISH THEM IN ACCORDANCE, PLS GIVE DETAIL OF YOUR OR OF SUBSTITUTES.				
DATE QUOTATION REQ.		DATE DELIVERY REQUIRED		BUYER'S SIGNATURE
QUANTITY	DESCRIPTION		UNIT PRICE	DISCOUNT TOTAL UNIT PRICE
NOTE: EXCISE TAX MUST BE SHOWN WHEN APPLICABLE. IF EXEMPTED, PLEASE INDICATE				
CASH DISCOUNT TERMS		SIGNATURE OF VENDORS REPRESENTATIVE		DATE
.....BUYER'S...FILE...COPY.....				

Fig 2-1 A typical request for quotation

- 4) **Receipt and Analysis of Quotations:** The most important consideration receipt of quotation is checking to ensure that they conform to the actual requirements of the company. This should not only be in line with the enquiry but also in tune with the initial request from within the company. When quotation has been verified, the buyer must then prepare for their comparison by whosoever is to make the selection decision.

- 5) **Selection of the Right Source:** A comprehensive discussion of all the many factors that enter into the selection decision is in chapter five. Briefly, the purchasing group is interested in the reliability of the prospective source of supply. Questions such as

these might well be posed: will quality be maintained and delivery made on schedule? Does the vendor have adequate tools and equipment, trained personnel, and finance to handle the contract? What is the location of the vendor's plant in relation to the purchaser's plant? What means of transportation are available between these points? And so on. Obviously another major consideration is the price quoted. However, the lowest price or bid may not be from the best source in light of the factors mentioned above.

- 6) **Determination of the Right Price:** This is a major responsibility of the purchasing group and it involves settling with suppliers such matter as price and payment terms. Many factors influence what is a right price, but in a broad sense, the right price is one that is right for all concerned reasonable to the purchaser, fair to the vendor, the buyer's customer, and the public. Obviously, the purchaser must be able to buy materials at a price that makes it possible to sell the product at a profit but profits are also essential to the vendor. In addition, the buyer must consider the reliability of the vendor and in some instances be willing to pay a little more for better service in quality and delivery. The final agreed price may or may not be the quoted price; in some instances when all factors are considered it is conceivable that it may be higher. In any event, when the price is agreed upon the purchase order is issued.
- 7) **Placing of orders:** On the basis of most favourable quotations, purchase orders will be sent to the selected supplier. A purchase order, once accepted by the vendor, constitutes a contract for the delivery of the goods in accordance with the terms of the purchase agreement. This constitutes a legal document, and it usually contains many other terms of agreement in addition to the quantity, quality, delivery and price. Purchase order must be made in four copies. As figure 2.2 below shows, a purchase order gives the following information:
 - (1) Serial number and date of order.
 - (2) Name, address etc. of the seller,
 - (3) Full particulars of goods – quality, quantity, description etc.
 - (4) Price and terms of discount.
 - (5) Manner, mode and date of delivery.
 - (6) Special instruction relating to billing, packaging, labeling, marketing, insurance and mode of transport.

The order must be duly dated and signed by a responsible person.

PROCUREMENT ORDERS				
		PURCHASE B 130702		
		ORDERS NO		
		SHOW ABOVE NUMBER ON YOUR INVOICE		
TO	.	.	DELIVERY	
	.	.		
	.	.		
	.	.		
	.	.		
PLS ENTER OUR ORDER FOR THE FOLLOWING				
DATE	REQUISITIONED BY	TERM	FOR	TRANSPORTED BY
QUANTITY	OUR PART NO	DESCRIPTION		PRICE
GEHHE				
FORM 13/07/02 TERMS AND CONDITION 1. PLS ACKNOWLEDGE RECEIPT OF THIS ODER 2. ADVICE SHIPPING DATE IF OTHER INDICATED 3. MAIL INVIOCES AND B/L ON DATE OF SHIPMENT 4. IDENTIFY BY OUYR PART NO (IF ANY) ITEMS SHIPPED 5. ONLY INVOICES COVERED BY A SIGNED PURCHASE ORDER WILL BE PROCESSED				

Figure 2-2 typical procurement order (form)

One copy of the order is sent to the seller, second to the production or the sales department; third to accounts department and the last copy to be retained by the purchasing department for future reference.

- 8) Follow-up to Ensure Scheduled Delivery:** The plan for the flow of material into a manufacturing plant is established by the purchasing procedure. Determination of the actual performance and comparison and evaluation of this performance can only be accomplished by effective follow-up of purchased orders.

The actual production and transportation of the purchased materials and component parts are of course, the responsibility of the vendor. It is in turn the responsibility of the procurement group to make sure that the vendor fulfill these responsibilities. This assurance must be received far enough in advance of the actual specified delivery dates so that corrective action can be taken when necessary to get materials into the plant as originally planned. This is usually accomplished by period follow-up of all

purchase orders requesting the vendor to reconfirm his ability to transport the goods on schedule. Other ways in which a purchasing group can take corrective action include transferring some of the orders to other source of supply and assisting the vendor in his production problems.

- 9) **Comparison of Invoice and Goods Received with the Order:** Careful inspection of all incoming materials and parts is essential for effective material control. The purchase order is the basic source of reference. The receiving report is a record of what is actually received; by comparing it to the purchase order, variations in quantity can be determined. If the consignment is short, it simply means that the reorder point will be reached sooner. Over shipment, delays placing of the next order with the vendor.

Inspection report may be a component part of the receiving report, or they may supplement it. In any event, a report on the quality of the purchased goods is necessary. Discrepancies either in quantity or quality should be promptly notified the vendor. This is normally a function of the purchasing group, but it may be a joint activity of the purchasing and inspection. It is an important function of purchasing because, in addition to providing purchasing with a valid measure of vendor capabilities; it insures that proper shipments are received. Control is effective only if quantity and quality of incoming goods are maintained.

- 10) **Analysis and approval of vendor's invoice for payment:** Invoices received from vendors for goods delivered should receive the approval of the purchasing group. This is the final control step in the purchasing procedure. Invoices should be checked. It ensures that quantities billed conform with the quantities accepted by the receiving and inspection departments. It is also a good practice to check the unit prices on the invoice and the extension of these prices to the total bill. Finally, all accounts and other terms of the original purchase contract should be checked against the invoice. By this final control step, payment is made only for the value of goods received.

It must be pointed out that though above description of the purchasing procedure is not exhaustive; all steps are still not followed in every purchasing situation. However, purchasing procedures should be reviewed often to ensure that the correct steps are being included.

The above steps for all practical purposes are what is regarded as the complete purchasing cycle. Effective procurement consists of a series of steps which forms a cycle. The steps in the cycle are those described in the foregoing discussion.

In summary, procurement cycle specifically concerns decision on:

- (1) How to determine the firm's purchasing needs;
- (2) Finding a supplier who will best satisfy purchasing needs;
- (3) Negotiating and making the purchase;
- (4) Communicating the purchase decision to the supplier and to relevant personnel within your firm, and
- (5) A follow-up procedure for evaluating your procurement decisions.

3.2 Purchasing Department and Organisational Relationships

To discharge its responsibilities adequately, the purchasing department must actively cooperate with other departments not only to procure materials, supplies and services for the company but to give and receive information so that purchase department could make a very significant contribution to company's profit improvement and operational cost reduction. Purchasing cannot be done in isolation of other functions. All management functions work as a whole system. It is therefore always better to conceptualize purchasing from systems point of view.

Systems composed of sub-systems, or expressed in commercial terms, organisations consist of departments and sections, and these parts interact and are independent. Accordingly it is necessary to consider these inter-relationships otherwise the system or organisation as a whole will not function efficiently and will be slower to adapt to changing conditions, which is a primary requisite for survival. A purchase department, by the very nature of its functions has to have continuing and close relationships with several other departments in the company as well as with the suppliers. And by virtue of these duties and responsibilities, the purchasing or supply executive finds himself in a strategic position to interact with heads of other functions and key individuals within an organisation. Since he constantly works with others department, his tasks are easily and largely determined by those departments.

Some specific areas which must be closely watched for maintenance of good relationship and elimination of conflicting tendencies include:

1) Relationship with Design/Engineering Department.

In many industrial concerns, it is usually the initial responsibility of the design or engineering to prepare the technical specifications for a company's products and the materials that go into them. To exercise this responsibility effectively, engineering must have the constant help of the purchasing function. It is the responsibility of the purchasing department to scrutinize the cost elements in order to ensure that the quality of the needed item fulfils the function for which it is required at the lowest possible cost. The purchase department can also help the engineering department by conducting market surveys and searching for new and better materials and equipment. The engineering department, in turn, can render assistance to the purchase department in deciding specifications, i.e. what should be the right quality of the various materials procured by the company.

2) Purchasing and Production

The production department is the main materials, or suppliers, 'customer' and it is therefore of primary importance that the services to production are satisfactory in all respects. The closest cooperation is essential not only on the provision of materials, but also on the stock levels to be manufactured in accordance with the policy for inventory control. The production-purchasing relationship begins when the user department transmits its manufacturing schedule or materials requisition to the purchasing department. Purchasing subsequently translates these documents into a procurement schedule.

Hence, while the production department has the responsibility for producing high quantity products in sufficient quantities by meeting customer's needs, the purchasing department assists production to meet targets by making available raw materials and suppliers of the right quantity at the right place and time. This required the production department to keep purchasing department constantly informed of its production requirements. By having the opportunity to study production plans well ahead of requirements, the purchasing executive is placed in a position to detect any error of assumption, in the delivery schedule and to take necessary corrective measures.

3) Relationship with Marketing

In a typical merchandising company, the marketing or sales department has the responsibility of making sales forecasts, providing market information, boosting sales, increasing market shares etc. the developed sales forecast cost only served as the basis of all the activities: production, financial and personnel projections of an organization, but

also the basis of purchasing plans and forecast based on the expected volume of production. One vital area in which purchasing function continues immensely to the marketing function is in the area of efficient buying and assurance of continuous availabilities of materials to meet sales target.

4) Purchasing and finance

The relationship between purchasing and finance covers several very important areas. Indeed, the interaction between these two departments takes place almost on a day-to-day basis, since the purchase department spends the bulk of the income of the company.

The accounts department and the purchase department must work in close harmony in several identifiable areas bordering on provision of data for budgeting and planning, provision of costing information, settlement of supplier's bills, adherence to company's policies, rules and regulations relating to purchase transaction, etc.

5) Purchasing and Store

The links between the stores and purchasing in terms of their activities have always been very close and largely interdependent, and any inefficiency or lack of cooperation on either side is soon reflected in the order. Purchasing is responsible for buying all the goods and services needed by the organisation. Purchasing relies on stores for a wide variety of supportive activities. Purchasing needs stores to keep it informed about the levels of stocks at any given time and it is up to store to keep purchasing up-to-date as to the total stock situation. This will enable purchasing to ensure that stocks are produced and that a balance and economic flow of goods and services is provided. Hence, a close relationship between purchasing and store is necessary in order to ensure that materials are ordered strictly in term of actual requirements and in the overall interest of economy.

6) Purchasing and Personnel

It is necessary for the purchasing department to be manned by the right personnel and therefore, the staffing function becomes very significant. It is not only necessary to recruit the right type of personnel with the right knowledge, skills and attitudes, but these people should be continuously developed to take care of the increasing requirements connected with their jobs. The efficient functioning of the purchasing department will depend upon the efficiency of the personnel department to carry out the functions in respect of staffing.

7) Relationship with the maintenance department

The purchasing department in this case has added responsibility equipment materials and machinery spare parts and of being in a position to issue them as and when required. To ensure that the materials, tools, spare parts and equipment needed by the maintenance department (this is the department responsible for the upkeep of all the equipment and machinery in every company), are in stock, the purchasing department must be aware of all long-and short-term maintenance plans as produced by the maintenance department. Similarly the maintenance department will have to advise on the initial quantities of spare parts to be provided when any major new plant or machinery is installed.

SELF ASSESSMENT EXERCISE

Enumerate the basic decision areas of the procurement cycle.

4.0 CONCLUSION

It must be pointed out that though above description of the purchasing procedure is not exhaustive; all steps are still not followed in every purchasing situation. However, purchasing procedures should be reviewed often to ensure that the correct steps are being included. To discharge its responsibilities adequately, the purchasing department must actively cooperate with other departments not only to procure materials, supplies and services for the company but to give and receive information so that purchase department could make a very significant contribution to company's profit improvement and operational cost reduction. Purchasing cannot be done in isolation of other functions. All management functions work as a whole system. It is therefore always better to conceptualize purchasing from systems point of view.

5.0 SUMMARY

Every business concern regardless of size has a set of operating procedures to effect purchases from suitable sources of supplies. The development of such procedures must however keep in mind the basic factors in management, i.e. efficiency and economy.

Again, a purchasing department by the very nature of its functions has to have a continuing and close relationship with several other departments in the company as well as with suppliers. This is because purchasing can not be done in isolation of other function.

6.0 TUTOR-MARKETD ASSIGNMENT

Comment to justify the state that “all steps which form a procurement cycle are not followed in every purchasing situation.”

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UNIT 3 PURCHASING ORGANIZATION AND CONCEPT OF CENTRALISATION AND DECENTALISATION OF PURCHASING AUTHORITY

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Purchasing Organisation
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1.0 INTRODUCTION

The purchasing function comprises the essential activities associated with the acquisition of the materials, services, and equipment used in the operation of an organisation. During the early years, the purchasing function used to be handled in a reactive, staff support manner. Subsequently, it was conducted more professionally with a managerial emphasis. Management is said to involve getting a job done through people and central to the discussion of management are the managerial functions of planning, organising, directing and controlling. These functions are relevant regardless of the type of organisation or the level of management with which one is concerned. This unit shall focus on the organising element of managerial functions.

The net result of organising as a management function is the organisation structure, and often, much of the success of a business firm depends on its internal organisation structure. Business organisations, with the exception of sole proprietorship are a collection of individuals and groups interacting on a relatively continuous basis and in a complex dynamic state. Organisational issues are many and varied and necessitate careful consideration when planning a new structure. This chapter therefore has the objective of examining the management of purchasing activities in relation to

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- locate the position of purchasing function in different organisations
- sketch out the various forms of organisational structure that the purchasing function can assume
- state and comment on reason for the different status given to the purchasing function and its personnel in different organisation
- explain what single plant and multi-plant firms are all about
- discuss the ideas of centralisation and decentralisation of purchasing authority.

3.0 MAIN CONTENT

3.1 Purchasing Organisation

The purchasing profession is a young one. It did not come into existence until industry grew so large and complex that the owners or plant managers no longer could supervise buying personally (though that is still done in small businesses). Today, there is a growing realization of the specialised nature of the purchasing function. No longer is purchasing like the buying of the olden days. Purchasing has developed into a science and has its own rules, conventions and practices and uses all the processes of management that make it contribute effectively to the company's profits. The question of organisation of the purchasing department is equally of paramount importance. The first assumption is that purchasing is a specialized activity. If this is accepted, then it follows that all purchasing activities in the company should be concentrated in this specialist department.

In many companies, one finds that several departments are involved in purchasing, for example engineering department (equipment), administration department (furniture and fixtures or stationery), transport department (vehicle spares), etc. They choose the suppliers, contact them directly, negotiate with them for price and other terms of supply and carry out all the other functions of purchasing. Most often than not, clerical staff are assigned responsibilities with regard to purchasing tasks. It is obvious that such as clerical staff performing purchasing role will not attract the ability to perform the function to a higher level. Indeed the specialization of the clerical (low level) staff would be below average and their efforts are likely to be wasteful. The question that has therefore been frequently asked is, where should purchasing be in the organization structure?

3.1.1 Purchasing Department in the Organisational Structure

There has been no simple answer to one of the major questions in purchasing as to where should the function be located in organisational structure? Once upon a time when materials contributed very little to the overall cost of a product, purchasing was considered one of the unimportant and routine functions of the company. The purchaser was literally an errand boy who would go to the market and buy the materials needed at his master's wishes. Even when its importance grew, purchasing was given a very subordinate position in management and the purchasing department functioned under production, engineering or marketing, and quite often under finance. As companies grew in size and complexity, and as the science of management came to be appreciated better, it became clear that the purchasing department could make a very significant contribution to the profits of a company. In many companies, therefore, this realization has resulted in the purchase manager being given a higher status and being included in the management team.

Inegbenebor A.U. et al (1995:133) argued that the location of purchasing function varies from one organisation to another, and hence, could take any of the following three forms:

- (i) Top or senior management function
- (ii) Middle management function
- (iii) Routine clerical job

PURCHASING AS A TOP MANAGEMENT FUNCTION

The system of locating the purchasing function within the top or senior management hierarchy basically implies that the head of purchasing enjoys a parallel status of a caliber consistent with other key or principal managers; who should make a significant contribution to the development of the enterprise. In addition, he or she should set objectives for his or her functions, and the scope of his or her activity should exhibit accountability as well as authority. Figure 3.1 below shows purchasing function as a top management function.

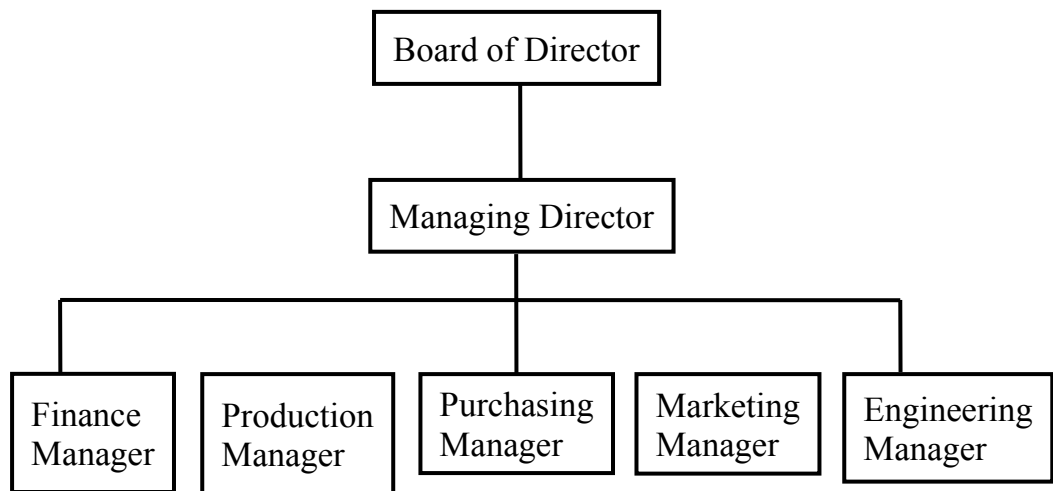


Figure 3-1 purchasing function located at a top management level.

This type of system is likely to occur in a manufacturing organization that has not adopted materials management philosophy. The modern approach is to have an integrated materials department headed by a materials manager, with the purchasing department under him. The other function under the materials department would be stores, inventory control, transportation, production planning, etc. However, where there is no separate materials department, it's just ideal to place the purchasing manager directly under the chief executive.

Yet again, in an organisation where the purchasing function is perceived or regarded as strategically important to both its short and long-term health and survival, purchasing will tend to enjoy a senior management level status. This will be the case whenever the organisation concerned spends a significant proportion of its income on purchasing goods and service to allow it to do business. Similarly, the characteristic profit centre of the purchasing function will confer this top management positional placement on purchasing.

PURCHASING AS A MIDDLE-LEVEL MANAGEMENT FUNCTION

There are organizations where the purchasing function is subordinated, most often to production. This is a traditional approach to organisation and may indeed be a reflection of the quality of staff that performs the purchasing activities. Modern management theory does not support this organisational structure. The current practice in industrialised countries, where materials management is in vogue is to locate purchasing under materials management department as figure 3.2 below demonstrates.

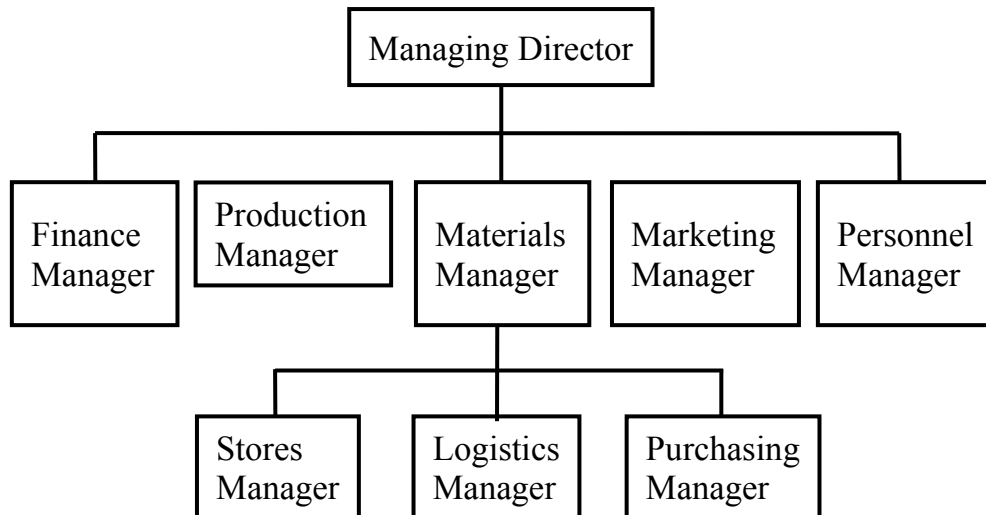


Figure 3-2 Outline of the Purchasing Manager as a Middle level Manager.

In this particular type of structure, the materials manager has been upgraded to the rank of production, marketing, finance manager. Purchasing therefore becomes an intermediate function.

PURCHASING AS A CLERICAL FUNCTION

This is a common feature in small-scale business establishment where the items purchased are small and standardized. In these types of establishment purchasing is usually centralised and the functions carried out at the head quarters. This type of organisation dampens the morale of the purchasing clerk because the level of aspiration is quite low. As Lyons (1989: 27) observed, “Where purchasing is routine, those responsible for the function may report directly to the owner, the work’s manager, or the accountant who will often decide what, when and how much and the source of supply”. The level at which purchasing operates in organisation is therefore determined by the nature of organisation;

- (1) Non-programmed decisions, and
- (2) Programmed decisions.

According to Gopalakrishnan et al (1986:27), non-programmed decisions are novel, unstructured, consequential and involving questions of strategy consisting of major policies and plants. While on the other hand, programmed decisions are repetitive and routine to the extent that definite procedures have been worked out for handling them so that they don’t have to be treated as a new task each time they occur. In other words, non-programmed purchasing decisions are challenging and require original thinking which a clerk may not be able to handle while

programmed decisions can be handled by anybody including purchasing clerks in organisation.

3.2.1 The Internal Organisation of a Purchasing Department

The organisation of the purchasing department itself will depend upon the requirements and the kind of activities involved. More specifically, the following are among the factors, which will affect the organization structure decision:

- (1) The number of people employed
- (2) The volume and variety of goods and services purchased
- (3) The ability and authority of the departmental head
- (4) The capabilities of the people employed in the department and
- (5) The importance of the purchasing function to the operation of the enterprise.

Within a purchasing department, three or four strata of authority are the norm. The head calls himself purchasing director, or manager of purchase. Under him is a group of agents and/ or buyers (if the department consists of more than one person). In large, sophisticated departments, purchasing analysts, expeditors, and traffic experts complement the buying staff. The implication is that the internal structure of a purchasing department may vary from that of a small company, medium-sized company to a large-sized company. A simple form in a small department is often with the exclusion of some purchasing related functions such as purchasing analysis; stock-control etc. from the buyer's responsibilities, this pattern is reasonably typical of a small departmental structure as shown in figure 3.3

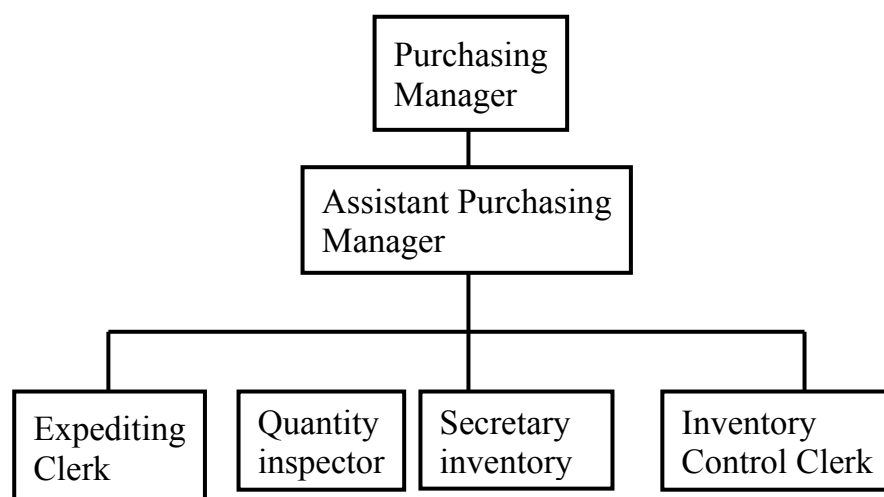


Figure 3-3 Organisational structure of a small purchasing department.

The division of responsibilities in figure 3.3 is quite straightforward. The purchasing manager assumes responsibility for the more important purchases, and his assistant deals with more routine matters.

The allocation of responsibilities in figure 3.4 is more complex. Generally speaking the purchasing manager in this case will be responsible for policy making as well as the efficient management of the department as an element in the company organization. He usually retains responsibility, too for the most important contracts and purchasing decisions. In this type of structure, a decision has to be taken as to how best to group the purchasing activities so as to be most effective. One common approach is to do this by commodity or material grouping, where each purchase officer deals with a particular range of items; for example, one purchasing officer may be responsible for raw materials another for mechanical component, a third, for electrical / electronic items etc.

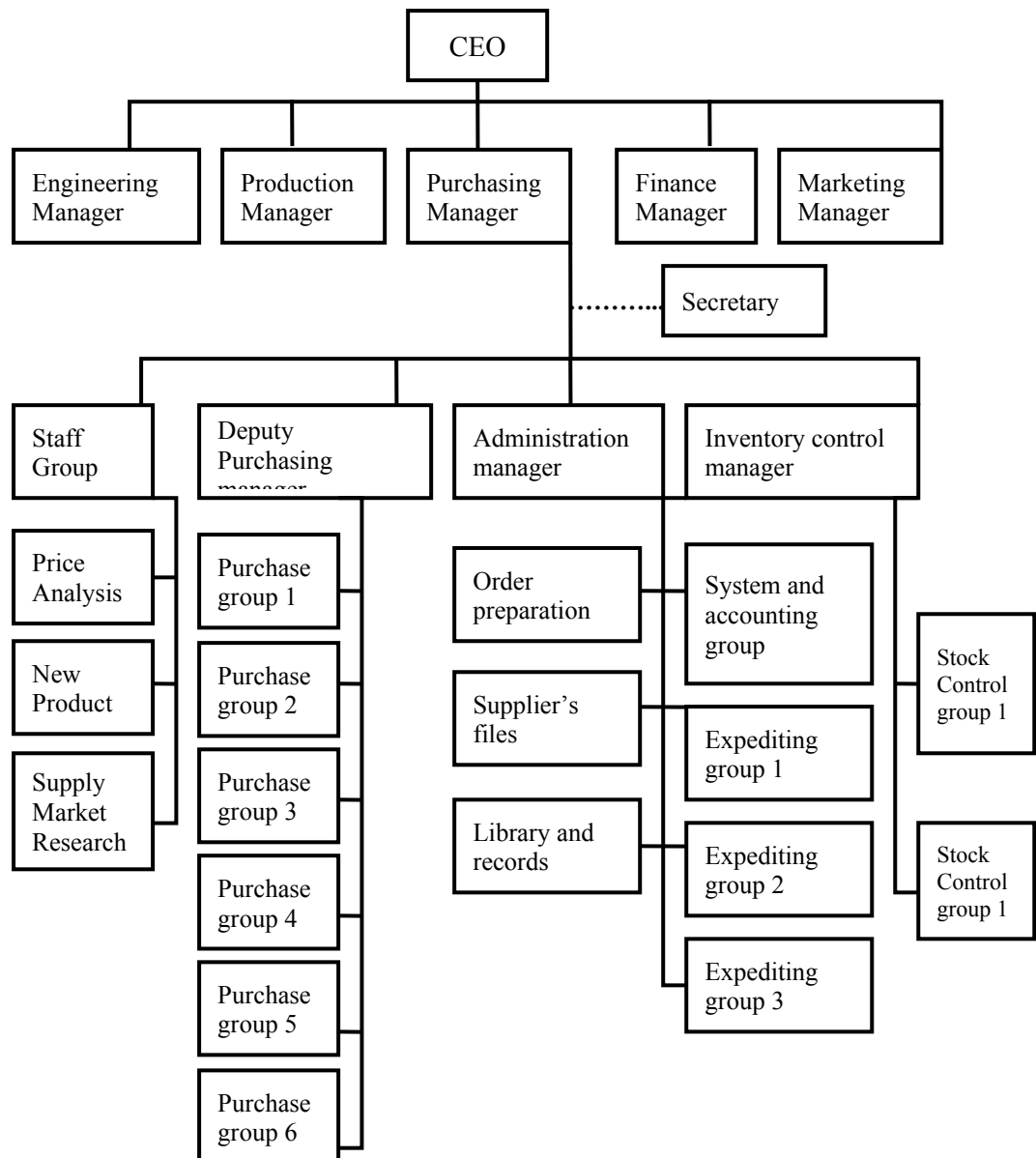


Figure 3-4: Organisational structure of a large –sized company’s purchasing department

This type of complex internal organisational structure of a purchasing department offers a number of advantages.

The first is the advantage of specialization in a particular range of goods.

Secondly, this helps to avoid duplication of market research and negotiation effort at the plant level.

Third, this structure facilitates data collection and communication inside the department and with other departments of the company as a whole.

Fourth, the arrangements can strengthen the purchasing manager's negotiation position through consolidation of total requirements and can reduce time spent in negotiation.

Fifth, liaison with suppliers is often improved by adopting this system.

However, if this approach of work is followed, it is important to bear in mind that provision should be made whereby a colleague can take over responsibility for a particular group of materials in the absence of the purchase officer who is normally responsible for that group.

Purchase specialisations based on commodity or materials groups, may often be the best way to subdivide the work of a purchase department, but it is not always the case. In the construction industry, for instance, individual purchasing officers or purchasing sections are responsible for all purchases for particular contracts. Often these contracts amount to huge sums and the construction site may be many kilometers from where the responsible purchasing officer is located. In such circumstance, a single contact facilitates liaison, even though there may be advantages on concentrating purchases for negotiation. A combination approach is frequently favoured, where buyers assigned to particular contracts place orders against contracts negotiated on a commodity basis for the company as a whole.

3.2 Single Versus Multi-Plant Purchasing Organisation

Single Plant refers to organisation whose major production activities are located in a particular place; that is, the company's head office. This type of company may have branches located within the geographical area, but these branches can be designated as depots or mere sales outlets. In this case, functions such as purchasing, finance, production, administration, etc. will be located at the head office. Organisational set-up in multi-plant companies is however of a different arrangement.

Multi-Plant firm here refers to companies having their production plants located in different parts of the area. Examples are Coca-Cola bottling company plc. With production plants in virtually every state capital in Nigeria. Also, West African Portland Cement Plc with production plants at Ewekoro and Shagamu; while Mr. Biggs has production facilities in over twenty state capitals in Nigeria. Large companies like these are commonly confronted with one particular organisational question that does not concern most single-plant companies: **the question of to what extent should purchasing and supply management activity be centralized at the corporate level?** In practice virtually every firm answers this question differently. Some firms centralise the purchasing activity almost completely, doing the buying for all sites at a central headquarters office. Others decentralize

the function entirely, giving each site full authority to conduct all of its purchasing activities.

The majority of other firms develop an organisation somewhere between these two extremes. These two concepts are discussed next.

3.2.1 Centralization of Purchasing Authority

A business organization that adopts a policy of placing all major decision-making authority and control in the hands of top-level executives is said to adopt a centralised management organisational structure. Hence, if authority is not delegated, it is centralised. Consequently, the subordinate executives will only be making relatively little important decision, as only little authority can be exercised outside the top-level managers. Centralization of purchasing is therefore, solely concerned with the placement of purchasing authority. It has nothing to do with the location of buying personnel. Hence in purchasing, centralization exists when the entire purchasing function is made the responsibility of a single person. This person is held accountable by top management for proper performance of purchasing activities.

A major issue in this context is the degree to which purchasing, as a function should be centralized. In recent years, there has been a trend towards the establishment of centralized purchasing function. This trend has been particularly noticeable in health services, in local and central government supply, as well as in manufacturing. The principal benefits thought to be associated with central purchasing are summarized below:

- (1) The possibility of standardizing specifications and establishing common needs, as regards quantity, specification, etc.
- (2) The possibility of more economic purchase through, for example, larger batch quantities.
- (3) The reduction in administrative costs through the purchase of larger quantities on few occasions, possibly from fewer sources.
- (4) The possibility of purchase staff specialisation and thus increased knowledge of source and supplies.
- (5) The possibility of the use of more effective, detailed, and accurate purchase information and records.
- (6) The possibility of more detailed accurate and budgetary and financial control procedures.
- (7) Centralisation develops purchasing specialists whose primary concern is purchasing. With training, specialists inevitably buy more efficiently than less skilled individuals who view purchasing as a secondary responsibility.

The principal advantages derive from the possibility of increased purchase volumes, from standardization, and from specialization.

Disadvantage of centralized purchasing, however, might include:

- (1) Difficulties of communication within the organisation, deriving perhaps from geographical separation
- (2) Slow response to new or unusual supply needs from the organisation
- (3) Possible increased volume and from standardisation thus the merits of centralised purchasing will depend upon the possible financial saving through volume and variety considerations as against possibility of reduced response times and flexibility.

3.2.2 Decentralisation Of Purchasing Authority

Despite the several advantages of centralization, complete centralized purchasing is neither always possible nor always desirable, as Dobler D. W. and David N. Burt (196:46) argued that fourth types of situations justify some decent ration. Decentralization takes place in different companies at different levels, and for different reason. In the organizational sense, decentralization refers to the dispersal of authority to the parts of the organisations and not the dispersal of an organisation's physical locations. Accordingly, a decentralization is one where authority to commit resources (e.g. personnel, materials, money) and to take meaningful decisions is spread throughout the various levels of the organization as compared with centralized organization where authority is exercised only by top management.

Decentralization of purchasing occurs when personnel from other functional areas - production, engineering, marketing, finance, and so on, decide unilaterally on sources of supply or negotiate with suppliers directly for major purchases. According to Dobler et al;

The first of the four situations that justifies some decentralization is found in companies that process singles natural raw materials. In these industries, the raw materials are product of nature that are purchased in unstable markets whose price fluctuate widely. Buying typically takes place at auctions conducted in small local warehouse. Many firms therefore separate the purchase of the key raw materials from the purchase of other materials. Firms in the textile and leather industries are good examples.

A second situation justifying some decentralization of purchasing authority exists in technically oriented firms that are heavily involved in research. In these firms some exceptions to complete decentralisation

are always desirable. In the research situation, scientists often do not know exactly what they want. Consequently, the design engineer concerned with developing a prototype must frequently talk with the supplier at the completion of each developmental step. These circumstances dictate giving engineers and scientists flexibility and a small portion of the firm's purchasing authority.

The third situation justifying a different type of decentralization is found in the operation of multi-sided institutional and manufacturing organisations. A situation that allows full autonomy in each of the units or sites to commit company resources in the local performance of the purchasing function.

Finally, the purchase of non-technical odds and ends also often calls for a partial decentralization of purchasing. Credit card and petty cash fund purchases of less than twenty five thousand naira are a good example. For many small purchases, the cost of the paper work exceeds the cost of the item purchased. Hence, decentralizing through the use of these approaches can be a money saver.

The advantages of Decentralisation are:

- (1) The local buyer will have a better knowledge of the needs of his or her particular factory or unit, of local suppliers, and of transport and storage facilities.
- (2) He or she will be able to respond more quickly to emergency requirements, partly because of shorter lines of communication and partly because he or she will have a greater awareness of local circumstances than someone sitting many miles away.
- (3) The local buyer's direct responsibility to his or her immediate management will produce better liaison and tighter control by local top management particularly where they operate as a profit centre.
- (4) It prevents top-management overload, as central management is relieved of much lower level and routine decision-making and thus able to concentrate on strategic considerations.
- (5) It increases motivation of divisional management by enabling junior management to get a taste to responsibility and the use of initiative.

Problems Associated with Decentralisation:

- (1) Possible sub-optimal decision making where local management takes decision which only benefit the department or division as against the general company-wide interest. This therefore calls for adequate control and communication system if major errors of judgment are to be avoided.
- (2) More problems of coordination. Top management must ensure the parts of the organisation work together.
- (3) Decentralization places extra demand upon junior management so that there is a continuing need to recruit, train and develop well-motivated and intelligent personnel.

Generally speaking, the advantages of centralisation are the disadvantages of decentralisation, thus a combination of both is often used to obtain the benefit from the best characteristics of each, while avoiding the disadvantages of both approaches. Overall, whilst there are undeniably more advantages than disadvantages of decentralisation, it is as well recalled from Peter Drucker's remark that decentralisation is excellent, when it fits.

SELF ASSESSMENT QUESTION

It is common to argue that the location of purchasing function varies from one organization to another and therefore could also take different forms. State the various forms in this context.

4.0 CONCLUSION

There is a growing realisation of the specialised nature of the purchasing function. No longer is purchasing like the buying of the olden days. Purchasing has developed into a science and has its own rules, conventions and practices and uses all the processes of management that make it contribute effectively to the company's profits the question of organisational importance. The first assumption is that purchasing is a specialized activity. If this is accepted, then it follows that all purchasing activities in the company should be concentrated in this specialist department.

5.0 SUMMARY

This unit has examined the management of purchasing activities in relation to organisational concepts. The pertinent question of where should purchasing as a business function be located in the organisational structure was answered. The various factors which affect the organisation structure decisions were highlighted and the question of to

what extent should purchasing and supply management activity be centralised or decentralised was answered while also bringing to the fore the relevant advantages and disadvantages of these purchasing authority concept were discussed.

6.0 TUTOR-MARKED ASSIGNMENT

The question of to what extent should purchasing and supply management activity be centralised at the corporate is virtually answered by every firm differently. You are required to comment on the different perspective of answers and make recommendation on which you think is best advisable.

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UNIT 4 QUALITY ASSURANCE ACTIVITIES

CONTENTS

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 - 3.2 Specification of Quality
 - 3.2.1 The Value of Specification
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1.0 INTRODUCTION

A significant percentage of the raw materials and parts or a component used to manufacture any product is purchased from supplier (vendors). The quality and reliability of the finished product is therefore influenced by the quality of the materials and parts that make up the finished product. In purchasing therefore, quality assurance refers to the establishment and maintenance of acceptable quality standards in the purchased items. In other words, it is a way of ensuring that the quality level of a potential supplier is commensurate with the buyer's quality requirement. The process normally starts from the initial purchase planning stage, when the desired quality level in the required items must be carefully described or fully defined, in order to ensure that the supplier has an accurate idea of what is needed.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- define the term “quality” and the “right quality”
- discuss issues involved in the specification of quality for materials
- explain the meaning and process of standardisation.
- describe value analysis approaches
- highlight and discuss different types of inspection and its responsibility and practices
- comment on how quality is described.

3.0 MAIN CONTENT

3.1 The Right Quality Definition

The first task as regards to the purchases the right quality of materials is to define the right quality for a particular job. Frequently, confusion arises in the use of the term quality because it is used indiscriminately to refer to three things, namely;

- 1) Quality of design
- 2) Quality of conformity with specifications; and
- 3) Quality of performance.

As a rule, high quality of design results in high cost of manufacturing and usually results in high performance value. This explains why the manufacturer usually thinks of the quality of the product in a different sense from the layman view. The manufacturer is concerned with how the product meets the customer’s specifications and how it compares with the competitor’s in the same price class. To the manufacturer therefore, quality is not absolute but is relative to other factors such as the selling price of the item, the use of which is intended, and the conformity to measurable quality standards.

Quality has many definitions but for the purpose of this book the term may be defined as:

Quality is the conformity to specifications that result in a product, which meets customer’ expectations, not the number of features or degree of sophistication of the product.

Quality has no meaning in purchasing except it is related to function and ultimate cost. The best quality is, then, that which can be purchased at

the lowest cost to fulfill the need or satisfy the intended function for which the material is being purchased.

Purchasing executive is in excellent position to contribute to that portion of their company's profits that originates in the area of quality. Why? Because they can bring to bear three important types of knowledge;

- (1) their knowledge of the materials they buy,
- (2) their knowledge of markets and economic trends, and
- (3) their knowledge of reliable sources of supply.

With this background, they can analyse the designer's materials requirements. They can report the market availability of those materials, their price, their possible substitutes, and the reliable vendors who can supply the required materials when needed at competitive prices. If a firm does not conduct such an analysis, it sacrifices profit by failing to utilize full purchasing potentials and capability to assist in determining the optimum quality. Three major considerations are involved in assuring a purchase of the right quality:

- (1) How to determine it.
- (2) How to define it.
- (3) How to control it.

3.1.1 How Quality is Determined

Quality is determined by balancing two major considerations;

- (1) The technical consideration of suitability and,
- (2) The economic consideration of price and availability.

In a manufacturing industry, the design-engineering department has the basic responsibility for determining the technical quality of materials to be used in production. Engineering works closely with production and sales in this determination. The user department is normally responsible for the suitability determination of materials not used in production. The office manager, for example, is responsible for determining the quality of typewriters, calculators, and other office machines. The maintenance engineer is responsible for determining the quality of the tools, greases and oils to be used in maintaining the plant.

The purchasing department is responsible for the second major consideration in quality determination-the economic consideration of quality. After the technical decision of quality has been made, purchasing must determine whether the materials selected can actually be purchased on a continuing and competitive basis. In the area of quality, most progressive companies give the purchasing department a

major management responsibility along with its economic responsibility; thus management responsibility is the right to challenge the quality requirements on all requisitions received in the purchasing department. The right to challenge is not the right to change specifications. Rather, to challenge means to request reconsideration of the technical decisions for economic reasons. The fact that purchasing has the responsibility to challenge quality tends to keep all departments alert to their responsibilities in determining the “right quality”.

3.2 Specifications of Quality

Quality has earlier been defined as how well a product does what is supposed to do-how closely and reliably it satisfies the specifications to which it is built. The modern concept of quality is a philosophy, which aims continually to satisfy customer requirements. Specifications are the most detailed method of describing such requirements. Indeed, quality is usually described by the quality specifications. The quality requirements of an item must first be determined and specified. Ambiguity in defining quality is one of the major problems in purchasing. Care has to be taken in regard of specifications especially in ensuring that suppliers really understand the quality requirements. If the supplier has not understood them correctly, he will supply the wrong kind of materials and this can cause considerable difficulties, like production stoppages, rejections of finished product by quality control, reworking, excessive scrap etc. amounting to wasteful expenditure.

A specification for an item is a detailed description of the item: its size, dimensions, performance, function, chemical analysis and other relevant characteristic (colour, texture, form), in sufficient detail to ensure that it will be suitable in all respects for the purpose for which it is intended.

In practice, some specifications give dimensions only, analysis only, or performance only, but it is common to find some element of all three of these requirements and some other characteristic also specified. In each case however, it is necessary to specify tolerance on each desired characteristic. Tolerance is defined as the permissible variation in important characteristics such as size, weight, without causing the product to become unacceptable. Once the specification has been drawn up, all needed items will have to meet the requirements of the specification, otherwise they will be rejected. Simply put therefore, a specification is a detailed description of the requirements to which products must conform.

It is however important to ensure, in stating tolerances, that the tolerances specified are those which are actually required and indeed worked to. It is at this stage that design or engineering, procurement and

production staff can realise significant cost saving. Too close or tight tolerances increase costs of inspection and of parts. Tolerances which are not too tight enable a purchase department to buy parts more cheaply from a widely range of suppliers. Typical example is a furniture manufacturing where out-of-square components give poor joints and unsatisfactory appearance. Tolerances should however not be over-simplified so as not to adversely affect the overall design quality of the product.

In manufacturing industries, the responsibility for laying down the specifications of quality usually rests with the production, design or engineering departments. In distributive industries, which sell the merchandise they buy rather than products made by them, the selection of supplier-specified goods and the development of specifications for purchaser – specified goods is of central importance in buying and oftentimes, reflects the organisation's policy on merchandising. In buying supplier-specified goods, retailer picks a brand or buys a sample.

Menon (1993) highlighted five various ways in which specification can be described, namely:

- (1) Established specifications of the buyer
- (2) Established specifications of the vendor, and brand or trade names.
- (3) Blueprints, drawings or dimension sheets
- (4) Description of chemical or physical properties
- (5) By references to international, national or industry standard specifications.

It is important that the buyer knows exactly what he needs and is able to clearly communicate to the vendor precisely what he expects. As listed above, a common and convenient method of buying is by brand or names. This has the merit assuring an effective and dependable standard of standard of quality. Its demerit lies in limiting buyer to a single source for a product thereby destroying the competitive element in sound procurement. When specifications are difficult to spell out, or when desired relevant characteristics can not be reduced to figure such as in taste or smell, or colour, it is usual to provide a sample of the material or product to the vendor for duplication. This is buying by sample. Sometimes a combination of two or more methods may be used especially when specifications cannot be expressed solely in term of any of the methods. Specifying the quality of materials is of utmost significance in buying.

Once the quality specifications have been spelt out in detail, the purchase department should develop and maintain contact only with

firms who have the necessary facilities and which demonstrate the ability to consistently deliver the material of the right quality which conforms to the specification standards laid down.

3.2.1 The Benefits of Specification

The preparation of specification is a value-laden activity. Specifications will ensure that:

- (1) All commodities specified will be suitable for their intended purpose when put to use.
- (2) Considerable savings of time and money can be achieved because such items are often quickly available at lower cost and with quality acceptance, than products, which are tailor-made for distinct purpose.
- (3) Materials of a consistent quality at all times. This is the most desirable, not only from the point of view of production processes but also for the satisfaction of the consumer who buys the finished product.
- (4) The inspection or testing to be applied to goods purchased is notified in advance to the inspection department and to suppliers.
- (5) In respect of the purchase of specified items, all suppliers will have the same data on which to base their quotations.

3.2.2 The Dos and Don'ts of Specifications' Preparation

- (1) Over-specification is to be avoided; i.e. it is only necessary to ask for a quality, performance, etc. which is essential for the job. If the design is too complicated or the required dimensions, analysis or performance are too rigorous, the goods will be more expensive and in extreme cases, it may even be difficult to find a manufacturer willing to quote.
- (2) As far as practicable, pay attention to convenience in handling and storage of materials.
- (3) If there is to be inspection after delivery, the specification should state what tests are to be applied
- (4) If any special include the relevant instructions in the specifications.

3.2.3 The Roles of Supplier and Buyer in Quality Specifications

The purchasing department is the focal of the company's quality control programme. Though the design or engineering department or the user department lays down the specifications for materials; the purchasing department has the responsibility of not only to coordinate work in this

regard but also to ensure adherence to lay down specification standards. The responsibility, according to Menon (1993) can broadly be divided into parts:

- (1) The purchasing department must know precisely what is wanted and transmit the required information to the vendors
- (2) The purchasing department must ensure that the vendor supplies the materials in strict compliance with the prescribed specification
- (3) The department must take necessary steps to protect its company against financial loss from materials or parts, which do not meet the quality specifications.

The buyer may have to seek the necessary assistance of other outside companies to accomplish the above responsibilities. It is also important to refrain from kick-starting negotiations or invite quotations for an item of purchase without having ready the exact quality specification which will enable the supplier to make a realistic and intelligent bid.

As for the Vendor:

- (1) He must know precisely the quality that the buyer wants; and
- (2) He must know exactly how to meet the quality specifications prescribed.

The buyer will however need to satisfy himself with the vendors selected. It is necessary to choose a supplier with the necessary experience, facilities and knowledge to fulfill the purchase order in accordance with the buyer's quality specifications.

3.3 Standardisation

In a narrow and somewhat technical sense, standardisation refers to the setting up of exact specification or precise measurements. It has to do with the development of uniform specifications for tools, materials, equipment and practices. In business practice, there are two distinct aspects of standardisation, namely; managerial standardisation and industrial standardisation. The former deals with the managerial aspects of business such as standardising operating practices, procedure and systems. The latter on the other hand, which is the real focus of this book, is concerned with standardisation of things-their size, shape, colour, physical and chemical properties or performance characteristics of materials or products.

Companies like to standardise on certain parts that are used in their products. A standard is anything we use to measure. Any specification intended for repeated use becomes a standard. Hence, the systematic formulation and adoption of standard is referred to as standardisation.

However for the purpose of this book, the term standardisation shall be used to mean:

“...the reduction in the numbers of very similar items to be purchased or held in stock, thereby reducing the overall stockholding of the organization.”

Standardisation is usually accompanied by variety reduction; a reduction in the range of items used, stocked, bought or made.

3.3.1 Factors that Increase Variety

Materials or stock variety can increase over a period of time, and, without investigation, may long remain undetected. The following are some of the factors that lead to duplication of procured items.

- (1) Staff turnover in both the purchasing and stores departments often leads to stock line being duplicated because of an initial resistance to change on the part of new purchasing staff.
- (2) Personal preferences of the user. Many heads of departments have their own preferences and may demand that stocks of certain items must be purchased and stored.
- (3) One-off demand for a certain variety of items that may only be needed for one occasion is unwittingly maintained in stock thereafter.
- (4) Change in availability at certain times may encourage organisations to hold more than one variety of an item to safeguard against a nil-stock situation.

The use of standardisation however permits a firm to purchase fewer items in large quantities, and at lower prices. Thus, fewer items are processed and stocked. This reduces purchasing, receiving, inspection, and payment costs.

3.3.2 Standardisation Process

Standardization involves the following procedures:

- (1) **Identification of stock duplication:** This is often achieved when stores coding has been completed. The nature of item or item or materials coding is to give similar items code references. When these code references are compared and investigated it can then be established whether or not the items involved are basically the same and if so, whether standardization can effectively take place.

- (2) **Selection of standard item:** Once duplication has been discovered, the next stage is to select the best of the range in relation to usage, price, performance etc. It must be able to meet all the needs of the present stock variety. In these instances, the so-called universal or all-purpose type of item tends to be selected in an effort to meet all the requirements placed upon the item involved.
- (3) **Calculation of total stock requirements:** The next stage is to establish the revised level of stock for the item involved or select a standard. This can be obtained by reference to the stock record system. Stock records are a formal set of clerical records that contains information about the stock held within the store system. No standardisation is programmed; where possible, a user can however succeed unless users of the materials or parts are convinced that it is worthwhile. It needs to be marketed from the outset, and it is important to involve the user in the variety reduction process. Where possible, users themselves should decide which version would best suit their needs. Simply issuing a management edict that all standards must be rigidly adhered to does not work well.

There are three basic kinds of materials standards:

- 1) Industry standards,
- 2) National or international standards and,
- 3) Company standards

It is therefore desirable for the purchasing department to keep abreast of standards and to purchase and maintain publications, relating to standards of all materials, parts, equipment, etc., with which they are concerned. However, the use of company, national or international standards has its drawbacks and hence some elements of risk. There may be a tendency to place absolute reliance on standards as if they were the embodiment of perfection, instead of permitting objectivity in dealing with specific problems concerned.

3.3.3 Benefits and Drawback of Standardisation

There are a number of ways in which a purchasing department stands to gain as a result of standardisation. The benefits are as follows:

- 1) Reduction in the varieties of items kept in stock
- 2) Lesser number of varieties will reduce the unit purchasing cost due to the large purchase of one standard item. This is possible through obtainable quantity discounts

- 3) Wider choice of supplier and increased scope for negotiation.
- 4) Simplification of some orders, requisitions and other documents as requirement for long drawn out explanation and descriptions for every item purchased is eliminated.
- 5) It increases the scope of competition; the purchaser does not have the compulsion to purchase only from one specialist supplier.
- 6) It helps to reduce some aspects of purchasing activities to a simple routine.

There are certain disadvantages arising from standardization of stock. The will be more involved in some organisations than in others depending on the operation and needs of the companies.

- 1) **Reduced Flexibility:** Once the varieties have been standardised, sudden shortages of that particular line may cause supply problems.
- 2) **Reduced choice for the user:** It may be felt that the variety that was previously used was best for the job.
- 3) **Collusion to Raise Prices:** Manufacturers making the standard product may be get together and raise their prices so that the benefit originally gained is nullified. Buyers have to beware of this possibility.

3.4 Value Analysis (V.A) in Purchasing

The value analysis function is commonly thought of as part of the purchasing activity. The basic idea of value analysis is simply that of a cost reduction technique, and as such it might logically be treated as a part of methods in engineering and of purchasing simplification. Often the title value engineering is used synonymously with value analysis. Value engineering is however more normally used in relation to the design/creation of new products and value analysis in relating to existing products.

Lawrence D. Miles of the American General Electric Company around 1947 originated value analysis. He was engaged upon cost reduction exercises on a number of the company's products, and developed a series of tests or questions, which could be used to establish the value of any product or part. This set of techniques later became known as value analysis. Value analysis is a comprehensive, orderly and creative method to increase the value of item. This item can be a product, a system, a process, a procedure, a plan, a machine, equipment, tool, a service or a method of working.

Broadly speaking, value analysis is systematic, creative approach to ensure that the essential function of a product, process, or administrative procedure is provided at a minimum overall cost.

For emphasis, the following elements of value engineering are listed:

- 1) It is an organised, creative approach to cost reduction
- 2) It places emphasis on function rather than method
- 3) It identifies area of excessive or unnecessary costs.
- 4) It improves the value of the product
- 5) It provides the same or better performance at a lower cost.
- 6) It reduces neither quality nor reliability.

The value of an item is how the item does its function divided by the cost of the item: i.e. value of an item = performance of its function / cost.

Symbolically, $v = \frac{pf}{c}$ where

v = value,
 pf = performance of its function
 c = cost

Value is maximized when the cost associated with achieving the necessary function is minimized. The function is that which makes a product work or sell. An item that does its function better than another, has more value. Between two items that perform their function equally well, the one that costs less is more valuable. The “performance of its function” could include that it is beautiful (where needed), value analysis involves the evaluation of an item’s function and relates its effect on the end product. The purpose of it is to attempt to ensure that every element of cost contributes proportionally to the function of the item.

3.4.1 Value Analysis Approaches

A number of approaches have been suggested and used to facilitate the development of value analysis and many of these approaches have been used for years. Although, several methods of conducting value analysis are available, it is usually found that the team approach is the most appropriate and successful.

To make a value analysis, a study group of 4 to 6 is formed. Preferably, each with different knowledge, with different backgrounds and accounting departments. They meet in a room free of interruption.

Next, the item to be studied is selected. The item should be one that gives the impression that its cost is too high for its value. Or one that does not do its function well.

Generally, four fundamental steps are involved in a V.A investigation. The first step involves the collection of information about costs, function and customer requirement, the history and possible future development of the product design the manufacturing methods, and so on.

For a pencil, for instance; value analysis asks some key questions;

What is it? (A pencil)

What is it for? (To make permanent marks)

What is the main function? (To make marks, write lines)

What is the method, material or procedure that was used to realise the main function? (A graphite stick and wood)

What are the corresponding secondary functions? (Transfer graphite to paper” and facilities holding the graphite)

What does the item cost and how can we distribute the cost of realising these costs to an item of a similar function, how much should each function and the total cost?

This example, center the attention of the value analysis group on the main function, because, during the analysis, the secondary function may change. The group may choose different secondary functions to realise the main function.

The second stage covers the development of alternative design, i.e. alternative methods of achieving the required function.

The third stages involved the evaluation of alternatives. Fourth stage is recommendation. Recommendation should have all the information needed so that a person does not know this subject can understand it and do it.

The value analysis group should not itself implement the idea, if this is outside its normal area of work.

The final stages involve implementation and follow up.

3.5 Inspection Of Purchased Materials And Parts

Another stage in quality assurance is inspection. Inspection is the component of the quality control programme that is concerned with checking on the conformity of the item to the specifications set for it. It may be likened to the policing action necessary to force compliance

with our laws. In the same way that communities need policemen, companies also need inspectors.

Hence as a concept, inspection has been defined as:

The process of measuring and evaluating the qualities or attributes of a product or service on the basis of prescribed specification standards.

The inspection function commonly fulfills or achieves four primary responsibilities or purposes:

- 1) It checks the quality of incoming materials.
- 2) It checks on all finished goods by ensuring that only acceptable products reach the customer.
- 3) Inspection can locate oversize or undersize parts or any such flaws in materials in the manufacturing process so that our assembly operation or manufacturing process need not have troubles at subsequent operations.

3.5.1 Types of Inspection

Inspection generally includes all types of activities, such as testing, gaging, and so forth that are required to determine whether the product meets the prescribed standards. The following types of inspection have been identified:

- (1) **Process Inspection:** This is the first piece of inspection. It may point out the need for adjustment in the machine.
- (2) **Pilot Piece Inspection:** It is an extension of first piece inspection. It can indicate adjustments in the various pieces of equipment before the entire lot is run. This will prevent spoilage.
- (3) **A Test or Trial Run:** Trial run inspection is to test the performance of the product.
- (4) **Key Point Inspection:** is a preventive inspection at key points of manufacture. It can prevent unwanted expenditure on poor parts.
- (5) **Final –Point Inspection or Testing of a product:** may deal with many aspects: e.g. appearance, performance, endurance power (tire test). It may be done on a random sample of the products.

3.5.2 Inspection Responsibility and Practices

To carry out its responsibilities, the inspection department will need to establish a number of policies and procedures. It must decide what to inspect, where to inspect, how to inspect, and many other pertinent matters. The section that follows examines some of these matters.

What to Inspect?

As pointed out previously, one may generally say that purchased materials, good in process and finished products should be inspected. Purchased materials should be inspected at the time they are received and before they are stocked or sent to assembly. Similarly, because of the many variables that enter into every phase of manufacturing, it is essential that in-process materials be given an optimum amount of inspection. Optimum because over or under inspection can prove to be very costly. Also, qualified inspectors should make finished goods inspection. The items should be checked by measurements, operating tests, or other means to ensure compliance with the specifications. Failure to provide a thorough check at this point may allow a faulty product to be sent to the customer.

Location for Inspection.

In most cases, operators will inspect their work as they perform it. However this informal inspection is not sufficient. Even if they are conscientiously done, their check will not be infallible (error free) and may allow faulty parts to be forwarded to next operations. It therefore becomes necessary to provide an additional check by inspectors.

Inspection points should be planned carefully and should be located where they will produce the most economical end-results. In locating the inspection points, consideration must be given to whether the materials are to be inspected at a machine or work station or checked at a centralised inspection point. If the inspection is made at work station, it is called floor inspection. Inspectors of parts produced do some floor inspection. In contrast to floor inspection is centralized inspection. This type of inspection takes place in a centralised place and necessitates taking the items to be inspected to the inspection station.

Floor inspection has the advantages of:

- (1) Allowing only minimum materials handling,
- (2) Reduced storage and delay of material in process,
- (3) Close contact between the inspectors and work station and;
- (4) Prompt communications and correction of processing difficulties.

The disadvantages however include;

- 1) under utilisation of the inspector's time and
- 2) the fact that some items require special inspection devices that may be available only in a central inspection or test station.

- 3) improved supervision of inspectors and their adherence to standard inspection procedures.

Amount to Inspect

One of the important phases of any quality control programmed is the determination of the frequency of inspection and of the percentage of items to inspect. It is neither practical nor economical to expect that every item should be inspected, for every specification be determined and that maximum concentration be placed upon adherence to these standards. We should never lose sight of the fact that inspections cost money and that the amount of inspection should be reduced to the minimum required to maintain the degree of desired control.

Reference is frequently made to 100 per cent inspection or to sampling inspection. In 100 percent inspection, all of the items are checked for the characteristic being measured. Sampling inspection, on the other hand, does not involve a check for each item. It is based upon the statistical probability that the characteristic of a sample will be the same as those of all items in the lot. It should not be assumed that 100 percent inspection is necessarily absolute than sampling inspection. It does not guarantee that all faulty items will be detected.

Many factors will influence the decision on the amount of inspection to be used. For example,

- 1) The type of production being made,
- 2) The variability of the manufacturing process, and;
- 3) The variability of the materials

Rejection

The inspection department possesses the authority to reject those items that fail to meet the specification standards. Where items are rejected, the inspection department representative either signs the appropriate space on the goods received note as rejected, or alternatively indicates the reason for rejection on the inspection certificate or prepares a separate reject report document, or causes the computer record of the transaction to be amended. The accounts payable section is informed, and the goods are held pending negotiation or ultimate return to the supplier, in accordance with instructions to be issued in due course by the purchasing office.

Prompt notification to supplier and to the purchasing department is however important when goods are rejected. Delay in notification could affect the buyer's legal position. P. Baily & D. Farmer (1981) listed a

number of alternatives opened to the buyer when sampling inspection is used on a batch of goods rejected as defective.

It may be possible to:

- 1) Refuse to accept the batch
- 2) Return the batch for replacement;
- 3) Return the batch for credit;
- 4) Arrange for supplier to make a 100 percent inspection at purchaser's establishment to sort defective parts from good parts; and
- 5) Make the 100 percent inspection using purchaser's inspection.

Following the 100 percent inspection, there are three further alternatives:

- 1) To return defective parts for credit or replacement
- 2) To correct or re-work defective parts
- 3) To use the defective parts, but with special care or for special applications.

3.6 How Quality is Described

After the right quality has been determined, it must be described in such a way that the seller can understand and supply it. This is not as easy to accomplish as might be assumed. In industrial purchasing, purchases are regularly made from thousands of miles away. These distant suppliers must determine buyer's wishes from piece of paper the purchase order, personal discussion and references to floor samples are missing. Under this circumstance, quality description is much more difficult. Also the description must be precisely understandable to all competing sellers, not just one seller.

Quality descriptions perform three main purposes:

- 1) They make it possible to describe items on purchase orders.
- 2) They let the vendor know exactly what the buyer wants and
- 3) They permit inspection by specified measurement of test, which can verify that the materials received conform to the materials described on the purchase order.

Quality usually described on purchase orders by the following methods:

- 1 Market grades
- 2 Brand or trade names
- 3 Commercial standards

- 4 Chemical or Physical specification
- 5 Performance specifications.

SELF ASSESSMENT EXERCISE

What factors support the argument that the purchasing executive is in excellent position to contribute to that portion of their company profits that originates in the area of quality?

4.0 CONCLUSION

Control of the quality of procured materials and subcontracted work is of such an importance that every system of quality control should place high priority and emphasis on assurance of quality in procured materials. Before a purchase is made, it is necessary to determine and define the quality that is wanted. Once this is done, it is the purchasing department's task to ensure that the quality of the material purchased conforms strictly to the quality specified. The process normally starts from initial purchase planning stage, when the desired quality level in the required items must be carefully described or fully defined, in order to ensure that the supplier has an accurate idea of what is needed.

It is one of the most important responsibilities of a purchaser to ensure that he/she buys the right quality. There is obviously no meaning in wasting time and effort on procuring the kind of materials that does not conform with quality specification. The purchasing department do not only places the purchase order but must also ensure that the goods in their required quality have been obtained. In other words, the purchasing department must ensure that the best value for money has been obtained. In this regard, the purchasing department has a joint responsibility with other departments in deciding on the quality that should be purchased.

5.0 SUMMARY

Quality has earlier been defined as how well a product does what it is supposed to do -how closely and reliably it satisfies the specifications to which it is built. The modern concept of quality is a philosophy, which aims continually to satisfy customer requirements. Specification is the most detailed method of describing such requirements.

Companies like to standardise on certain parts that are used in their products. A standard is anything we use to measure. Any specification intended for repeated use becomes a standard. Hence, the systematic formulation and adoption of standards is referred to as standardisation.

The value analysis functions are commonly thought of as part of the purchasing activity. The basic idea of value analysis is simply that of a cost reduction technique, and as such it might logically be treated as a part of methods in engineering and of purchase simplification. Often the title “value engineering” is used synonymously with value analysis. To carry out its responsibilities, the inspection department will need to establish a number of policies and procedures. It must decide what to inspect, where to inspect, how to inspect, and many other pertinent matters. The section that follows examines some of these matters.

6.0 TUTOR-MARKED ASSIGNMENT

The basic idea of value analysis is simply that of a cost reduction technique with purchasing and supply functions. How does this technique bring about real cost reduction of purchased materials and parts?

7.0 REFERENCES/FURTHER READING

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UNIT 5 SUPPLIER'S SELECTION ACTIVITIES

CONTENTS

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- 2.0 Objectives
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 - 3.2 Factors in Supplier Selection
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1.0 INTRODUCTION

Suppliers are major resources for manufacturers and traders alike. It would not be possible to operate without them. An adequate supplier base is essential to the economic wellbeing of a firm. Perhaps, it would be reasonable to argue that the most important purchasing decisions are concerned with selecting the right source of supplier; that is, if the correct source decision is made in a particular instance, then the buying company would receive the right goods in the right condition, in the right quality, at the right time and at the right price.

Selection and management of the right supplier is the key to obtaining the desired level of quality, on time and at the right price to meet up with the company's purchasing objectives and policies. The management of the supply market however requires advance planning, forethought and the quality to make some decisions. Sourcing in purchasing has gone beyond simply picking a supplier for each order in isolation.

- 1) It involves continuing relationships, both with preferred source which are actually supplying goods and services, and with potential source which may have been passed over for the present but are still in the running.
- 2) It involves decisions about how to allocate the available business, and what terms to do business on.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- State and discuss factors in Supplier selection
- Highlight and comment on the sources of supplier's information
- State and describe and/or calculate both qualitative and quantitative processes of supplier Evaluation (i.e. Pre- and Post - selection evaluation)

3.0 MAIN CONTENT

3.1 Issues Involved in Sourcing Function

D. Dobler and D.N. Burt (1996) argued that buyers must take six important supplier-oriented actions in order to satisfy the performance of sourcing function in purchasing. It is argued that the buyers must:

- 1) Develop and maintain a viable supplier base or source
- 2) Address the appropriate strategic and tactical issues
- 3) Ensure that potential suppliers are carefully evaluated and they have the potential to be satisfactory partners.
- 4) Decide whether to use competitive bidding or negotiation as the basis of source selection
- 5) Select the appropriate source
- 6) Manage the selected supplier to ensure timely delivery of the required quality at the right price.

Peter Baily et al (1996) further argued that for its proper performance, sourcing requires supply market research. This is a normal part of buying work, undertaken informally by buyers when they talk to representatives or salesmen, visit exhibitions, read trade journals, and investigates the market before placing orders. It may additionally be undertaken as staff or support function to buyers by full-time purchasing research staff within a purchasing services section of company. The objectives for this supply market research include:

- 1) The identification of the set of actual and potential sources, which constitute a supply.
- 2) Investigation of the suppliers' capabilities,
- 3) Examination of market trend and prospects of long-term supply; and
- 4) The general keeping of the buyer's ears to the ground.

Figure 5-1 outlines the procedure normally involved in selecting suppliers. The model suggests that:

- 1) the buyer, once receipt of a purchase requisition, first checks whether the organization is currently committed to the particular supplier for the supply of such items and, if not;
- 2) whether an existing source might satisfy the requirement

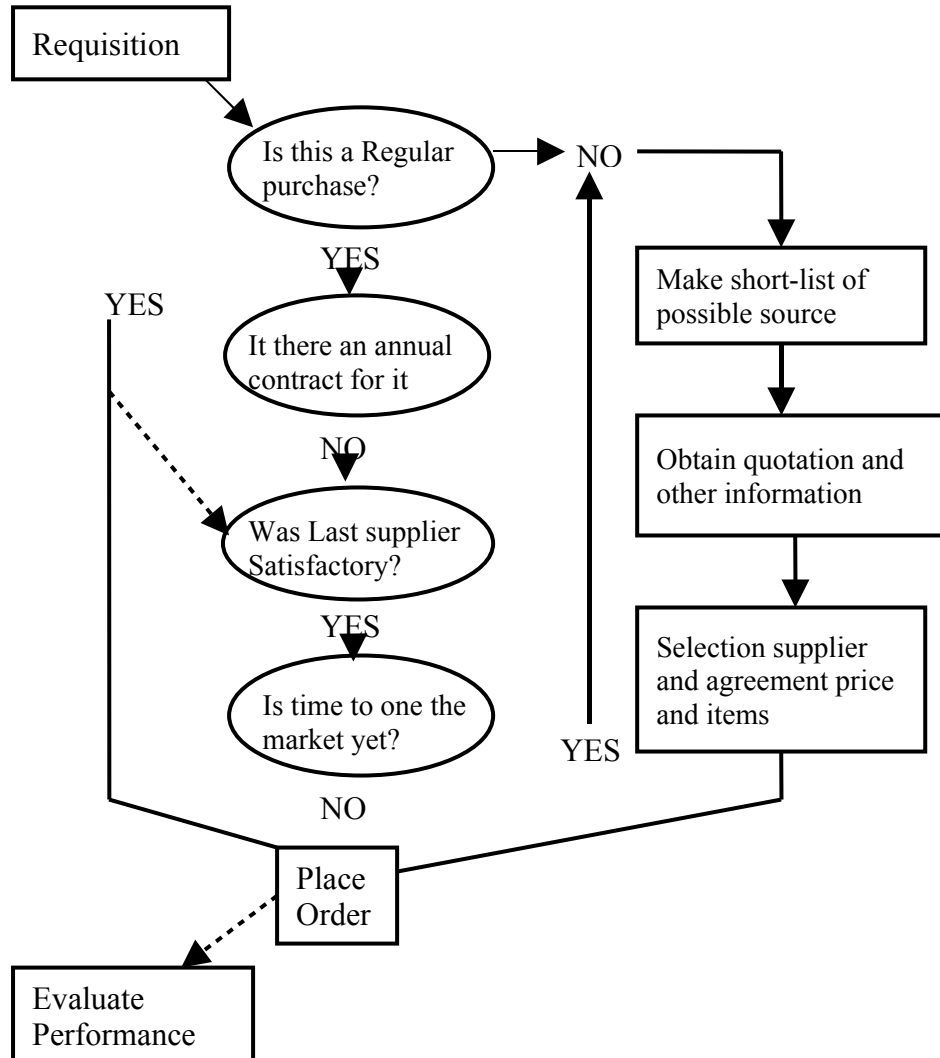


Figure 5.1: Outline of procedures for selecting suppliers. The broken line indicates steps taken after orders have been placed.

- 3) Repeat ordering with an existing source would be normal unless for some reasons necessitating a review of such an arrangement. Such reasons might include:
 - a) recent price increases,
 - b) recent extensions in supplier supply lead-time
 - c) failing to meet specifications,
 - d) decline in vendor rate performance.

3.2 Factors in Supplier's Selection

The primary concern of the purchasing department is to successfully identify and secure the services of those suppliers that will help realise both objectives of the purchasing department and the overall company's objectives. Hence when selecting a supplier, the buyer is attempting to find a company or companies which will meet its needs. Those needs usually include reliability in quality and service terms, while the relevant pricing is competitive. The benefit of accurate supplier selection can therefore include such factors as reliability, quality, delivery, performance, reputation and continuity of supplies.

Great care must be taken over the selection of every supplier: short cuts in this area will lead to inefficiency and loss of profitability in the long run. The supplier's selection decision is based on the following factors, all of which must be carefully researched and analysed by the purchasing department.

1) Assurance of Supply

Reliability of supply is becoming increasingly important to both buyers and suppliers. Hence, supplier's who suffer recurring shortages themselves must be used with great care, regardless of their other desirable capabilities. Suppliers who have assured, long-term source for their raw materials and component parts should be favoured and developed.

2) Size of Supplier

Some purchasing authorities theorize that the size of an order should correlate with the size of supplier – receiving the order.

3) The Number of Suppliers

The number of suppliers to be selected for a particular line of products or group of items is another important factor that must be given careful consideration. Selecting one supplier for a particular product, no matter how reliable the source could be proves unwise in the long run. Similarly, selecting too many suppliers for an individual material may result in the buyer's inability to fully tap the resources of these suppliers.

4) Developing New Source of Supply

In some cases a buyer is not able to select but must create a satisfactory supplier. If existing suppliers cannot satisfy a company's needs, a logical alternative is to create a supplier that can.

Encouragement of this nature may involve setting-up or equipping such local producer financially and materially up to the level expected by the buyer.

5) **Conflict of Interest**

In selecting suppliers, buyers must be aware of conflicts of interest. A conflict of interest exists when buyers must divide their loyalty between the firm, which employs them, and another firm.

6) **The Policy of the Buying Firm**

A company's policy may for example favour reciprocity, single or multiple sourcing. In purchasing, suppliers who patronize the buying company are given priority when it comes to selection of suppliers. Some companies makes it a matter of policy to reward indirectly, those customers that buy from them regularly and are found capable of performing certain jobs for the company.

7) **Ethical Consideration**

Buyers should keep themselves as free as is humanly possible from unethical influences in their choices of suppliers. Gift from suppliers which are intended to influence buying decisions have no place in a professional purchasing department. In most cases, commercial bribery is a criminal offense.

8) **Dishonest Suppliers.**

Dishonest sellers exist in the industrial world just as they do in the consumer world. Purchasing personnel should be wary of dishonest suppliers and endeavour to avoid them. Their aim is to swindle the buying company.

9) **Local Sources**

It is always desirable to patronize suppliers located within the buyers' immediate environment. This will help to promote good relationship between the local community and the company. It is only when materials in question are not available at the expected quantum that buying from distant source can be justified.

10) **Government Policy**

For the purpose of controlling foreign exchanges, government may for example, impose restrictions on importations of certain goods thereby

preventing the sourcing of the goods in foreign supply markets. In such cases, the buyer's range of sourcing is limited to the local market.

11) Others

Other factors, which for obvious reasons may be taken into account in supplier's selection, can be listed as follows:

- 1) Relative price of goods and services supplied by the supplier, compared with his competitors.
- 2) Delivery dates, methods and cost delivery. In many instances, the delivery element is more important than price, provided the prices are within the boundaries of the main competitors.
- 3) Supplier's reputation, especially within the industry or trade.
- 4) History of labour relations at the supplier's end.
- 5) Financial solvency of the suppliers;
- 6) Legal constraint, e.g. patent law.

3.2.1 Attributes of a Good Supplier

Peter Baily et al (1996), suggested a number of attributes which might be regarded as desirable for a typical relationship.

These include:

- 1) Delivery on time
- 2) Provide consistent quality
- 3) Gives a good price
- 4) Has a stable background
- 5) Provides a good service backup
- 6) Provides a good stock service
- 7) Does what he/she says they will do
- 8) Provides technical advice
- 9) Keeps the buyer informed on progress

3.3 Sources of Supplier Information

The task of obtaining information about sources of supply is a continuous exercise in purchasing function. Sources of information about suppliers are plentiful. The following sources should prove helpful to a buyer in preparing a list of potential suppliers.

1) **Supplier Purchasing Information File**

File on past and existing suppliers are already source of information where the purchasing department can always contact to obtain whatever information they may require about suppliers. Such supplier information files commonly contain the name of each supplier, a list of materials he can supply, his delivery history, his quality rejection record, his overall desirability as a supplier, and general information concerning his plant and management.

2) **Supplier Catalogues**

Catalogues are a commonly used source of supplier information. Many purchasing departments maintain a catalogue room, where users can examine the catalogues to try locate the materials they need. Some large companies keep a special library file containing catalogues, price lists and other literature from potential suppliers.

3) **Trade Journal**

Trade journals are another excellent source for obtaining information about possible suppliers. Advertisements in trade journals are often a buyer's first contact with vendors and their products. In the field of purchasing, the magazines, purchasing and purchasing world are perhaps best known and widely read trade journals.

4) **The "Yellow Pages"**

Another commonly known directory is the classified 'yellow page' section of telephone directories. Though, this source of information is frequently of limited value to many industrial buyers, yellow pages do, however, have the virtue of being well indexed. Also they can serve as a useful starting point if other sources have proved fruitless, and local sources are desired.

5) **The Internet**

Understanding the versatility of information technology through the nerves of computing is perhaps a prerequisite for appreciating the enormity of advantages of using the internet for business and other purposes. From the inception of the internet evolution (which originated as APPANET, a United States Government Research Project), the net has grown to become an information super highway, linking many millions of computer systems and digital machines as well as millions of users around the world. A great majority of these linkages and users are primarily hooked-up for economic (business) purposes.

The internet has become an electronic market place such that a tremendous amount of activities (e.g. retail activities, selling digital delivery of services, buying or procurement, etc) takes place as companies now set-up their customer-service functions on the internet. The beauty of the internet is that it can make it easier for companies in developing countries to do business globally. Companies can now set-up internet facilities and immediately have access to a billion of people and other business globally as a market. This opens up a wave of information opportunities to buyers world-wide to expand their knowledge of new products, new vendors, and new ideas.

6) Sales Personnel

Sales personnel is an excellent source of information for possible sources of supply. Not only are they usually well informed about the capabilities and features of their owner products. But they are also familiar with similar and competitive products as well. By the very nature of their specialized knowledge, sales people can often suggest new applications for their products, which will eliminate the search for new suppliers.

7) Trade Exhibit

Regional and national trade shows are still another way in which buyers learn about possible source of supply. The use of exhibition as a means of sales presentation is greatly increasing. They provide an excellent opportunity for buyers to see various new products and modifications of old products. They also offer buyers an opportunity to compare similar products from different manufacturers.

8) Company Personnel

Personnel in other departments within a company is often knowledgeable about the source of materials relating to their specialisation. Through their association in professional organisations, civic associations or social groups, these employees often learn about outstanding suppliers.

9) Other Purchasing Departments

Purchasing departments in other companies are most helpful sources of information concerning supplier with whom they deal.

10) Organisations Promoting Trade

Information on suppliers can readily be obtained from trade register and directories compiled by the umbrella bodies of trade associations such as the manufacturers Association of Nigeria (MAN), Chambers of

commerce, etc. Such directories contain names of manufacturers, their addresses and branches as well as their various products.

Similarly, embassies and commercial attaches are usually keen to help buyers to find sources of supply in the territories they represent.

3.4 Supplier Evaluation

In purchasing, suppliers are regarded as partners in progress to the buyer's organisation. This is because supplier's performance is capable of influencing the organisation's success. For this reason, selection of suppliers as well as evaluation of their performance is an important responsibility of not only the purchasing department, but the entire buying company. After a major supplier has been selected and they-supplier relationship has begun to develop, it is important monitor and assess the supplier's overall performance. The purpose is to enhance the relationship and thereby control performance.

The evaluation of actual and potential source is a continuing process in purchasing departments. Actual source with which one is dealing regularly can be evaluated largely on their track record: on the actual experience of working with them. This is known as vendor rating. Vendor rating is intended to evaluate the performance of supplier in terms of prices, quality, delivery and service. The type of evaluation required to determine suppliers' capability however varies with:

- 1) the nature,
- 2) complexity; and
- 3) the total value for the purchase to be made.

3.4.1 Pre-Selection Evaluation

This type of evaluation is aimed at obtaining information about the prospective supplier to determine his suitability to meet the buyer's requirement if selected. Potential sources can be evaluated only by judgment of their capabilities. Pre-selection evaluation may generally involve the following considerations:

1) Supplier's Registration Form

As a pre-requisite, most suppliers seeking to do business with another organisation are expected to pass through a formality by completing a registration form made available by the buying company. The type of information usually required from such suppliers are details like name of company, address, type of business or products, financial capabilities,

and a host of other information that will enable the buying company determine the suitability or otherwise of the potential source.

2) Product Testing

In some cases, special request is made for the samples of the product advertised or intended to be supplied for preliminary testing. If these products are used for certain period by the company and are found suitable for the purpose for which they are needed, the supplier can be considered.

3) Plant Visits

On-the-spot surveys of facilities and personnel by the technical and commercial representatives of the purchaser are often carried out to evaluate potential suppliers-although sometimes it may possible to eliminate this on the basis of a supplier's reputation, as obtained from word – of – mouth and published information.

4) Financial Condition

This is an important factor in evaluating capability of a potential supplier. This type of evaluation places more emphasis on the solvency of the supplier over and above other requirements. Financially strong firms are usually, although not always, managerially strong also, hence they generally make good suppliers. Analysis of balance sheets and profit and loss statements can be of immense benefit in the evaluation of vendor's financial condition.

5) Management

It becomes necessary at times to have insight of the potential supplier's management quality of his organisation, in terms of personnel, plant maintenance, staff wages and welfare package. This is because, if an organisation is well managed, cases like high labour turnover rate, industrial unrest which are capable of affecting supplier's product quality, delivery performance and service will be completely eliminated or reduced to the barest minimum.

3.4.2 Post-Selection Evaluation Of Supplier

When suppliers are finally selected and have been allowed to perform over a period, it is necessary that their performances are evaluated for the purpose of determining their respective capability in terms of quality, price, delivery and service. Donald W. Dobler and David N. Burt (1996) reviewed three types of evaluation plans that were

investigated by the National Association of Purchasing Management. These include:

1) **Categorical Plan**

Under this plan, personnel from various departments of the buying company maintain informal evaluation records. The individuals involved traditionally include personnel from purchasing, engineering, quality, accounting, and receiving. For each major supplier, each evaluator prepares a list of performance factors, which each supplier is evaluated against. After the factors are weighted for relative importance, each supplier is then assigned an overall group evaluation, usually expressed in simple categorical terms, such as “preferred”, “adequate”, “unsatisfactory”. This simple qualitative plan is easy to administer and has been reported by many firms to be very effective. The categorisation sample of overall scores is shown in Table 5.1

	Performance Factor	Preferred	Adequate	Unsatisfactory
1	Quality	18-20	10-17	0-9
2	Delivery	16-20	8-15	0-7
3	Commercial	18-20	12-6	0-11
4	Technology	18-20	10-16	0-8
5	Management	16-20	10-14	0-8
	Target total	86-100	50-85	0-49

Table 5.1 Supplier performance and ranking system categorisation of overall scores

To achieve Preferred Supplier status, scores in all categories must fall within the ‘Satisfactory’ and Adequate’ ranges. Any ‘Unsatisfactory’ scores will be followed up and reviewed and, if not improved within acceptable timescales, may lead to deselection.

A guide to classification based on scores is given with target scores for preferred suppliers with whom the company intends to place long-term business identified.

2) **The Weighted Point Plan**

This plan involves giving weight to every performance factor to be evaluated and oftentimes, various aspects of quality, service, delivery and price are given weights. For example in one circumstance, quality might be weighted 30 percent, service 25, and price 40 percent. In another, quality could be raised to 45 percent, and price reduced to 20 percent. The weight selected in any specific situation represents the buyer’s judgments about the relative importance of each factor.

After performance factors have been selected and weighted, a specific procedure performance on each factor must be expressed in qualitative terms. To determine a supplier's overall rating, each factor weight is multiplied by the supplier's corresponding performance number; the results (for each factor) are then totalled to get the supplier's final rating for the time period in question.

ILLUSTRATION 1

The following hypothetical case illustrates the procedure. Assume that the purchasing department of Koriopo & Sons Ltd. has decided to weight and measure the three basic performance factors as follows:

Weight	Factors	Measurement formula
45%	Quality performance=	100%-percentage of rejects
25%	Service performance=	100%- 5% for each failure
20%	Price performance =	Lowest Price offered Price actually paid

Assume further that suppliers anytime performed as follows during the past month:

Seven percent of his items were rejected for quality reason;
Four unsatisfactory split shipments were received; and vendor Ayim's price was 110 per unit. Compare with lowest offer of ₦80 per unit.

The workings below summarize the total performance evaluation for supplier Ayim

Factor	Weight	Actual Performance
Quality	45	7% rejects
Service	25	4 failures
Price	20	₦ 100

Performance Evaluation

$$\begin{aligned}
 \text{For quality} &= 45 \times (100\% - 7\%) \\
 &= 45 \times (1.00 - 0.07) = 41.90 \\
 \text{For service} &= 25 \times (100\% - (5\% \times 4)) \\
 &= 25 \times (1.00 - .05 \times 4) \\
 &= 25 \times 0.8 = 20 \\
 \text{For price} &= 20 \times \frac{\text{N}80}{\text{N}100} \\
 &= 2 \times 0.8 = 16
 \end{aligned}$$

Overall Evaluation: $41.90 + 16 = 77.9\%$

This example is not the only method available, nor has it been so comprehensively dealt with. Some of the more sophisticated

applications can be very complicated. The above can however be used to evaluate any number of different suppliers whose performance is particularly important during a given operating period. Example 2 further illustrates this point.

ILLUSTRATION 2

Arijenimondaru Co. Ltd. divides the purchase of Abacha television sets between Kalu and Naaba. He wishes to compare their performance with regard to quality and delivery for two years, 2003 and 2004. The year 2003 is taken as the base year.

SOLUTION

- Quality rating

Year	Vendor	Intake	Rejects	%Reject
	Index			
2005	Kalu	2,900	75	2.6
100				
2005	Naaba	1,850	45	2.4
100				
2006	Kalu	3,400	83	2.4
92				
2006	Naaba	2,350	47	2.0
83				

$$\text{Index} = \text{For Kalu} :- (2006) = \frac{2.4}{2.6} \times 100 = 92$$

$$\text{For Naaba} :- (2006) = \frac{2.0}{2.4} \times 100 = 83$$

Remarks: In 2006 Kalu recorded an 8% defective materials supplied rate (i.e. percentage rejects) while Naaba recorded suffered a 17% reject rate of total materials supplied in the given year.

- Delivery rating

In a similar way to what was done in respect of quality performance, it is possible to keep delivery records, showing shortage, early or late arrivals, or any variation on the contracted delivery programme. These facts can be used to produce a delivery rating, which may be applied either separately or in conjunction with quality rating. This makes the whole operation more complicated, and is normally attempted only

where delivery is of vital importance and where the quality scheme is already well established.

Year	Vendor	Delivery	Total	Average
	Index		Day Late	Day Late
2005	Kalu	7	49	7
100				
2005	Naaba	15	75	5
100				
2006	Kalu	10	60	6
85.7				
2006	Naaba	8	24	3
60				

Index: for Kalu:- $(2006) = \frac{6}{7} \times 100 = 85.7$

For Naaba: - $(2006) = \frac{3}{5} \times 100 = 60$

Remark: In 2006 the performance of Kalu showed a 14.3% delivery failure as against Naaba's 40% delivery failure rate in the give year.

Overall rating:

Assuming that quality and delivery are weighted 45% and 15% respectively; the overall rating would be:

Factory	Supplier	
	Kalu	Naaba
Delivery	85.7	60
Quality	92	83

$$\text{Overall index for Kalu} = \frac{92(45) + 85.7(15)}{100}$$

$$= \frac{4140 + 1285.5}{100}$$

$$= \frac{5425.5}{100} = 54.3\%$$

$$\text{Overall index for Naaba} = \frac{83(45) + 60(15)}{100}$$

$$= \frac{3735 + 900}{100}$$

$$= \frac{4635}{100} = 46.4\%$$

Remarks: Vendor Kalu demonstrated superior performance rating in the year in question.

- **The Cost – Ration Plan**

This involves the use of management tools or techniques such as standard cost, average cost, weighted average cost, etc. to determine or evaluate the performance of each supplier. This type of evaluation is based mainly on the price and cost of rejects or non-performance by the supplier.

All the three of the evaluation plans discussed – categorical, weighted-point, and cost-ration – involve varying degree of subjectivity and guesswork. The Quantitative (weight-point and cost-ration) remarkably are deficient in the light of:

- 1) Wrong impression it gives about its scientific accuracy while in effect, they are not more accurate than the assumptions on which the quantitative data are based.
- 2) The high cost of collecting the data on which the rating are based;
- 3) Supplier performance is often affected by circumstance outside the control of the vendor.

In the final analysis, therefore, supplier evaluation must represent combined appraisal of facts, quantitative computations, and value judgments. It simply cannot be achieved effectively by mechanical formula alone.

SELF ASSESSMENT EXERCISE

What objectives should supply market research seek to achieve?

4.0 CONCLUSION

An important function of purchasing is the identification of suitable sources of supply. The systematic investigation and comparison of sources, the evaluation and monitoring of performance of supply sources and the development of appropriate procedures with supplier are therefore of importance. In purchasing, suppliers are regarded as partners-in-progress to the buyer's organisation. This is because supplier's performance is capable of influencing the organisation's success. For this reason, selection of supplier as well as evaluating their performance is an important responsibility of not only the purchasing department, but the entire buying company.

5.0 SUMMARY

Selection and management of the right supplier is the key to obtaining the desired level of quality, on the time and at the right price to meet up with the company's purchasing objectives and policies. The management of the supply may however require advance planning, forethought and the ability to make some decisions. Sourcing in purchasing has not only gone beyond simply picking a supplier for each order in isolation but also as follows:

- It involves continuing relationships, both with preferred source which are actually supplying goods and services, and with potential source which may have been passed over for the present but are still in the running.
- It involves decisions about how to allocate the available business, and what terms to do business on.

6.0 TUTOR-MARKED ASSIGNMENT

What are the important supplier – oriented actions that buyers must take in order to satisfy the performance of sourcing function in purchasing?

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MODULE 2

Unit 1	Pricing Procedures in Procurement and Supply Function
Unit 2	Managing Procurement Activities
Unit 3	Procurement Practice and Methods.
Unit 4	management of inventory
Unit 5	ABC Analysis: The 80-20 Concept

**UNIT 1 PRICING PROCEDURES IN PROCUREMENT
AND SUPPLY FUNCTION****CONTENTS**

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Importance of Obtaining Materials at the Right Price
3.2	The Role of Price in Purchasing
3.3	How Buyers Obtain Prices
3.4	Factors Influencing Price Setting
3.5	Use and Importance of Discounts in Purchasing
3.6	Procurement Timing Policies and Inventory Management
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Reading

1.0 INTRODUCTION

Price is important both to the seller and the buyer. It is regarded as one of the elements in the marketing mix. As it is used in purchasing, price is the mechanism for measuring the value of good and services in monetary terms.

- 1) This definition is consistent with one of the main objectives of purchasing which is to obtain value for money on all occasions.
- 2) The definition also enables us to appreciate the role of price in the purchasing and supply functions.

For the purchaser however, price is just one of the elements taken into account in making a purchasing decision. Non-price factors, which may be important, include; delivery, service, reliability, product quality, terms of payment, location and many more. Value for money therefore depends not only on price, but on what is provided for the price.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- list and explain the importance of obtaining materials at the right price
- state clearly the role of price in purchasing
- describe how buyers obtain prices
- highlight and discuss the factors influencing price setting
- enumerate the uses and importance of discount in the purchasing function
- discuss the issues involved in procurement timing policies

3.0 MAIN CONTENT

3.1 Importance of Obtaining Materials at the Right Price

Obtaining materials at the right price is important; it literally can mean the difference between a firm's success or failure. With the traditional approach to purchasing, it is easy for the importance of pricing to be over-looked. For instance, in traditional purchasing theory:

- (1) It is frequently stated that price may be low or high, what matters most is service and delivery reliability. Or rather,
- (2) Price is not the major consideration in making purchases; rather, the main concern is the continuous flow of materials at all cost.

This traditional attitude is loaded with massive implications, the most obvious of which are;

- 1) The danger of collusion to buy goods and services at high or inflated price;
- 2) The danger of buyer developing inertia or unwillingness to investigate new and cheaper sources of supply;
- 3) The possibility that the cost-saving function of purchasing may be totally ignored or abdicated.

These implications are all together very detrimental to the corporate financial position.

Purchasing should ideally aim for the right price; this is a price, which gives the best value to the organisation, taking quality, delivery and relative urgency into account. This may not always be the lowest price available, but the one, which represents the best value over a period of time. Professional buyers commonly interpret the right price as one that is fair and reasonable to both the buyer and seller.

3.2 The Role of Price in Purchasing

As a monetary phenomenon, Fajemilua (1997: p.78) listed the following five roles price plays in the purchasing cycle:

- 1) It is the basic unit for measuring and assessing other factors (such as quantity and so on) which influence the purchasing decision process;
- 2) It provides the yardstick for comparing supplier's quotations and assessing the relative value of their service;
- 3) It is the basis for costing store issues; evaluating stock balances damages for losses in a storehouses
- 4) Price is used for costing, purchasing and supply operations with a view to evaluating performance.
- 5) It provides the yardstick for the application of most stock-control techniques.

3.3 How Buyers Obtain Price

The methods of communicating price will vary according to:

- 1) The nature and complexity of the purchase; and
- 2) The manner in which it is being dealt with, that is, either by an individual consumer or an industrial buyer.

Two broad categories of methods are however discussed in this text. And these are:

3.3.1 General Methods

Some of the general methods used in price determinations are as follows:

- 1) **Haggling:** This is the traditional method and it is used mainly in making purchases for private consumptions. The method calls for bargaining and usually, the selling price is between the range of prices, which will satisfy both the seller and the buyer.
- 2) **Auctioning:** Here, an auctioneer puts an article on sale and calls for bids. The prospective buyers then make their offers. In the end, the article goes to the highest bidder. The selling price of the article will therefore depend on the keenness of the buyers to buy.
- 3) **Fixed Pricing:** Many sellers may not want their customers to haggle on price. Rather, they prefer to fix prices at which they think they can sell their goods. This is the method used for the purchase of goods in most supermarkets and retail stores.

However, the seller cannot fix price and at the same time determine the quantity to be sold.

- 4) **Demand and Supply Approach:** According to the micro-economic theory, the buyer on the one hand will always buy more at a lower price than at a higher price and suppliers on the other hand will always supply more at a higher price than at a lower price given that all things are equal. The equilibrium price of a commodity will be fixed at the point where the forces of demand equate the forces of supply.

3.3.2 The Industrial Buyer's Approach

The professional buyers determine the purchase price of goods and services using a number of methods. The more common methods include:

- 1) **The Use of Published Price Lists:** Price of many industrial goods and services are frequently published in newspapers, price catalogues and trade journals. An experienced buyer does his best to keep abreast of published price lists or gazette price and makes use of such price information in the procurement of goods and services for his organization.
- 2) **Contact with Salesmen:** The professional buyer is placed in a unique position to meet and interact with salesmen from different supplying firms and organisations. Through this discussion with such salesmen, the buyer becomes conversant with current prices of industrial goods and services.
- 3) **Quotations:** The commonest method used to determine purchasing prices is by inviting quotations from the prospective suppliers. The quotation obtained are compared and analysed to determine the most advantageous offer.
- 4) **Tendering:** This can be an open selection depending on the type of purchase or policy of a particular organisation. Under the open tendering system, as many suppliers as possible are usually invited through public advertisement to tender for the required goods and services. The selective tendering system on the other hand does not permit open competition. Only a few suppliers specialising in a particular field are selected and invited to submit tenders in their area of specialisation. The tenders submitted are collated and evaluated for the purpose of determining award prices. The tendering system is very common with government establishments. Such departments usually set up committee

known as Tenders Boards for the purpose of opening tenders, evaluation and fixing prices.

- 5) **Negotiation:** In this case, it must be noted that price is not the only subject covered by negotiations. Even though price is a major consideration in all negotiations; other factors such as quality, quantity, delivery schedule and service are negotiable. Negotiation is a complex process which requires some strategies and tactics for its success.

3.3.2 Factors Influencing Price Setting

Many factors influence price and pricing strategy and operate at the environmental, organisational and strategic levels of any business firm. Some of those factors as identified by Needle (1992, pp. 230-232) are dealt with here under the following headings

1) Cost

A useful way to consider costs is according to whether the sum is fixed or variable.

Fixed cost is the sum total of costs that do not change when organisational output increases or decreases.

Variable cost is the total of those costs, which change when the organisational output change i.e. expenses for raw materials.

A business firm wishing to make a profit must use the cost of making a product or providing a service as an important base point in setting its prices.

2) Consumer Behaviour

The price of a product may well be related to what a consumer can afford and what he is prepared to pay. These in turn are related.

- 1) Income levels;
- 2) The consumer's perceptions of quality and value for money; and
- 3) The consumer's budget for a particular purchase.

3) Economic Factors

Price is related to the economy in a number of different ways, all of which have a potential impact on an organisation's pricing policy. The affluence of consumers will have an obvious influence on their level of

budgeting, and regional variations in consumers' affluence may produce differential demand, especially for certain luxury items. The role of the state in managing the economy may affect both demand and prices. During the periods of high inflation, the government may well introduce measures to control prices.

4) Competition

Many business firms price their products by reference to an existing market, basing their price around that offered by competitors for products of similar features and quality. When the prevailing market condition is keenly competitive, the demand for a business firm's product is perfectly elastic that is, the firm can sell its products only at or near the market price.

5) Management Goals

The price of goods is often related to the extent to which management wishes to optimize profit. The desire of a group of managers for a larger market share for their products may result in a low price strategy to build up demand.

6) Organisational Size

The size of an organization may give it market power and the ability to manipulate market price. This is especially true of few sellers or Oligopolies (*oligos* means few in Greek). A major fast food chain such as Mr. Biggs is able, because of its purchasing power and stock turnover, to insist on large price discounts from its suppliers.

3.5 The Use and Importance of Discounts in Procurement

Industrial purchases are usually subject to cash, trade, and quality discounts. Procurement agents and buyers must be thoroughly acquainted with these discounts as they apply to the purchases that they are making – and with the legal aspects of same. Technically;

A discount is a percentage variation to the nominal price. It involves the offer of reductions (differentials) from a base price and must also be considered when price policy is being determined.

By using a system of discounts, sellers can modify the prices without having to set new list prices.

3.5.1 Types of Discounts

The criteria for supplier discounts are many and it may be an exercise in futility to attempt to identify and describe all of them. The following are however the most usual forms:

1) Trade Discount

The trade (also sometimes called functional) discounts are price reductions given to various classes of buyers and distributors to compensate them for performing certain marketing functions for the original seller (the manufacturer) of the product. Ordinarily the amount of a buyer's discount depends upon whether he is a wholesaler, an industrial purchaser, or a retailer. Discounts are lowest for the retailer and highest for the wholesaler.

2) Quantity Discounts

The quantity discount is offered on the basis of the amount of the commodity purchased. These are price reductions given to a buyer for purchasing increasingly larger quantities of materials. Quantity discounts may be cumulative or non cumulative these are explained as follows:

Cumulative quantity discounts are based upon purchases made from a single source during a prescribed period of time, such as six months.

Non-cumulative discounts, which are more common, apply only to a single purchase.

Quantity discounts, whatever their form, offer definite advantages.

From the manufacturer's viewpoint, the following advantages are notable:

- 1) They encourage purchasers to buy more frequently from a single vendor,
- 2) They stimulate larger order, and
- 3) They result in increased production units, since voluminous production is made possible by the increased demand.

From the buyer's viewpoint, quantity discounts are advantageous because:

- 1) He is able to buy at lower net prices.
- 2) The ultimate consumer and the industrial consumers also benefit from the decreased price level that results.

Quantity discount also have disadvantages.

- 1) **Producer:** overestimating the savings that may result from obtaining a large order, may allow too much discount.
- 2) **Moreover:** small-scale buyers may resent the fact that lower net prices are offered to large-scale purchasers.
- 3) **Cash discounts:** A cash discount is offered for payment of bills in advance of the due date. Most business transactions from manufacturer to different classes of buyers are conducted on credit terms. The length of time allowed for payment varies considerably and payment in practice is often delayed beyond the duration of the officially stated credit terms.
- 4) **Seasonal discounts:** Based on the seasonal nature of some products (primarily consumer products), their producers commonly offer discounts for purchases made in the off-season. A seasonal discount is thus offered to stimulate the purchase of seasonal goods during “off-peak” period. The OBJECTIVES ARE to;
 - (a) Move the seasonal produce of the seller out of warehouse and,
 - (b) To maintain a more balanced production throughout the year in order to reduce overhead costs
- 5) **Geographical differentials:** These are price variations offered in relation to distance from supply base e.g. new car delivery.
- 6) **Special discounts:** Many discounts fall within this category. They are special discounts made available by vendors or suppliers only by exceptional and special or temporary circumstances.

3.5.2 Use of Discounts

From the foregoing discussion, it may be summarized that discounts are offered for four main reasons:

- (1) To obtain prompt payment
- (2) To change prices without reprinting price lists.
- (3) To give special terms to special classes of customer
- (4) To induce customers to buy large quantities.

3.6 Procurement Timing Policies and Inventory Management

One of the primary roles of purchasing is to ensure adequate supply of materials and components of acceptable quality in the most cost-effective manner. The procurement function has since realised the existence of the numerous problems affecting certain commodities and the characteristic of such markets. Purchasing therefore, faced this situation must formulate fundamental policy decisions on either;

- Buying for the purpose meeting immediate needs;
- Buying according to the dictate of the markets.

1) Buying for Immediate Requirements

This type of policy stipulates that materials are brought into the organisation only when the need arises. This action implies that more emphasis is placed on inventory levels rather than on prices of materials, since commodities are subject to price fluctuations or forces of demand and supply. Buyers take the advantage of lower prices to stock goods in excess of their immediate requirements.

This policy option therefore, requires that, purchases can only be made regardless of whatever the selling prices are, at the time of purchase.

2) Buying according to the dictates of the market.

This policy option takes into consideration the market situation affecting prices of goods such as seasonal fluctuation, or actions of the market. Buyers that select this option may have chosen between the following market activities:

- (a) Hand-to-mouth buying
- (b) Speculative buying
- (c) Forward buying.

(a) Hand-to-Mouth Buying

This is the practice whereby buyers engage in buying to satisfy immediate requirement especially when prices are considered to be high. It is a policy frequently used in difficult trading periods, or when a company wants to conserve its financial resources. The principle is to buy exact need and save money, rather than buying in excess of immediate needs when prices are high.

(b) Speculative Buying

This practice involves buying in anticipation of future rise in prices. If the price of certain commodity is known to be capable

of unexpected fluctuation or the availability of such commodity is not certain, speculative purchase of such commodity may be considered prudent. This type of buying therefore refers to buying in excess of immediate requirements in order to take the advantage of lower prices or unforeseen scarcity.

(c) Forward Buying.

This is the practice of buying materials in excess of current requirement, but not beyond the actual foreseeable requirements. The objective of forward buying policy is to take care of well-defined production requirement, especially in a situation where materials scarcity or price increase is foreseeable in the nearest future. Some of the advantages of forward buying are:

- 1) It enables the buyer to know the production cost of an item before they embark on the production activities;
- 2) It also reduces the risk of inadequate delivery in a period of materials shortage or scarcity.

SELF ASSESSMENT EXERCISE

State the general methods used in price determination.

4.0 CONCLUSION

Obtaining materials at the right price is important. It literally can mean the difference between a firm's success or failure. This is a major responsibility of the purchasing group. Many factors influence what is a right price; even though it is hardly possible to comprehensively discuss this. But this clarification must be made because of the erroneous idea that the price level is of little importance in industrial buying decision-making process. With the traditional approach to purchasing, it is easy for the importance of price to be over-looked.

Purchasing should ideally aim for the right price; this is a price which gives the best value to the organisation, taking quality, delivery and relative urgency into account. This may not always be the lowest price available, but the one, which represents the best value over a period of time. Professional buyers commonly interpret the right price as one that is fair and reasonable to both the buyer and seller. Unfortunately, no single set of pricing principles or criteria exist for calculating precisely what constitutes a fair and reasonable price. The right price from one vendor is not necessarily the right price from all other vendors, at either the same or at different points in time. To determine the right price, for any specific purpose, a number of constantly changing variables and relationships must be evaluated.

5.0 SUMMARY

Price is important both to the seller and the buyer, but it is regarded as only one of the elements in the marketing mix. As it is used in purchasing, price is the mechanism for measuring the value of goods and services in monetary terms. As stated earlier, the right price is not always the lowest price available. The purchasing group may have occasions to suspect a low quotation particularly where:

- (1) It may entail reduction in quality and service levels or;
- (2) Where it may lead to right final costs in the end.

Whether a particular price is to be considered the right one or not depends on the situation.

There are times when a low quotation may result from a deliberate action of a particular supplier. The buyer must take advantages of such pricing opportunities after satisfying himself that the low prices are not designed to reduce quality and service levels. On the other hand, market condition may justify buying at a high price in order:

- (1) to avoid buying at anticipated higher prices later.
- (2) similarly, such a high price may reflect the superior quality and services level of the vendor, which cannot be compromised.

It therefore follows from the above that the buyer must be thoroughly familiar with market gimmicks.

6.0 TUTOR-MARKED ASSIGNMENT

Summarise the reasons for offering discounts in purchasing.

7.0 REFERENCES/FURHER READING

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UNIT 2 MANAGING PROCUREMENT ACTIVITIES

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1.0 INTRODUCTION

Like other key management tasks, procurement has aspects that are concerned with operational activities (day-to-day), with tactical matters (medium term-perhaps up to one year), and with strategic issues (long term). Management is a process or activity, which takes place at all levels in an organisation. It is not carried out only by people with 'manager' in their job title. Departmental heads, supervisors, foremen, bishops, presidents or even Boy's scout leader all performs managerial function; although obviously not all of the same type or of equal importance. It is the task, which a person performs which is of importance, not the job title. Hence, managers whoever they may be, tend to have the same set of functions in an organisation. The task of managers is to get results through their subordinates. This he does by planning, organising, directing and controlling. These activities are called management functions, because they identify broadly what managers do. These managerial functions are generally considered central to a discount of management by authors.

2.0 OBJECTIVES

At the end of this Unit, you should be able to:

- Define planning and apply planning steps to your procurement activities

- Discuss and state the implications of budgeting and purchasing research activities to the purchasing function.

3.0 MAIN CONTENT

3.1 The Planning Process and Techniques for Materials Management

The purchasing department must have a plan for carrying out its activities. In fact, managerial efficiency starts with planning. Without a plan, purchasing will be carried out in a stab-and grab opportunistic manner, and the department may be very much overloaded during some months and be relatively without much work for the rest of the year. The first function of management is therefore, the development of a series of plans that establishes the framework within which future activities will be conducted. Every managerial job demands that planning be done before the other functions of management are executed.

Planning, simply put, is a decision-making process that pertains to the future. It involves all activities leading to the formulating of objectives and deciding upon the means of meeting them. A useful working definition of planning is given by the Chartered institute of Management Accountant (CIMA) as:

The establishment of objectives and the formulation, evaluation and selection of the policies, strategies, tactics and actions required to achieve these objectives.

Every planning process practically speaking attempt to answer such questions as;

What action should be taken?
Why should the action be taken?
Who shall take the action? and
How shall the action be taken?

Planning is not an end itself, its primary purpose is to provide the guidelines necessary for decision and resulting action, throughout the organisation. Planning is done on both the formal and informal basis and the planning process uses information from both the internal and external sources. The plan is the net result of the planning process.

A plan is a predetermined course of action about what has to be done to achieve an objective.

At the beginning of the year, the purchasing department must determine what to buy and when. It must have time-schedules and a programme for purchase. In purchasing, time is so essential. A plan can be simple or complex. It can cover the short-term or the long term.

1) Long-term or Strategic Plans.

These are plans designed by top managers to meet or achieve the company –wide or corporate objectives. It involves a longer time period say two –to- five (and in some cases longer) years and relies on more unreliable long – term forecasts.

2) Short Range or Operational Plans

This shows how strategic plans will be implemented in day-to-day activities. Operational plans thus cover some functional areas such as production, marketing, finance etc. and periods of up to a year and such other situations that are likely to come up monthly, weekly and sometimes daily.

3.1.1 The Planning Steps

Regardless of its complexity, most planning can be done in a relatively simple series of steps. Hence, managers would follow essentially, the same process or step in any thorough planning. Certain of the steps are however easily accomplished, but in practical terms, the series of steps are of general application. Koontz et al (2000) presented the steps which constitute the rational decision – making process to include:

- 1) Discovering an opportunity to exploit or problem to solve
- (2) Establishing (planning) objectives
- (3) Determining and, or considering planning premises
- (4) Determining alternative courses of action
- (5) Evaluating the alternative courses of action
- (6) Selecting a course
- (7) Implementation
- (8) Planning review (control).

3.2 Planning Techniques for Materials Management

In preparation for each new fiscal year, most firms construct a company-wide annual operation plan. A forecast of the scope and magnitude of key functional activities is the starting point for development of the plan. In a manufacturing firm, this is the sales forecast. The sales forecast is then translated into an aggregate production plan and master schedule, taking into consideration finished goods inventory levels as well as

desired in – i.e. process inventory levels for specific items. All materials planning subsequently flows from the preliminary master production schedule. Materials managers apply the basic concepts of planning techniques, formally and informally, in making a multitude of daily business decisions. Dobler D.W. (1981) identified and extensively discussed three widely used techniques in materials planning, namely; budgeting, purchasing research and network analysis, and planning.

3.2.1 BUDGETING

Budgets are one of the traditional planning and control tools of business and are used in organisations of all types. A budget may be defined as a financial plan showing anticipated income and expenditure for a period of time, for the purpose of attaining a given objective. CIMA specifically defined a budget as:

A plan quantified in monetary terms, prepared and approved prior to a defined period of time, usually showing planned income to be generated and/or expenditure to be incurred during that period and the capital to be employed to attain a given objective.

Budgets are usually prepared for both individual departments and the business as a whole. The basic concept of the budget is to balance expenditure with income. The budget should help ensure that expenditure is not exceeding income on an ongoing basis; it is once – a year exercise. A well-prepared budget helps management in several ways. Perhaps its primary functions are to;

- (1) Serve as a guide in planning financial operations within the company.
- (2) A second purpose is to establish limits for departmental expenditures.
- (3) A third purpose of budget is to act as a coordinating device among the various functions of the business.
- (4) A fourth purpose of budgets is that of control.

All department heads typically prepare a budget for their area of responsibility and submit it to the controller. A company budget, thus, typically composes of numerous sub-budgets, each covering specific departmental operational activities. This is graphically illustrated in figure 7.1 below:

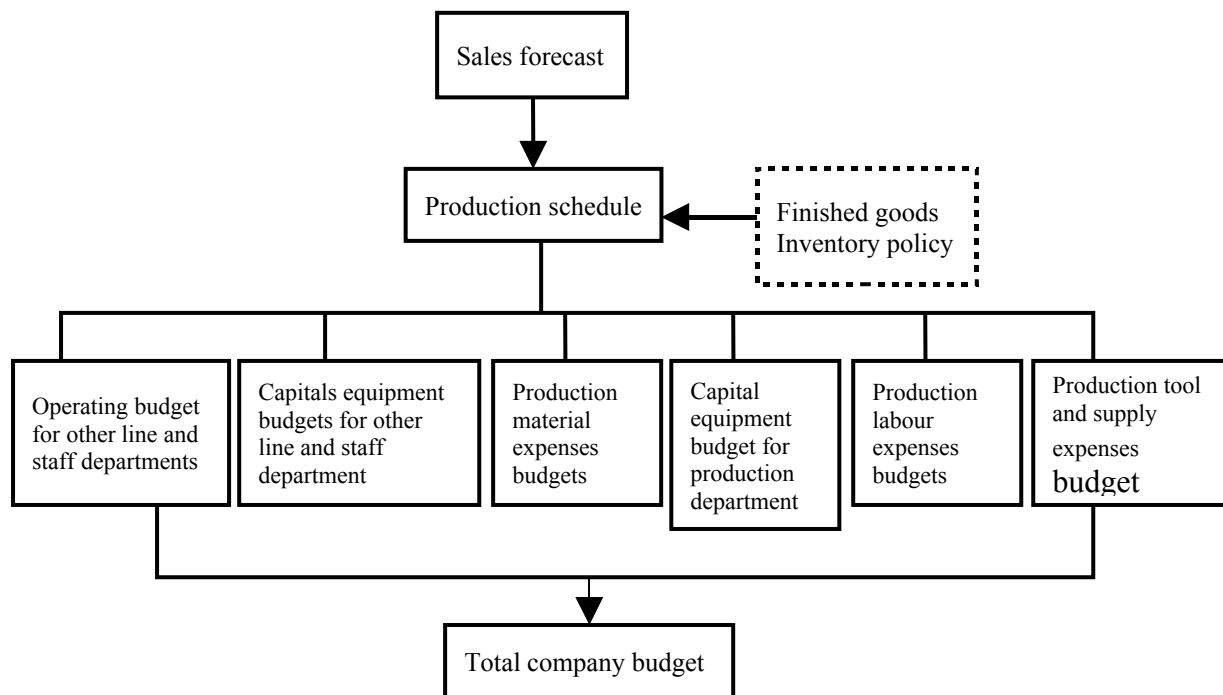


Figure 7.1: Major constituents of a total company budget.

Materials are however, primarily concerned with two budgets the materials budget and their respective departmental operating budgets.

1) PURCHASE (MATERIALS) BUDGET

The purchase budget is based entirely upon the sales and production budgets. In theory, the purchasing function extrapolates (i.e. work out) materials requirements from the production budget projects prices and thereby phasing deliveries in accordance with production schedules. The implication is that detailed preparation of annual materials budgets is therefore realistic only for those products whose sales can be forecasted with reasonable accuracy or for materials that are used in a variety of products whose aggregate demand can be forecasted.

When purchasing budget is to be expressed in terms of naira, the purchasing manager is normally called upon to supply the budget department with two types of information:

- i. Estimates of materials prices during the coming year, and
- ii. Plans for the specific timing of purchases.

Timing of purchases is vital in respect of cash management, which needs to control the amount to cash required during each period. The

task of estimating price trends however requires the consideration of many things including;

- a) Political or economic factors, or domestic, which may affect price;
- b) Comparative currency changes and levels of inflation in pertinent countries;
- c) Possible changes in import duties, transit and insurance charges, etc. as they affect from overseas;
- d) The position of long term contracts as regards fixed prices;
- e) The supply position of materials and components in relation to overall demand;
- f) Lead times and the potential effects of having to purchase from more expensive alternative sources in the event of failure.

2) THE DEPARTMENTAL OPERATING BUDGET

This budget is essential for the effective planning and control of departmental operations. Along with other departmental heads, the procurement manager makes periods. This is estimate of the costs, which will be incurred during the budgetary period. This estimate is usually produced annually and will include;

- (1) Total departmental salary bill
- (2) Total expenses for the period
- (3) Total cost of departmental supplier; and
- (4) Capital expenditure.

Without doubt, costs vary widely among firms. However, small business organisation pay more over every naira value purchase made to operate their purchasing departments than do large firms, and operating costs tend to be higher among durable goods producers than among non-durable goods producers.

3.2.2 Purchasing Research

In the planning stages, most purchasing actions require certain research investigations. Because he is confronted with numerous unknown facts, an industrial materials buyer cannot make an enlightened purchasing decision until these unknown areas are explored. The formal purchasing research concept recognises the need for generating and analysing a sizable amount of detailed data when planning procurement operations. If the required data is available or can be developed effectively in other existing departments, the job of the purchasing research group is to obtain such information and organise it for use in purchasing. If the information is nowhere available with the firm, it is the purchasing

research staff's job to generate it. Hence as a concept, purchasing research has been defined as:

The responsibility concerned with the process of obtaining, organising, and interpreting data, which facilitate procurement planning and hence improve the total materials management operation.

A formal purchasing research programme serves as a procurement planning tool. The general objective of such a programme is to undertake in-depth investigations, which improve total procurement performance and increase the function's contribution to company profits. Operationally, the purchasing research work can be accomplished in several ways.

- (1) Some company's purchasing and supply departments include these activities as parts of a senior buyer's job.
- (2) In a majority of the more progressive firms, however, this purchasing research work is assigned to a group of staff specialists who specifically trained in these activities.

Lanner Lee Jr. (1981, p. 388) listed a number of developed classifications of purchasing research staff functions, which has since been adopted by numerous firms. This includes;

- (1) Procurement planning
- (2) Research on purchased materials
- (3) Research on the purchasing system
- (4) Special projects.

(1) Procurement planning

This involves the study of the company's short and long- range materials requirement and a determination of acceptable cost objectives.

(2) Research on purchased materials

This involves both economic and technical investigation. In the economic area, forecasts of general economic conditions are made, and studies of the industries and commonly markets are undertaken. Technical investigations primarily focus on two major programmes, which are frequently conducted on a company-wide basis –make- or buy and value analysis.

(3) Research on the purchasing system

This research classification involves studies of administrative problems. Specific activities include the analysis of such things as policies, procedures, reports, organisation structures, job specification, wage payment plans, and so on.

(4) Special projects.

This is often a fourth area of informal purchasing research activity. Staff assistance is frequently needed to study a multitude of special problems that arises in areas such as inventory management, traffic management, quality control, and vendor relations, for example.

3.3 Procurement and Record Keeping

The procurement department is obliged to maintain a complete set of records regarding the operations and activities of the department. Good record keeping is germane to the achievement of the purchasing and inventory management objectives, of making available the right product, in the right quantities, at the right time, in the right place. The file of a purchasing department thus contains an endless flow of operational data. The information stored will include details of the following:

- (1) Suppliers' past performance and evaluation of them. Technically this is a record of closed orders.
- (2) Current price of goods and services required by the organisation.
- (3) Copies of orders, contracts and current agreements. All buyers need immediate access to information concerning the status of their outstanding orders.
- (4) Specification and standards as set by the user department.
- (5) Supplier Record: To provides quick access to information in a single record file. A separate card or computer is maintained for each major supplier. In this record is recorded the address telephone number, and the name of personnel to contact on specific matters of inquiry.
- (6) Contract Record: Today, most firms are purchasing an increasing number of items on a long-term contractual basis. In such cases, it is usually convenient to consolidate all contracts in a separate file.
- (7) Progressing data for outstanding

3.4 Handling Orders

In procurement, various types of orders exist. This depends largely on a number of factors such as:

- (1) The nature of the business;
- (2) The characteristic of the various materials needed,
- (3) The market structure,
- (4) The quantity required of each item as well as the frequency of need. For this reason, the various types of orders are classified as follows, depending on the circumstances surrounding each requirement.

(1) Small Orders

Small orders are a perennial problem in every organisation and a serious problem in some. Recent research evidence has shown that most companies' expenditure is on small orders that are hardly more than ten percent of their annual materials expenditure. The very nature of business requires the purchase of many low-value items. Small orders are however not only costly to the buyer but also to the seller. Various methods are nevertheless in use by managers to minimize the small-order problem.

(2) Rush Orders

Purchasing basic responsibility is to its internal customer, i.e. the various departments in an organisation. In serving its customers, the concern is to develop an orderly and systematic pattern of operation that efficiently utilizes the resources to that organisation. This situation calls for approaches to deal with the problem of handling emergency needs that inevitably arise in any business operation. A clear, special procedure for processing rush requisition in all organisations. Rush orders always cost more than if they were handled through the normal purchasing system. High prices are frequently paid because rush purchases are not as thoroughly investigated as those handled in the normal routine. To discourage the incidents of rush orders that arise because of poor planning, David N. Burt (1996p. 79) presented three approaches that have proved successful overtime.

- (i) The first involves a concerted effort to coordinate the activities of the user departments and purchasing.
- (ii) A second approach is to reduce unjustifiable requests which require the requisitioner to obtain approval from a general management executive for all emergency requisitions.
- (iii) The final approach assesses the requisitioning department for a predetermined service charge for each emergency requisition processed.

(3) Centralised Stores System

A store system is the first approach typically used to reduce the frequency and volume of small-order-purchasing activity. When experience shows that the same supply items are ordered in small quantities time after time, the logical solution is to order these items in larger quantities and place them in a centralised store or inventory for withdrawal as needed.

(4) Blanket orders

A blanket order system is designed to solve the problem a company's inability to carry thousands of items as inventory just like a central stores system is designed to solve the small order problem only for items that are used repetitively.

- On the basis of careful analysis of past purchases, the buyer determines which materials should be handled through blanket orders.
- After bidding or negotiation, the buyer selects a supplier for each items, or family of items, and issues a blanket order to each supplier.
- The blanket order typically states that all requirements are to be delivered upon a receipt of an order from the buyer or other authorized person.
- On receiving a requisition for one of the materials, the buyer merely sends a brief order form to the supplier. On the release or order form are noted the blanket order number, the item number, and the quantity to be delivered.

The blanket order system offers a number of advantages:

- 1) Clear reduction in the issuance of purchase orders and clerical work in purchasing, accounting and receiving.
- 2) It releases buyers from routine work, giving them more time to concentrate on major problems
- 3) It permits volume pricing by consolidating and grouping requirements.
- 4) It develops longer-term and improved buyer-supplier relationships.

Blanket order system nevertheless requires adequate internal control to function effectively. Absence of this control element can encourage petty fraud and poor supplier performance.

The elements essential to effective control are:

- i. A numbered purchase order
- ii. A record of authorised delivery releases.
- iii. Bona fide evidence of receipt of the materials.

In spite of the several benefit of this method of handling orders, the blanket order has not enjoyed popular applications in business organisations.

5) System Contracting

As the name implies, system contracting involves the development of a company-wide agreement, often a one to five year requirements contract, with a supplier to purchase a large group (or family) materials. It can be viewed as an extension and more sophisticated development of the blanket order – purchasing concept. Estimate usage is usually included, along with a fixed price for each item and an agreement by the supplier to carry an adequate stock of each item to meet the buyer's needs. Various types of supplies and commonly operating equipment, typically purchased from distributors, are the materials most often covered by these types of agreements.

6) The Telephone Order System

Most companies now use a telephone or fax ordering system to reduce the paperwork associated with small – order purchasing. Under this system, when the purchasing department receives a requisition, it does not prepare a formal purchase order. Instead, the order is placed by telephone or fax, and the requisition is used in the receiving procedure. This system goes one step further in the elimination of paperwork; the firm's suppliers send no invoice for telephone purchases.

7) Electronics Order System.

A number of electronic communication systems currently are available to transmit materials purchase requests without writing orders or talking on the telephone. One particular approach that evolved is the internet and electronic commerce.

Meaningful studies and research findings have shown that the internet and e-commerce have become a vivid representative of core business parameters today around the world. There is now a tremendous amount of activities as companies begin to set – up their customer service functions on the internet. The system is particularly applied to the purchase of repetitively used items whose recurring orders can be placed using the same input source. Clearly, the use of an electronic ordering system requires a blanket order or similar contractual arrangement with the supplier.

8) Petty Cash System

Most firms today use a petty cash fund for making small, onetime purchase. For this purpose, many firms defined small as under ₦ 20,000. it is often less expensive for an individual user to buy minor items personally and pay for them a petty cash fund than it is to buy them through the conventional purchasing system, any inefficiency that may arise because of lack of buying skills is more than compensated for by the administrative saving resulting from not placing a purchase order.

3.5 A Computerised Materials Management System

Dobler and Burt (1996) argued that when a system is computerised, the basic activities of the procurement process remain essentially the same as when the system was operated manually. The same records that are maintained in a manual system are stored in disc or tape files that are readily accessible to the computer Central Processing Unit (CPU). Although, the specific format and data contents vary among systems, the records readily available to the computer for display or processing typically are:

- 1) Open Order file
- 2) Order /Parts behind schedule file
- 3) Supplier Record file
- 4) Material (commodity) record file
- 5) Inventory Record file

These computer files usually contain the same detailed data (and perhaps more). Every company that automates its materials activities utilises the computer in a slightly different manner. The data inputs vary from firm to firm, as do the desired data outputs. Generally speaking, however, the basic materials activities, which can be performed well by a computer-based system, are the same in all cases. This includes:

- 1) Maintenance of inventory records
- 2) Computation of order quantities

- 3) Preparation of purchase requisition for inventory items
- 4) Preparation of purchase orders
- 5) Distribution of accounting charges
- 6) Automatic preparation of follow – up charge
- 7) Position of delivery records, by part and by supplier
- 8) Auditing of invoices and preparation of checks for payment.

Three types (and sizes) of hardware (this is a computer terminology for the machines and equipment that make up a computing centre) are used today in computer – based purchasing operations.

The first is a **large mainframe** system that the purchasing department shares with most other operating units in the organisation.

The second type of system frequently found in purchasing departments today is built around the use of **minicomputer**. As its name implies, the mini is simple, a miniature version of large mainframe units. This type of system frequently (but not always) is dedicated for use in the purchasing and materials management activities of the firm. Operationally, this system functions much like a mainframe system, usually with better accessibility but with reduced memory and capacity.

Finally purchasing and supply operating system in some firms, particularly smaller companies, are often handled adequately by a network of micro-computers (PCs) that constitute purchasing own free standing system.

In all these systems, authorised personnel communicate directly with the computer database through the terminal for purposes of entering and recalling data, as well as performing calculations and other machine processing activities.

3.5.1 Advantages of a Computerised Purchasing and Materials Management

There are several advantages of automatic purchasing and materials management system, all of which would have to be fully utilised if the cost of operating a computer system were to be justified these are:

- 1) Increased quality of the information produced, because of the computer's ability to update procurement records immediately.
- 2) Enhanced accuracy and timeliness in handling large volume of repetitive data. Because of its speed, a computer can supply virtually instantaneous reports which otherwise might take a small army of clerks weeks to prepare and update.

- 3) Purchasing management has been able to improve its planning, staffing and controlling ability through the effective use of computer systems.
- 4) Reduction in Labour Costs: A computerised procurement and materials record system will require less staff than a large manual system, which would employ dozens of clerks and supervisors constantly attempting to update the records.
- 5) With automated materials management system, management has more time to concern itself with its planning horizon.

3.5.2 Disadvantages of a Computerised System

- 1) Computer systems can be very expensive, which may prohibit the smaller companies from adopting this type of system.
- 2) Computer control systems are only as good as the staff operating them and the data processed and fed into the computer. Badly trained staff or faulty documentation will not be solved by installing a computer.
- 3) A major breakdown in the computer could cause chaos in the system and in the company's operational activities.

3.6 Ethics in Procurement

In many respects, ethics is far more important in today's procurement environment than it has ever been in the past. Whereas before there was adversarial relationship between buyers and suppliers, today there is partnership. Procurement chain or circle management is the reason behind this change, and it is a process which requires a high level of trust in order for the partnership to work to the mutual benefit of both the buyers and sellers.

Ethics has more significance to purchasing personnel who deals with many suppliers, evaluate them and award them contracts. Attempts will naturally be made to seek favour with him and, as such, he is subjected to temptation day in and day out, it becomes imperative, therefore, that all public and private sectors' purchasing personnel be entirely cognizance of the necessity for ethical behaviour. It takes only slightest limit of impropriety to cause doubt on behaviour, whether through perception or an actual event.

As a concept, ethics simply means what is right. Ethics involves learning what is right or wrong and simply doing it. Many philosophers consider ethics to "be the science of conduct". Ethics has therefore been

broadly defined as: “Standards of conduct that distinguish between right or wrong, good and bad, virtue and vice, justice and injustices.”

Purchasing from the layman’s definition simply means the act of buying or to acquire. Ethics in purchasing means what is right in the act of purchasing. It implies the various dos and don’ts of the purchasing profession, which has to do with one’s behaviour, and conducts in purchasing practice.

More specifically, purchasing ethic has been defined as: ‘Concerning the rightness or wrongness of actions taken by purchasing professional while pursuing the business goals of his or her organisation’.

Purchasing ethics primarily concentrates on what is the correct behaviour of a purchasing professional as he performs his duties dealing with the acquisition of goods and services in order for his company to produce a product or provide a service.

3.6.1 Division of Ethics

Ethics in procurement is divided into values, norms and rules conduct. These are further enumerated below:

a) Value

Value in this context is used to mean moral or professional standard to behaviours in purchasing, and this includes:

- (1) Honesty/Integrity
- (2) Responsible management
- (3) Serving the public interest
- (4) Professionalism

b) Norms of Ethical Behaviour

In procurement, the following standard or pattern of social behaviour is expected among the professionals:

- 1) To consider first, the interest of one’s organisation in all transaction.
- 2) To strive for increased knowledge of materials and processes of manufacturing.
- 3) To participate in professional development programmes.

- 4) To subscribe to and work for honesty in buying and selling.
- 5) To accord a prompt and courteous reception to all who call on a legitimate business mission.
- (6) To abide by and to encourage others to practice the professional code of ethics of the Nigerian Institution of Purchasing & Supply Management (IPSM) and its affiliated institutes and corporations.
- 7) To counsel and assist fellow purchasers in the performance of their duties.
- 8) To cooperate with all organisations and individuals engaged in activities, which enhance the development and standing of purchasing and materials management.
- 9) To be receptive to competent counsel from one's colleagues and guided by such counsel without impairing the responsibility of one's office.
- 10) To buy without prejudice, seeking to obtain the maximum value for each naira of expenditure.

c) Rules of Conduct

In applying these rules of conduct, personnel involved in purchasing should follow the guidance set out below:

- (1) Declaration of Interest
- (2) Confidentiality and Accuracy of Information
- (3) Competition
- (4) Business Gifts and Hospitality

To preserve the image and integrity of those involved in purchasing and the profession. Business gifts other than items of small intrinsic value should not be accepted.

- (5) Environmental Issues.
Anyone involved in purchasing should recognise their responsibility to environmental issues consistent with their corporate goals or missions.

SELF ASSESSMENT EXERCISE

Highlight the series of simple steps involved in most planning.

4.0 CONCLUSION

It is important to emphasize that in many organisations, purchasing is a primary function and therefore a key influence on the business. In other words, there is a necessary requirement to buy materials and equipment in order to produce, and without those purchases the business could not function. When this situation is linked to the fact that the average manufacturing company spends well over half its income on buying goods and services, it is clear that the management of purchasing should command the attention of the company's top management level. A materials manager's responsibilities however differ little from those of other functional manager's. All managers function primarily as decision makers. Although the details involved in managing a purchasing department differ from those involved in managing an engineering or production department, the basic managerial activities are the same. All managers develop the specific pattern of activity required in their own functional areas by applying the same general management concepts.

5.0 SUMMARY

The procurement department must have a plan for carrying out its activities. In fact, managerial efficiency starts with planning. Without a plan, purchasing will tend to be carried out in a stab-and-grab opportunistic manner, and the department may be very much overloaded during some months and be relatively without much work for the rest of the year. The first function of management is therefore, the development of a series of plans that establishes the framework within which future activities will be conducted. Every managerial job demands that planning be done before other functions of management are executed.

Dobler D.W (1981) identified and extensively discussed three widely used techniques in materials planning, namely; budgeting, purchasing research and network analysis and planning. The purchasing department is obliged to maintain a complete set of records regarding the operations and activities of the department. Good record keeping is germane to the achievement of the purchasing and inventory management objectives, of making available the right product in the right quantities, at the right time, in the right place.

The significance of computerisation for procurement and materials management is readily understood when one considers the amount of purely administrative work involved in the procurement cycle of the average buying company. Literally, thousands of requisitions, requests for quotation, purchase orders, change orders, status reports, receiving records, invoices, and other documents must be processed and recorded.

Today, a computer based system for handling these activities is a necessity.

6.0 TUTOR-MARKED ASSIGNMENT

State clearly the basic materials based activities that can be well performed by a computer based system.

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UNIT 3 PROCUREMENT PRACTICE AND METHODS.

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1.0 INTRODUCTION

Procurement has long been considered one of the basic functions common to all organisations. Retailers, wholesalers, and in certain cases, service establishments, buy merchandise to sell to their customer. Manufacturer purchase the materials they use in their production processes. In all cases, purchasing is vital to the success of the business; without an adequate supply of merchandise and / or materials, the firm would be unable to operate at maximum efficiency.

A company procurement function becomes particularly important when:

- 1) Its purchased items account for a high proportion of the unit cost of the product.
- 2) When the price fluctuate widely
- 3) When numerous diverse items are needed
- 4) When the quality of the materials appreciably influences the cost of manufacturing.

Regardless of the type of business, procurement and supply work is divided naturally into five distinct classifications, each of which encompasses a fairly wide range of activities.

The five classifications of works found in a procurement operation are:

1) Management.

Management of the purchasing function involves all the tasks associated with the management process.

2) Buying

This includes a wide variety of activities, such as working with users to help develop requirements and specifications, reviewing requisitions, analysis specification, investigating supplier, studying costs and prices, analysis of bids and negotiation and selecting suppliers. Some companies have expanded the buying job and now see it as supplier management.

3) Follow-Up and Expediting.

Other follow-up activities involves various types of supplier liaison work, such as reviewing the status of orders, writing letter, telephoning and faxing suppliers, and occasionally visiting supplier's plant.

4) Strategic Planning and Research Work.

The more an organisation progresses toward a purchasing management focus, the more emphasis it places on these strategic activities.

5) Clerical activities

Every department must write orders and must maintain working files, catalogue and library materials, and records for commodities suppliers, price and so on.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- state and explain how the need to procure different materials arise
- discuss the issues involved in purchasing capital goods; in leasing arrangement; in buying used equipments, and in buying for resale.
- explain the meaning and factors influencing future dealing, sub-contracting and the purchase of services
- highlight and comment on the keys to a successful service contract administration.

3.0 MAIN CONTENT

3.1 Origin of the Need to Purchase

Every purchase transaction originates with the recognition of the need for an item by someone in the enterprises. This need may originate in the department using the materials. The office manager may want a new typewriter. Quite often, the need for the material may be satisfied by transfer of materials from one to another department or drawing it from the stores. However, eventually the stores must replenish its supplies of the items issued to the user. Thus one may say that directly or indirectly, purchases originate from the recognition of need for an item by a user department.

In regard to most items, an efficient purchasing department will anticipate the needs of user departments. To however appreciate the range and variety of materials needed in an organisation, an examination of the wide range to needs that cover all types of business organisation whether in the private or public sector of the economy becomes very necessary. It is therefore possible to easily and broadly identify and discuss two bases for product classifications; the product based (goods and services) and the user-based (consumer and industrial goods).

3.1.1 Product Classification

There are many ways to categorise products, the most basic being to distinguish between goods and services. Another common approach among markets is to distinguish between consumer and industrial goods.

(a) Product – Based Classification

Product-based classification groups together products that have similar characteristics, although, they may serve different purposes and markets.

There are three main categories:

- (1) Durable Products:** Durable products last for over a long period before having to be replaced.
- (2) No-durable Products:** Non-durable products can only be used once or for a few times before they have to be replaced.
- (3) Service Products:** Services represent intangible products comprising activities, benefits or satisfactions that are not embodied in physical product.

(b) User – Based Classification

This classification deals with consumer markets (goods purchased for personal or family consumption) and industrial or organisational markets (goods purchased for business or institutional use).

Industrial Goods and Services

Industrial products are goods purchased by organisations or institutions that are used in the process of manufacturing other goods.

Those that are more expensive and have a longer useful life are considered capital items. Industrial goods are more usefully classified in terms of how they enter the production process and their relatively costliness.

The following industrial items can be easily identified:

1) Capital Goods

Capital equipment consists of all the buildings and fixed equipments that have to be in place for production to happen. They are industrial goods that enter the finished product partly, and there are two group: installation and accessory equipment.

2) Raw Materials

These are industrial goods that enter the manufacturer's products completely. Raw materials arrive more or less in their natural state, having been processed only sufficiently to ensure their safe and economical transport to the factory. The raw material then go on to further processing within the purchaser's own production line.

3) Components and Parts

Components and parts are finished goods in their own right, which simply have to be incorporated into the assembly of the final product with no further processing. Car manufacturers for example buy in headlamp units, plugs, alarm system, and tyres as complete components or parts and then fit them to the cars on the assembly line.

4) Supplies and Services

There are several categories of minor consumable items (as distinct from the accessory goods) and service that facilitate production and the smooth running of the organisation without any direct input.

- a) **Operating Supplies:** These are frequently purchased consumable items that do not end up in the finished products.
- b) **Maintenance and Repairs:** These are industrial services that ensure that all the capital and accessory goods continue to operate smoothly and efficiently.
- c) **Business Services:** These involve the purchase of service like management consultancy, accounting and legal advice and advertising agency expertise.

The above list is not exhaustive, but by examining its contents in terms of purchasing responsibilities in different organisations or industries, it becomes clear that needs must be recognized, authorised and satisfied in a variety of ways. In order to clarify this, it is first advisable to classify all requirements into groups, which have common characteristics and require similar treatment. All basic needs are thus classified into three main groups according to their common characteristic:

- (a) Needs, which entail capital expenditure such as buildings, machines, vehicles, furniture, etc.
- (b) Needs for production materials, which go directly into the finished product.
- (c) Needs for miscellaneous suppliers, which are supplies other than production materials required to operate the business.

It can therefore be seen immediately that these three classes of needs will arise in different circumstances and at different place in the company.

3.1.2 Authority to Purchase

According to Menon K.S. (1993), when the aspects of authority in matters relating to purchases are discussed, there are usually two separate groups of people who are involved. They include:

- 1) The authority of the person who needs the items to make requisition for the item. This person may be the actual user (e.g. the plant foreman), or it may be the stores officer in charge of the stores where the item is stocked.
- 2) The second one is the authority vested in officers of the purchasing department for making purchase of the items required.

The authority to purchase is basically related to its status as a service department orientated towards catering for the supply requirements of various departments by making purchases of materials, equipments etc. which they need. There are three ways in which a user department or store authorises the purchasing department to make purchases for them:

- By means of a purchase requisition often called the materials indent form;
- By means of a permanent order card or travelling requisition.
- By means of a bill of materials or parts list made in conjunction with production department.

1) The Purchase Requisition

When a department or store needs a particular material, which may be raw materials or equipment or stationery, it prepares a material requisition usually on the Materials Indents Form. This form is usually prepared in duplicate being retained by the requisitioning department for reference and follow-up. The purchase requisition should provide the following essential information:

- (a) Specification
- (b) Quantity
- (c) Delivery
- (d) Work Order Reference
- (e) Materials Indent Form
- (f) Signature

2) The Permanent Order Card or travelling requisition SS (TR).

This method or requisitioning is used for materials purchased on a repeat basis or for standard stock items, i.e., items which are stocked on a regular basis in the stores. This is a permanent card with all details on the materials recorded inside it. Each time a quantity is needed, the card is sent to the purchasing department indicating the quantity or volume required.

A Travelling Requisition (TR) on the other hand carries all relevant information required to enable the purchasing department to place orders for fresh supplies.

When stock level reaches the re-order level, the stock control clerk sends the TR to the purchasing department. When the TR is received, the purchasing department swings into action. It decides upon the source from which the purchase is to be made, as well as the quantity that is to be ordered, and then passes the card on for typing out the purchase order.

3) Bill of Materials or Part List:

When the design department designs a particular product, a list of the various materials, which are required to make that particular product, is made out. This is called a Bill of Materials or Part List. When a production schedule is prepared, it is usually converted into a Bill of Materials which will show exactly what materials are required and when. The purchasing department can then establish the total material requirements and determine when exactly each would be required and in what quantities.

In some cases, the Bill of Materials is routed to the purchasing department through the stock control department who will indicate which items on the list are regular stock items and which items have to be purchased. The purchasing department then takes out the remaining requirements from the bill of materials and places the purchase orders that are necessary.

3.2 Purchasing Capital Goods

Modern advanced industrial technology rests upon the use of vast amount of capital: elaborate machinery, large-scale factories and plants, stores and stocks of finished and unfinished materials. Capitalism got its name because this capital or productive wealth is primarily the private property of somebody – the capitalist. Capital, which is the word often used to refer to capital goods generally, is a different kind of production factor. A capital good differs from the primary factor (such as land, labour) in that neither land nor (these days) labour is regarded as result

of the economic process; but instead, exist primarily by virtue of physical and biological, rather than economic factors. Capital is on the other hand, an input which is itself the output of the economy. Capital goods then represent produced goods that can be used as factor input for further production.

In most firms capital equipment is not purchased every day – but when it is, such represent important management decisions as a rule, these purchases are major investments.

- 1) Investments that lead to improved productivity, and or
- 2) To the manufacture of more competitive products that increase sales in the market place.

3.2.1 Factors to Consider in Buying Capital Equipment

Apart from the mode of purchase, finance and the investment made, Lysons, K (2000, p. 323) argued that the factors to be considered should include the following:

- 1) Purpose: what is the prime purpose of the equipment?
- 2) Flexibility: How versatile is the equipment.
- 3) Standardisation: is the equipment compatible with any already installed, thus reducing the cost of holding spares?
- 4) Life: This usually refers to the period before the equipment will have to be written off due to depreciation or obsolescence. It is, however, not necessarily linked to the total life span if it is intended to dispose of the asset before it is obsolete or unusable.
- 5) Reliability
- 6) Durability
- 7) Product quality
- 8) Cost of operation: Costs of fuel, power and maintenance.
- (9) Cost of installation
- 10) Cost of maintenance
- 11) Miscellaneous
- 12) Life cycle costing (Terotechnology) is an important aspect of capital expenditure.

Chartered institute of Management Accountant (CIMA) has defined life cycle costing as:

The practice of obtaining over their life time the best use of the physical assets at the lowest cost to the entity (Terotechnology). This is achieved through a combination of management, financial, engineering and other disciplines.

The term 'Terotechnology' coined in 1970 is derived from the Greek verb tereo and literally means 'the art and science of caring for things.'

Life cycle costs are therefore those associated with acquiring, using, caring for and disposing of physical assets, including feasibility studies research, development, design, production, maintenance, replacement and disposal, as well as the associated support, training and operating cost incurred over the period in which the asset is owned.

3.2.2 Purchase and Product Characteristics of Capital Goods

The role of the purchasing department is distinctly different in the buying activity of capital goods than it is in production buying. The peculiar characteristics of capital goods make both the purchase of capital equipments and the product itself differ in a number of ways. This includes:

- (1) This fundamental difference between capital and non-capital goods is a time difference. No capital goods represent expenditure on current needs, and goods of this kind are used up in a relatively short time. Capital goods represent investment in fixed assets or capital assets, which will be used for a relatively long-time.
- (2) Some of the items of capital goods are highly specialised and are built in order to meet the needs of buyers: others are more or less standardised and are used by a number of different industries.
- (3) Capital goods have a high initial price, and commitment to one capital project means that others have to be turned down.
- (4) In evaluating capital goods, buyer will consider such properties as productivity, versatility, durability, economy of operation and maintenance, and time and labour-saving features.
- (5) Acquisition of capital goods is frequently subjected to the participation of various executives in the buying firm, because the equipment is of high value and of great significance to the buyer.
- (6) Sales of capital goods are largely through direct buyers because of:
 - (a) The small numbers of users
 - (b) The concentration of the demand market
 - (c) The large unit of sale
 - (d) The need for most effective communications with sellers to enable speedy negotiation of particular needs
 - (e) The need to provide various types of service (e.g. installation advice the supply and training of operators).

- (7) Another special characteristic is that expenditure on most capital goods is personable. Just as the individual consumer can postpone the replacement of his car or refrigerator until next year, so a manufacturing organisation can postpone the replacement of an old machine tool until prospect looks brighter or the financial situation is better.
- (8) Creation of demand is difficult for the supplier or seller as the capital equipment will only be required in connection with new plant, for expansion or replacement.
- (9) Most organisations use special requisition forms for capital purchases because of these special characteristics. The procedure for authorising the expenditure tends to be more formal; often a director's signature is required.

3.2.3 The Role of Purchasing Department in the Procurement of Capital Goods

Peter Baily et al (1981:224) argued that the purchasing executive is the key figure in communications between his organisation and supplier. Although policy in regard of the purchasing department's role varies widely between companies, one basic area of consideration is the calibre and competence of the people who constitute the department. Many small purchasing departments play a clerical role only, while others are able to make useful contributions to the whole process of considering, deciding upon, and actually undertaking the project.

Large organisations which employ substantial procurement personnel and make numerous purchases of plant and equipment usually have specialist buyers who have built up extensive market knowledge and considerable expertise in the negotiation and administrations of capital contract. The procurement of capital equipment calls for purchasing personnel that functions in a creative capacity as facilitators and coordinators. David N. Burt et al (1996:399) summarized key points of purchasing role in a typical capital equipment purchase. This includes:

- 1) Participate in the preliminary discussion phase, including solicitation of information and budgetary estimates.
- 2) Review and request clarification of specifications. Specification must be precise and complete, and they must be written as functionally as possible.
- 3) Coordinate the development and qualification of potential supplier, including various qualitative analyses. The purchasing executive must first determine, usually with engineering

- assistance, the level of a supplier's technical and production capabilities. This is of utmost importance.
- 4) Compile required commercial terms and conditions.
 - 5) Prepare and process the request for proposal from potential suppliers.
 - 6) Coordinate the analysis of supplier proposal, including economic analyses and the resolution of any exceptions to specifications. Economic analysis of each machine must be made, relating its ultimate cost to its productivity. Several measures of profitability can be used, the payback approach being the most common or any of the more sophisticated discounting cash flow (DCF) approaches. Economic analyses must be thorough, and must be based on accurate data.
 - 7) Arrange for side-by-side demonstration, if practicable.
 - 8) Plan, coordinate, and conduct negotiations as necessary. After management has approved a proposal for the purchase of capital equipment, the buyer assumes his/her customary responsibility for negotiating the final price, and related terms of the contract.
 - 9) Coordinate and conduct contract inspection and expediting services.
 - 10) Critique and document supplier's performance by means of objective vendor rating exercise.
 - 11) Maintain records of price and delivery trends for future procurements.

The purchasing executive contributes directly to the accomplishment of some of these activities. More important, however is his or her responsibility to orders and coordinate the total performance. The buyer's main job is to ensure that every thing happens as it should.

3.3 Acquisition of Used Equipment

A buyer is by no means restricted to the purchase of new capital equipment. The existing used equipment available from supplier auction or direct purchase from a previous owner may be an alternative to purchasing new equipments. Purchases of used equipment, in fact, constitute an important percentage of total machinery sales. Used equipments are available for a number of legitimate reasons.

- a) When a firm buys a new machine, it frequently disposes of its old ones.
- b) A firm that extensively modifies its product design or its total production process is in a better position to obtain more specialised production equipment and hence put up the old ones for sale.

- c) Some use equipments equally becomes available because the owner lost a particular contract or has discontinued operation altogether.

3.3.1 Used Equipment Sources

Lamer Lee Jr. et al (1981) listed four sources from which used equipment is available and commonly purchased:

(i) Used equipment Dealers

Used equipment dealers sell two types of machine viz, reconditioned machines and rebuilt machines. Generally speaking, a reconditioned machine carries a dealer's guarantee and sells for about half or less of the price of a similar new machine. A rebuilt machine typically carries a more inclusive dealer warranty and sells for perhaps half for even more than a new machine's price.

(ii) Directly from the Owner

Some owners prefer to sell their used equipment directly to the next user because they feel they can realise a higher price than by selling to a dealer. Some buyers also prefer this arrangement. It permits them to see the machine in operation and learn something about its usage history before making the purchasing decision.

(iii) Brokers

Occasionally, an industrial supply house or a manufacturer's agent will act as a broker for a good customer by helping him dispose of an old piece of equipment which has a limited sales market.

(iv) Auction

Auction represents still another source of used equipment. When a commodity is sold by auction, prospective buyers make bids. It is commonly being sold to the person making the highest bid.

Generally speaking, buying at auction is somewhat more risky than the other supply sources because;

- a) Auction machine usually carries no warranty, and so there can be no return after sales.
- b) It is rarely possible to have the machine demonstrated
- c) Buyer's lack of perfect knowledge about the goods bidden for.

- d) Absence of after sales services. It is therefore advisable that industrial buyers must have a spending limit and should avoid always buying at auction because of its inherent risks or shortcomings

Two types of auction are common. These are open and closed auction.

3.3.2 Reasons for Purchasing Used Equipment

A purchaser may have several reasons for deciding to buy used equipment. Some of the important reasons include:

- (1) The cost of used machinery is substantially less than that of new equipment.
- (2) Used equipment is frequently more quickly available than new equipment. In some situations, availability may override all other consideration.
- (3) Used equipment, especially when reconditioned and rebuilt, may have a long life and be protected by warrants.
- (4) Another common reason for the purchase of used equipment is that used equipment adequately satisfies the purchaser's needs, in which case there is no point in buying new equipment.

3.3.3 Cautions in Purchasing Used Equipment

The age-old adage of caveat emptor – let the buyer beware – is particularly applicable when purchasing used equipment. Though, protection is given by the sales of goods, misrepresentation and Trade descriptions Acts; the buyer of used equipment should work on the principle of Caveat emptor.

As a procedural guide, the buyer of used equipment should be able to ask some of the following questions:

- 1) Is the usage history of the equipment available?
- 2) Are component and parts readily available? Will they continue to be?
- 3) Is there any indications of the equipment age such as serial number?
- 4) How well has the equipment been maintained over the usage period?
- 5) What will be the cost, where appropriate, of dismantling, transporting and re-erecting or installing equipment?
- 6) How does the price asked for used equipment compare with the cost of buying new one?
- 7) Does any warranties supersede the protection given under the Sale of goods Act?

- 8) What trials, test or approval period will the vendor allow?
- 9) What special term conditions, if any apply to the purchase?

The above questions are by no means exhaustive. A purchaser of used equipment may ask more questions than the aforementioned ones. This depends on the personal intelligence endowed to the buyer. Generally speaking, it is difficult to determine the true condition of a used machine and to estimate the type and length of service it will provide. For this reason, it is;

- 1) Wise to have one buyer specialise in used equipment.
- 2) Moreover, it is virtually essential to enlist the cooperation of an appraising used equipment.
- 3) In preparing a purchase order for used capital equipment, care must be taken to include all essential data.

3.4 Leasing

The purchasing manager may be involved in deciding upon the most appropriate method of acquiring a set of equipments or replacement of equipments for the organisation. The method selected will be affected by the following major consideration;

The three options regarding equipment acquisition are:

- (i) Leasing
- (ii) Hiring
- (iii) Outright purchase.

Product leasing is not a new way of doing business. Leasing is a means whereby a firm may acquire the use of equipment without the necessity of taking title. As a concept, a lease has been defined by the Equipment Leasing Association as:

“A contract between lessor and lessee for the hire of a specific asset selected from a manufacturer or vendor of such assets by the lessee.”

The lessor retains ownership of the asset. The lessee has possession and use of the asset on payment of specified rentals over a period. The agreement with the owner to use the property is a lease. The owner is the lessor and the person taking possession is the lessee. The equipment remains the property of the lessor but responsibility for its maintenance is the duty of the lessee.

Under the status for Frauds, a lease for longer than a year must be put in writing to be enforceable. The more formal written lease usually contains the following:

- 1) Date of agreement
- 2) Names of lessor and lessee
- 3) Property description
- 4) Duration of lease
- 5) Manner of paying rent
- 6) Responsibility for making repairs
- 7) Liability for injury to third party
- 8) Right to sublet or resign

3.4.1 Types of Leasing Arrangement

Lease agreements have become popular methods for financing both small and large enterprises, and it is carried on under a number of types of arrangement. The following are almost certainly the most common.

1) By Maker to User

The manufacturers of equipments such as data processing equipment usually lease directly to users as a means of marketing their products, which are often highly specialised and technical.

2) By One User to another User

3) By Leasing Company to a User

The arrangement of leasing by one user to another user is somewhat cumbersome and depends on cooperation between firms that often compete with one another. The result has been the emergence of firm that buys machines from the equipment makers and leases them to users.

4) By a Finance House to User

In this type of leasing agreement, the lessor has no commercial interest in the transaction other than as a supplier of finance. The lessor pays for the asset and thereby become its owner.

3.4.2 Advantages of Leasing

There are several advantages to the leasing method and it is an increasingly popular option.

- (a) No capital commitment:** The organisation will not have to find large sums of money to acquire the equipment.

- (b) **Low cost:** The leasing method of acquiring equipment is the lowest of the three options (i.e. leasing, hiring and outright purchase), and this is an advantage.
- (c) Leasing enables the suitability of equipment to be assessed over a predetermined trial period.
- (d) Leasing provides an edge against the risk of obsolescence.
- (e) Replacement decisions are made easier.

3.4.3 Disadvantages of Leasing

- (a) **The lessee has to maintain the equipment:** This can be very expensive
- (b) **Fixed term contract:** The equipment cannot be returned to the lessor in the event of change in the lessee's business needs.
- (c) Leasing does not provide the prestige of ownership.
- (d) **Resale value:** In time of inflation, ownership is generally at an advantage because the resale value rises with inflation.

3.5 Buying for Resale

Buying goods (or merchandise) for resale has much in common with other kinds of purchase; even though purchasing for resale is one vital aspect where the business function of marketing and procurement considerably overlap. Sometimes described as speculative buying, buying for resale is

a process that involves reselling the merchandise bought, in most instances, without anything being done or any value being added to the purchased item.

Buying for resale is the glamour job in retailing. It is an activity, which owes more to marketing than purchasing. What retailers, wholesalers or other members to the distributive sector but they also sell.

Important Consideration

Generally speaking, the decision as to what to buy must frequently be taken with a strong feeling for what to sell. This is because, decision in the buying for resale practice has to be made in terms of what to buy, quantities, prices, delivery terms, and mode and timing of payment. In deciding what to buy, the first major task is to apply marketing research. In specific term, marketing research has been defined as: "the systematic gathering, recording and analysing of data about problems in marketing goods and services".

This major activity will help satisfy the resale buyer's unending need for information about the market, sources of supply, the goods etc.

All retailers need to plan what goods to sell for. In most cases, what a business sells is what that business is. The terms merchandising and buying are used interchangeably. And in developing a range of merchandise (i.e. the product mix; a group of related products) a resale buyer should consider such questions as:

- (a) Is this product suitable for our store image?
- (b) Is it appropriate for our target markets?
- (c) What is the likely demand for the product?
- (d) How readily is the product group available?
- (e) On what terms could we buy it?

3.6 Future Dealing

According to Lyson (2000:335), a commodity such as copper may be bought directly from the producer or on a commodity market. The latter (i.e. the commodity market) provides the advantages of futures dealing. The London markets for example are divided into two main areas: metals and soft commodities. The non-ferrous metal markets in copper, tin, zinc, and silver operates at the London Metal Exchange (LME). The soft commodity markets dealing in cocoa, coffee, sugar, vegetable oils, wool and rubber are situated at the Corn Exchange building.

The Functions of Exchanges

- (1) To enable customers, merchants and dealers to obtain supplies readily and at the competitive marketing price.
- (2) To smoothen our price fluctuation due to change in demand and supply
- (3) To provide insurance against price fluctuation through the procedure known as 'hedging'

3.6.1 The Purpose of and Conditions for Future Dealing

The purpose of future dealing is to reduce uncertainty arising from price fluctuation due to supply and demand changes. This reduction in uncertainty benefits both producers and consumers. The producer can sell forward at a sure price; the consumer can buy forward and fix materials cost in accordance with a predetermined price. Manufacturers of copper wire, for example, might be able to obtain an order based on the current price of copper. If they think the price of copper may arise

before they can obtain their raw materials they can immediately cover their copper requirements by buying on the LME at the current price for delivery three months ahead, thus avoiding any risk of an increase in price.

For future dealing to be undertaken the following conditions must apply:

- (1) The commodity must be capable of being stored without deterioration for a reasonable period.
- (2) The commodity must be capable of being graded for the purpose of providing a basis for description in the contract
- (3) The commodity must be tradable in its raw or semi-raw state
- (4) Producers and consumer must approve the concept of futures dealing
- (5) There must be a free market in the commodity, with many buyers and sellers, making it impossible for few traders to control the market and thus prevent perfect competition.

3.6.2 Some Terms Used in Futures Contracts

- 1) **Arbitrage**
The (usual) simultaneous purchase of future in one market against the sale of future in a different market to profit from a difference in price.
- 2) **Backwardation.**
The backwardation situation exists when forward price are less current 'spot' ones.
- 3) **Contango**
A contango situation exists when forward prices are greater than current 'spot' ones.
- 4) **Force Majeure**
The clause which absolves the seller or buyer from the contract due to events beyond his or her control, e.g. unavoidable export delays in producing countries due to strikes at the supplier's plant. Note.
- 5) **Futures**
Contracts for the purchase and sale of commodities for delivery some time in the future in an organised exchange and subject to all the terms and condition included in the rules of that exchange.
- 6) **Hedging**

Hedging is the use of future contract to insure against losses due to the effect of price fluctuations on the value of stocks of a commodity either held or to be acquired. Basically this is done by establishing a position in the futures markets opposite to one's position in the physical commodity.

3.7 Sub-Contracting

Organisations of all kinds subcontract aspects of their activity, and subcontracting is often viewed as a means of augmenting limited resources and skills while still enabling the contractor to concentrate on his or her main area of expertise in the execution of prime contract. When a contract has been awarded to a supplier (the prime contractor), the supplier frequently subcontracts some of the production work required to the job. Items purchased on subcontracts are actually purchased parts or components. However, subcontracting usually takes place when it is not possible to produce the parts in the local plant by the prime contractor. Hence subcontracting is:

the work of obtaining the prime contract's (manufacturer's) requirement, mostly of fabricating parts and components, from outside sources in order to manufacture a certain product (or execute an awarded contract) in the prime contractor's plan.

A large firm may like to concentrate its efforts on major items of the contract and leave several minor ones to small manufacturer. Thus many types of organisation subcontract security arrangement, waste or scrap disposal, plumbing and a whole range of specialist activities provided they are considered more conventional sub-contract services. The subcontractors are thus legally responsible to the prime contractor rather than the buyer or client even when the client has stipulated which subcontractors is to be used. The prime contractor's subcontracting decisions are however important to a buyer because they may involve a large percentage of prime contract money.

Sub-contract price and performance influence the prices the buyer pays the prime contractor.

3.7.1 Reasons why Subcontracting has become a Major Management Activity

Three reasons have been responsible for the prominent rise of subcontracting as a major activity requiring management decision on part of both the prime contractor and the sub-contractor. These are:

- (a) The rapid rate of technological inventions.
- (b) The fast rate of installation of this change in products and processes.
- (d) Further movement toward specialisation, which is characterising business enterprises throughout the world.

For the above reasons and others as listed Peter Bailey and David Farmer (1981:254), subcontracting is a major management activity.

- (1) One major reason is insufficient financial resources to provide facilities to perform the function within the company.
- (2) Lack of (production) capacity internally.
- (3) Lack of time for completion of work to meet a rapidly approaching “target date”.
- (4) Lack of know-how because of complexities of rules and procedures to make the item in-house.
- (5) Because a specialist sub-contract is more cost effective either in production or geographical location terms.
- (6) Customer or buyer stipulates that work should be sub-contract, usually for a nominated firm.

3.7.2 Selecting a Sub-Contractor

Although, all issues relating to sourcing (as discussed in unit five) are relevant in the selection of a subcontractor, certain pertinent and additional issues require further detail consideration in the selection of a subcontractor. Bailey and Farmer (181) suggested a number of key questions to be asked and answered in subcontractor selection.

- 1) What is the company’s major specialisation? For example, are they jobbing machinists, or are they capable of working to close tolerance? For whom have they worked? How long have they worked for these companies? Can we ask these customers about their service and quality performance record?
- 2) They do have a permanent and well-trained labour force? What is their industrial relations record?
- 3) Are their quality – control procedures adequate?
- 4) Are their production –control procedures adequate?
- 5) Are they adequately financed?
- 6) If tooling is required, can they make the tools themselves?
- 7) Do they own their own transport? Is it reliable?
- 8) In government work, are they approved by the relevant inspectorate?

Where possible, each of these questions can be expressed in quantitative terms. Notwithstanding, the extent to such investigations depends upon the quality and importance of the work to be undertaken. To however do an effective buying job, the following necessary actions are to be taken:

- (a) Continuous appraisal of subcontractors because of changes that inevitably take place in companies over time.
- (b) Specification and standardisation of working should be agreed before subcontractors submit quotations particularly with new subcontractors.
- (c) In higher subcontracting, close liaison between the prime contractors and the sub-contractor's staff essential.

3.7.3 The Rules of Behaviours in Subcontracting

It is a truism that two cannot walk unless they agree. This also found expression in subcontracting. Until the two organisations involved know each other well and technical requirements are fully understood, the maxim, **if in doubt –ask!** Should be adopted. It is therefore further suggested. By Peter Bailey and David Farmer that it is a good practice to:

- (1) Make an individual particularly responsible for all contracts with sub-contractors.
- (2) From the outset, work requirements of the sub-contractor must be clearly established.
- (3) From the outset, understanding must be reached as to the quality and workmanship, which is required of the sub-contractor.
- (4) Make provision for compensation for any spoilage or partially finished work by the subcontractor subject to accepted conditions of trade.
- (5) It is often advantageous to supply the sub-contractor with tooling and equipment on loan, particularly if the subcontracting arrangement is temporary.
- (6) Inspection arrangement needs to be clearly
- (7) Procedure and documentation should also be clearly b established at the outset.
- (8) The limit of the sub-contractors liability for damage to persons or property in respect of claims arising from the contract should be clearly defined.

3.8 Purchasing Service

The procurement of service is one of the purchasing most interesting and challenging assignment because large sums of money are involved. Expenditure on service in all types of organisation (e.g. profit or non-

profit making organisations, government or non-governmental organisation etc) increases each year. The reasons for this are the key roles played by purchased services in the successful operation of these organisations.

In many instances, the impact of the services themselves on the success of the organisation's operation is far greater than the impact of the money spent. Service ranging from architectural engineering, promotion and advertising, and development of software, to the maintenance and repair of production equipment are of critical importance to the operations of the organisation. More mundane purchase such as cafeteria and janitorial operations impact the morale of all employees.

Services which are not at all in the areas of competence of an organisation such as management information system, payroll travel services, delivery service, even the procurement of MRO supplies and service, are being outsourced to service providers. These suppliers have the expertise and economies of scale to allow them to provide the service at the same or higher quality level than the purchasing firm and at a lower total cost.

3.8.1 Selection Service Contracts

Selecting the "right" source is much more of an art when purchasing services than when purchasing materials.

- Based on the complexity of such services procurement and the unexpected problems that tend to rise, it is normally prudent practice to select only established, reputable firms.
- When a large number of potential contractors are available, the buyer and the customer normally reduce this list to three to five firms.
- The buyer then invites proposal from only the potential suppliers with which the buying firm would be comfortable doing business. During the evaluation process, emphasis should be placed on the total cost and total benefits to the buying organisation.
- In addition to the traditional concerns about a prospective contractor's financial strength, management capability, experience, and reputation, the area of technical capabilities requires special analysis.

3.8.1.1 The Ideal Services Supplier

The ideal service supplier listens to what users complain about most and then design service products that supply the market's missing ingredients. Satisfaction is built into service products rather than added as an afterthought. The ideal services supplier invests to increase both employee productivity and customer satisfaction.

If such an "ideal" services supplier or contractors is not available, the purchasing firm should consider the development of a long-term relationship with a supplier willing and able to grow into an "ideal" provider.

3.8.1.2 Professional Services

Architect, engineering firms, lawyers, consultants, and educational specialist are representative of the individuals and firms which provide professional service. The professional buyer pays particular attention to the relationship between the price mechanism (e.g. firm fixed price, cost plus incentive fee, fixed price with award fee, and so on) and the contractor's motivation on critical professional services contracts. Every naira that the supplier's costs are reduced results in a naira of additional profit

Administratively, it may be impractical to use anything other than a fixed price contract or an hourly rate price for relatively small professional services contracts. Even on larger naira amounts, the supplier's reputation may allow the use of a fixed price contract. But buyers should be aware of the potential effect of the pricing mechanism on the contractor's performance.

3.8.1.3 Operating Services

Janitorial, security landscaping, and cafeteria operations are operating services. Experience has shown that obtaining effective performance of such can be very challenging for administrators. Accordingly, the compensation scheme should reward the supplier for good and penalize it for poor service. Such an approach to pricing greatly aids in the administration of the contract and results in a higher level of customer satisfaction.

Insurance, plant and equipment maintenance, and anticipated emergency service should be priced through the use of competition of carefully prequalified supplier. Unanticipated emergency repairs normally are purchased on a "not-to exceed" time and materials basis.

3.9 Contract Administration

The four keys to successful service contract administrations are:

- (1) a sound statement of work
- (2) selection of the “right” source
- (3) a fair and reasonable price, and
- (4) aggressive management of the contract.

The administration of many service contracts can be a very challenging responsibility. The buyer needs to monitor and have a realistic degree of control over supplier’s performance. Crucial to success in this is the timely availability of accurate data, including the contractor’s plan for performance and the contractor’s actual progress. The buyer must proactively manage the relationship to ensure success.

SELF ASSESSMENT EXERCISE

Why is auction-based purchase considered risky?

4.0 CONCLUSION

There is no gainsaying that purchasing has been an important aspect of management, be it business management or management of non-profit.

In contemporary business operation, how well an organisation does its buying may spell the difference between profit and loss. Indeed, there is an old proverb, Goods well bought are sold. This is literally true in the purchasing function of a manufacturer, purchasing raw materials and equipment or in the purchasing function of merchant middlemen whether wholesalers or retailers. Even in the modern consumer market, particularly, for sophisticated goods, e.g. specialty goods, the purchasing function is very important; purchasing however has a wider meaning. It is more than mere buying. It is considered a managerial activity and it includes planning, organisation and control of a wide range of interrelated activities. Purchasing is very closely related to production as well as marketing departments of an organisation. All these three functional areas of business must work in cooperation to fulfill the company-wide targets.

5.0 SUMMARY

Modern advanced industrial technology rests upon the use of vast amounts of capital: elaborate machinery, large-scale factories and plants, stores and stocks of finished and unfinished materials. Capitalism got its name because this capital or productive wealth is primarily the private property of somebody – the capitalist.

There is no single market for industrial goods, but several markets. Industrial buyers tend to base their selection of goods and services on objective criteria. The industrial buyer buys a vast variety of goods and services. Some goods and services are relative expensive and are generally used within a year of purchase. Those that are more expensive and have a longer useful life are considered capital items. Every purchased transaction originates with the recognition of the need for an item by someone in the enterprise. This need may originate in the department using the material.

6.0 TUTOR-MARKED ASSIGNMENT

What factors would you advise you advise your company to consider in the purchase of capital goods?

7.0 REFERENCES/FURTHER READING

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UNIT 4 MANAGEMENT OF INVENTORY

CONTENTS

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1.0 INTRODUCTION

One of the major tasks of any management today is to control stock or inventory (These two terms-inventory and stock – shall be used interchangeably for the purpose of this book as the terms are definitionally indistinct). Both goods producing and service providing companies use materials. In majority of industries, inventories constitute the most significant part of current assets. Indeed, for many manufacturing firms materials costs account for over 50 percent of total production costs.

To neglect effective and efficient management and control of inventories is to jeopardize a business' long run profitability and survival (Ishola, T. O; 2002, P. 263).

Stocks are defined by the Chartered Institute of Management Accountants as; Goods or inventory held comprising:

- Goods or other assets purchased for resale;
- Consumable stores;
- Raw materials and components purchased for resale incorporation into products for resale;
- Products and services in intermediate stage of completion (work-in-progress);
- Long-term contract balances; and
- Finished goods.

Similarly, inventory is an American accounting term for the value or quantity of raw materials, components, assemblies, consumables, work-in-progress and finished stock that are kept or stored for use as the need arises. The term also applies to;

- (1) A detailed list of goods or articles in a given place or
- (2) A stocktaking.

Thus in an organisation, Inventory refers to the storage in storehouse or warehouse of products manufactured for sale and components that make up the product.

Inventory relates to only materials or goods; services are excluded.

Inventory (or stock) control in this context therefore, refers to ‘the techniques used to ensure that stocks of raw materials or other supplies, work-in-progress and finished goods are kept at minimum levels of cost’.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- highlight various classifications of inventory and the reasons for holding inventory
- explain the economic principles behind stock control
- state and describe different approaches to stock control
- comment on the problem associated with the EOQ model.

3.0 MAIN CONTENT

3.1 Inventory Classifications

Much as the various functions of stores management has been identified with the receipt, preservation different types of inventories or stocks or

materials maintained in a business organization can also be identified. All businesses use the same general classification of inventories, including raw materials, purchased parts, work-in-progress, finished good and supplies.

1) Raw Material.

A raw material inventory includes all items that being received at the plant require additional processing before becoming an identifiable part of the finished product.

2) Purchased Parts

This classification of inventory is applied to component parts of a product that need no additional processing before being assembled into the finished product.

3) Work-in-Progress

This classification of inventory is self-explanatory. All material that leaves either raw materials store or purchased parts stores enter the work-in-process inventory until the product is completed and placed in finished goods.

4) Finished goods

Again, this is self-explanatory – it is the stock of finished or completely manufactured goods/products which are ready for sale. Generally speaking, this classification applies to the quantities of finished goods that are held at the factory awaiting shipment.

5) Supplies

All the materials needed for the operation of the firm that are not used as parts of the finished product are classified as supplies. Cost accounting commonly identifies this stock classification as ‘indirect material’. On the other hand, the material that becomes parts of the finished product is called ‘direct material’.

3.2 Reasons for Holding Inventory

The question of managing and controlling inventories or stocks arise only when the company holds inventories. Maintaining stocks arises only when the company holds inventories. Maintaining inventories involves tying up of the company’s funds. Unintentional excess buying and overstocking inevitably result in unprofitable investment, high inventory holding or carry charge (e.g, storage and deterioration expensive) and possible losses caused by price declines. If it is so

expensive to maintain inventories, why do companies then hold stocks? There are three general motives for holding inventories or stocks. These are:

- 1) The transaction motive which emphasizes the need to maintain inventories to facilitate smooth production and sales operation on basis.
- 2) The precautionary motive explains the need for inventories to guard against the risk of unpredictable changes in demand and supply forces and other factors
- 3) The speculative motive influences a firm's decision to increase or reduce stock levels to take advantage of price fluctuations.

In more specific terms, the following additional reasons have been severally advanced as reasons for holding inventory:

- (a) To avoid the loss of customers that occurs when product is not stocked.
- (b) To meet sudden spur in customer demand
- (c) To keep the firm from cutting back or shutting down briefly due to material shortages, depletion or exhaustion.
- (d) To capitalize on discount in the price of raw materials.
- (e) To protect against strikes
- (f) To manufacture product in quantities that minimize cost.

3.3 The Objectives of Stock Control

Objectives are the desired end-results. The ultimate objective of all manufacturing controls is to realise a profit through the operation of the business. A more restricted objective of the control of materials is to satisfy the customer by meeting the schedule for deliveries. Failure to deliver customers' orders on time is one principal cause for the loss of business and customers. Effective control of materials throughout the manufacturing cycle prevents this problem from arising. The following additional objectives or aims of inventory control are classical to mention:

- (1) To provide both internal and external customers with the required service levels in terms of quantity and order rate fill.
- (2) To ascertain present and future requirements for all types of inventory to avoid overstocking while avoiding bottlenecks in production.
- (3) To keep costs to a minimum by variety reduction.
- (4) To improve the quality of manufactured goods by the use of better raw materials or components.
- (5) To ensure co-operation among all departments of the enterprise to meet materials management objectives.

3.4 The Economics of Stock Control

Inventory or stock constitutes an investment, which must be controlled. Firms are however commonly faced with the problem of meeting conflicting needs in the context of inventory management. These are:

- (1) To maintain a large size of inventory for efficient and smooth production and sales operations.
- (2) To main a minimum investment in stocks to maximise profitability.

Business firms should always avoid over-investment or under-investment in stocks or inventories. There are basic costs incurred by any organisation, which holds stocks.

The economics to stock management and control can therefore be determined by an analysis of the costs incurred in obtaining or acquiring and carrying inventories.

Lyson, k (2000:222) presented the procedures for such costs analysis under the following headings:

3.4.1 Acquisition Costs

Many of the costs incurred in placing an order are incurred irrespective of the order size, e.g. the cost of an order will be the same irrespective of whether 1 or 1000 tons are ordered. Ordering costs including:

- (1) Preliminary costs, e.g. preparing the requisition, vendor selection, and negotiation.
- (2) Placement costs, e.g. order preparation, stationery, postage, etc.
- (3) Post-placement costs e.g. progressing, receipt of goods.

3.4.2 Holding Costs

These costs relate primarily to the consequences of over-investment in inventories or excessive stocks, and these are of two types:

(A) Costs proportional to the Value of Inventory, e.g.

- (1) Financial costs, e.g. interest on capital tied up in stock or inventory. This may be bank rate or, more realistically, the target return on capital required by the enterprise.
- (2) Costs of insurance
- (3) Losses in value through deterioration, obsolescence and pilferage.

(B) Costs Proportional to the Physical Characteristic of Inventory. These include:

- (1) Storage costs, e.g. storage space, stores rate, light, heat and power.
- (2) Labour costs relating to handling and inspection.
- (3) Clerical costs relating to stores records and documentation.

The total costs per annum under each heading will be expressed as a percentage of the monetary value or quantity of the average stock held.

3.4.3 Costs of Stock Outs

These are costs incurred for under-investment in inventory resulting in inadequate stocks of materials. These comprise:

- 1) Loss of production output.
 - 2) Costs of idle time and of fixed overheads spread over a reduced output.
 - 3) Costs of action taken to deal with the stock out, e.g. panicky buying at an uneconomical price for lack of time for proper negotiation, switching production, obtaining substitute materials.
 - 4) Loss of customer goodwill through the inability to supply or late delivery.
 - 5) Opportunity cost like forgone quantity discount.
- Often costs of stock outs are hidden in overhead costs. Costs of stock outs are difficult to estimate or incorporate into inventory models.

3.5 Approaches to Stock Control

As previously noted in the sub-section 3.3 discussion, the objective of inventory or stock control should be the avoidance of excessive and inadequate levels of inventories and the maintenance of sufficient stock to ensure operational smoothness.

Although there are many systems for the control of stock, both manual and automatic, there are really only two basic approaches on which these stock control systems are based. Re-ordering of supplies will either take place:

- (1) When stocks fall to a predetermined level, or
- (2) According to the situation discovered when physical stock levels are reviewed on a periodic regular basis.

Sometimes, these approaches will be used in combination. For example, it might be the case that the reorder level approach is employed with the backup of periodic regular review of physical stock levels. The two approaches are commonly called the “action level” method and the “period review” approach. Emphasis shall however be on the former for the purpose of this book.

3.5.1 The Action Level Method

The basic method of controlling stock by quantity is by means of fixed, for each commodity, stock levels that are recorded in the stock control system (usually the perpetual inventory record) and subsequently used as a means of indicating when some action is necessary. There are various kinds of stock levels, but the fundamental controls are;

- 1) Maximum
- 2) Minimum
- 3) Re-order
- 4) Hastening
- 5) The Economic Order Quantity (EOQ)

It does not follow that all these are necessary or even desirable for every material items, and they should be employed with discretion, because the fixing of too many levels make the work of provisioning unduly complicated.

1) The Maximum Stock Level

This is the level calculated representing the maximum stock that should be held in store in order to minimise the costs of over-stocking. Only under abnormal circumstances should management authorize purchases above this uppermost limit. In determining the maximum stock level, consideration is given to a number of factors like;

- 1) The rate of materials consumption,
- 2) Availability of storage space,
- 3) Risk of deterioration, obsolescence, and / or evaporation,
- 4) Economic conditions like price stability and availability of materials from suppliers.

There is no general consensus about the method for calculating this stock level but it may be expressed as:

Maximum stock = Recorder level + Recorder quantity
 = Minimum usage during reorder period.

2) The Minimum Stock Level

This is the lowest level below which stock should not be normally allowed to fall if the firm is not to risk the consequence of inadequate inventory or stock outs. It is the minimum reserve or buffer stock, which comes in handy during emergencies. The factors affecting the minimum stock level include:

- 1) The rate of consumption
- 2) The lead or re-procurement time.

The lead-time is the period of time between placing order or raising requisition (internally or externally) and materials delivery i.e. when goods are made available for use.

It is expressed as a mathematical formula as follows:

$$\begin{aligned}\text{Minimum Level} &= \text{Demand} \times \text{delivery period} \\ &= (100 \text{ per week}) \times (6 \text{ weeks}) = (600) \\ \text{Min Level} &= 600.\end{aligned}$$

3) Re-order Level

This is point at which it is essential to initiate purchase requisition. It is a point in between the maximum and minimum stock levels. It is the quantity of stock necessary to protect against the exhaustion of the stock during the gap between the date of order and the date of delivery. When the level of stocks or the balance on hand reaches this level, it is an indication that a new order must be placed at once. The reorder level is affected by factors like:

- 1) Material consumption rate
- 2) Minimum level
- 3) Lead time and risk factors like variations due to uncertainty.

As a formula, it is expressed as follows:

$$\text{Reorder Level} = \text{Minimum stock} + 25 \text{ per cent buffer stock.}$$

Because of the risk involved in telling on prompt deliveries, a figure for extra or buffer stock (often 25 per cent of minimum stock) is added to the minimum stock. Applying the above formula therefore, we have;

$$\text{Minimum stock} = (600) + 25 \text{ per cent buffer stock}$$

$$\begin{aligned} &= (600) + (150) = (750) \\ \text{Reorder level} &= 750. \end{aligned}$$

4) The Hastening Stock Level.

This is the amount expressed in units of issue at which it is estimated that hastening action is necessary to request suppliers to make early delivery. It is fixed between the minimum and the reorder stock levels. These stock levels are graphically illustrated in figure 9.1 below.

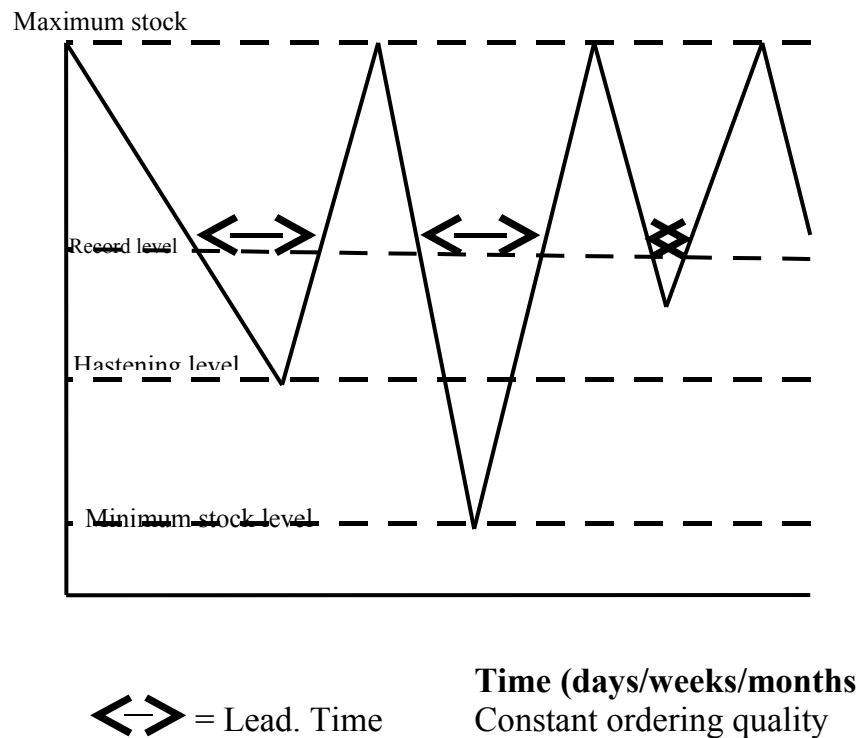


Figure 4.1: An action level approach to stock control

The point that must be stressed is that, in order to keep abreast of changing market (environmental) conditions, after stock levels have been established in the first instance, they should be carefully reviewed at suitable intervals e.g. quarterly, monthly, or even weekly, and adjusted to meet changes in the prevailing circumstance. Unless this is done, the levels originally fixed soon become out-dated and system of stock control is rendered ineffective.

3.5.2 Inventory (Stock) Control Models

As a concept, a model is a simplified representation of reality. It is a pattern for solving problems and consists of set of interrelated variables that represent some realities (either of a system, process, or outcome) as

closely as possible. A model is used to answer such questions as what if, and which is best? Given this conceptual framework, therefore,

Inventory control model deals primarily with the problems of “how often” to order more raw materials and “how much” to order, “How many” goods to produce during a period to keep the finished goods inventory at the right level.

BUT WHAT LEVELS ARE RIGHT?

Among the most useful techniques for determining how much to order? Is the economic order quantity (EOQ); that is the level that balances two different kinds of inventory costs-holding (or carrying) costs and ordering (or acquisition) costs. The EOQ is simply the stock level that mimeses the total of ordering and carrying costs (please refer to the 9.4.1 and 9.4.2 for the detailed discussions of these two costs.)

An easy way to determine EOQ is to use the order formula approach even though it can also be found out graphically. Hence, the EOQ of an item can be expressed in more detailed terms using the formula below:

$$EOQ = \sqrt{\frac{2DC}{CI}}$$

Where: D => Demand or annual usage

O => Ordering cost or acquisition cost

C => Carrying cost or holding cost

To be able to calculate a basic EOQ, certain assumptions are necessary.

These includes:

- i) That there is a known constant stock-carrying cost.
- ii) That there is a known, constant ordering cost.
- iii) That the rates of demand are known.
- iv) That there is a known, stable price unit
- v) That the whole ordered batch is delivered at once without any limitation imposed by stores capacity.

The EOQ formula can be derived or obtained using differential calculus as illustrated in the following section.

1) ORDERING COSTS

The number of orders placed each year is:

$$\text{Annual Usage in units} = \frac{a}{q}$$

Order quantity

The ordering costs are costs of placing an order x number of orders =

$$c \times \frac{a}{q} = \frac{ac}{q}$$

2) **HOLDING COSTS**

The average stock level is half the order quantity = $\frac{q}{2}$

The holding costs are average stock level x holding

$$\frac{q}{2} \times h = \frac{hq}{2}$$

(3) **TOTAL COST**

Total cost = holding costs + ordering costs

$$\bar{T} = \frac{Hq}{2} + \frac{ac}{q}$$

(4) **Minimum cost**

T will be maximized or minimized when

$$\frac{dT}{dq} = 0$$

$$\frac{dT}{dq} = \frac{h}{2} - \frac{ac}{q^2}$$

$$\frac{dT}{dq} = 0 = \frac{h}{2} - \frac{ac}{q^2} = 0 \quad hq^2$$

$$\text{On cross multiplying} = q^2 \quad \frac{2ac}{h} =$$

$$= q^2 \quad = \frac{2ac}{h}$$

NOTE: (Since q cannot be negative only the positive square root is used.)

Thus the total cost is a minimum when:

$$\text{EOQ} = q = \sqrt{\frac{2ac}{h}}$$

The formula may be clarified by means of a simple illustration, in which the following facts are assumed:

- q. = Order quantity in unit
- a. = Annual usage in unit
- c. = Acquisition cost per order
- p. = Price per unit
- h. = Holding cost per unit

Note: h is the actual cost of holding one unit for one year.

In examination questions, the holding cost is sometimes given as a percentage of the price of a unit.

EXAMPLE 1

If the holding cost is 5% and the price of a unit is ₦ 140.00 then

$$h. = \frac{\text{₦}140 \times 5}{100} = \text{₦}7.00$$

EXAMPLE 2

To check that the formula works let's apply it to this problem in which a= 8,000; c = 25, h = 2.50. Hence:

$$\text{EOQ} = q = \sqrt{\frac{2ac}{h}}$$

$$= \sqrt{\frac{2 \times 25 \times 8000}{2.50}}$$

$$= \sqrt{\frac{400,000}{2.50}} = 400$$

EOQ => 400 Units.

EXAMPLE 3

A manufacturing company has an expected usage of 50,000 units of certain product during the next year. The cost of processing an order is ₦20 and the carrying cost per unit is ₦ 0.50 for one year.

Lead-time on an order is five days and the company will keep a re-service supply of two days usage.

You are required to calculate:

- (a) The economic order quantity, and
- (b) The re-order point (Assume 250 – day year)

SOLUTION

- (a) The economic order quantity is

$$\begin{aligned}
 \text{EOQ} = q &= \sqrt{\frac{2ac}{h}} \\
 &= \sqrt{\frac{2 \times 20 \times 50,000}{0.5}} \\
 &= \sqrt{4,000,000} \\
 q &= 2,000 \text{ units}
 \end{aligned}$$

- (b) The re-order point is

$$\text{Daily usage} = 50,000 / 250 = 200 \text{ units}$$

$$\text{Re-order point} = \text{Safety stock} + \text{lead time} \times \text{Usage}$$

$$\begin{aligned}
 &= 2(200) + 5(200) \\
 &= 400 + 1,000 \\
 &= 1,400
 \end{aligned}$$

3.5.3 Problems Associated With EOQ Based System

There are a number of problems that the inventory (or stock) controller must bear in mind when employing the EOQ method of stock control. These are as follows:

- (a) Accurately establishing the true cost of ordering and setting a standard to cover every type of order.
- (b) Establishing true storage costs, given that many organisations have a very wide range of stock, each requiring different forms of handling and storage
- (c) How to cope with unexpected alteration in the pattern of demand for stock.
- (d) How to cope with variations in lead-time, even though deliveries may be set at regular intervals, delays can still occur.

SELF ASSESSMENT EXERCISE

Select a manufacturing company and list out the various forms stocks are held.

4.0 CONCLUSION

Both excessive and inadequate stocks are not desirable. In the past, managers of manufacturing concerns assumed that accumulation of adequate stocks were beneficial and therefore do not feel the necessity for controlling. A number of factors have however helped to change this traditional outlook.

Firstly, the modern industrial economy put greater pressure for maintenance of adequate liquidity on firms.

Secondly, the wide variety and complexity of requirements of modern industry necessitates a conscious improvement in inventory control.

Today, stock management and controls is a commanding concern in modern business because of the grave implications of poor control over stocks. Business firms should always avoid over-investment or under-investment in stocks or inventories. There are basic costs incurred by any organisation, which holds stocks.

5.0 SUMMARY

Because the stock held by any organisation represents money, the control of that stock has serious financial implications on the company. If the stock is inefficiently controlled, it can cause high storage costs, obsolescence, and a reduction in working capital. Therefore stock control is very much concerned with ensuring that stock is controlled very carefully. In many situations, the actual level of profit earned by an organisation will depend on the success of stock control.

Both goods producing and service providing companies use materials. In majority of industries, inventories constitute the most significant part of current assets. Indeed, for many manufacturing firms, materials costs account for over 50 percent of total production costs

6.0 TUTOR-MARKED ASSIGNMENT

How is the economics of stock control determined?

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UNIT 5 ABC ANALYSIS: THE 80-20 CONCEPT

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Which Items to Controls?
 - 3.2 What the 80-20 Rule Means
 - 3.3 How it can Help You
 - 3.4 Benefits of ABC Analysis
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Many companies subject all items purchased and produced, irrespective of their value, usage or quantity, to the same type of stock control procedure. Such policy can be a waste of time and effort.

Although a high usage rate does not necessarily mean high stock levels, fast-moving items (i.e. those for which the usage rate is high) and expensive items are likely to incur greater storage costs than slow moving inexpensive items. Consequently it should be our primary aim in stock control to control the 'fast-moving / expensive items' since, by doing so, greater potential savings are possible than by concentrating on inexpensive items, the usage of which is small.

One of the ubiquitous phenomena of business is expressed by the so-called '80/20 law.' In relation to inventory stock, the law reads as follows:

'80 per cent of the firm's total inventory cost is caused by only 20 per cent of all items.'

In other words the 20 per cent high-cost/high-usage items account for 80 per cent of total inventory costs.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Identify and describe which items to control

- Explain the meaning of the 80-20 concept and how the ABC analysis can help you
- State clearly the benefits of ABC analysis.

3.0 MAIN CONTENT

3.1 Which Item to Control

As soon as an inventory is identified and described, the manager must determine the importance and the naira value of each individual inventory or stock item. This calls for a study of each stock item in terms of:

- a) Its price or costs
- b) Usage (demand)
- c) Lead time
- d) Specific procurement or technical problems.

Without the data provided by such a study, an inventory manager normally does not have enough information to determine the best allocation of departmental effort and expense to the tasks of controlling thousands of inventory items.

A recently conducted study of several hundred medium-sized manufacturing firms conducted by the Dobler and Burt (2000) revealed the data illustrated in Figure 11.1. This figure shows that in the typical firm a small percentage of the total number of material items carried in inventory constitutes the bulk of the total naira invested in inventory.

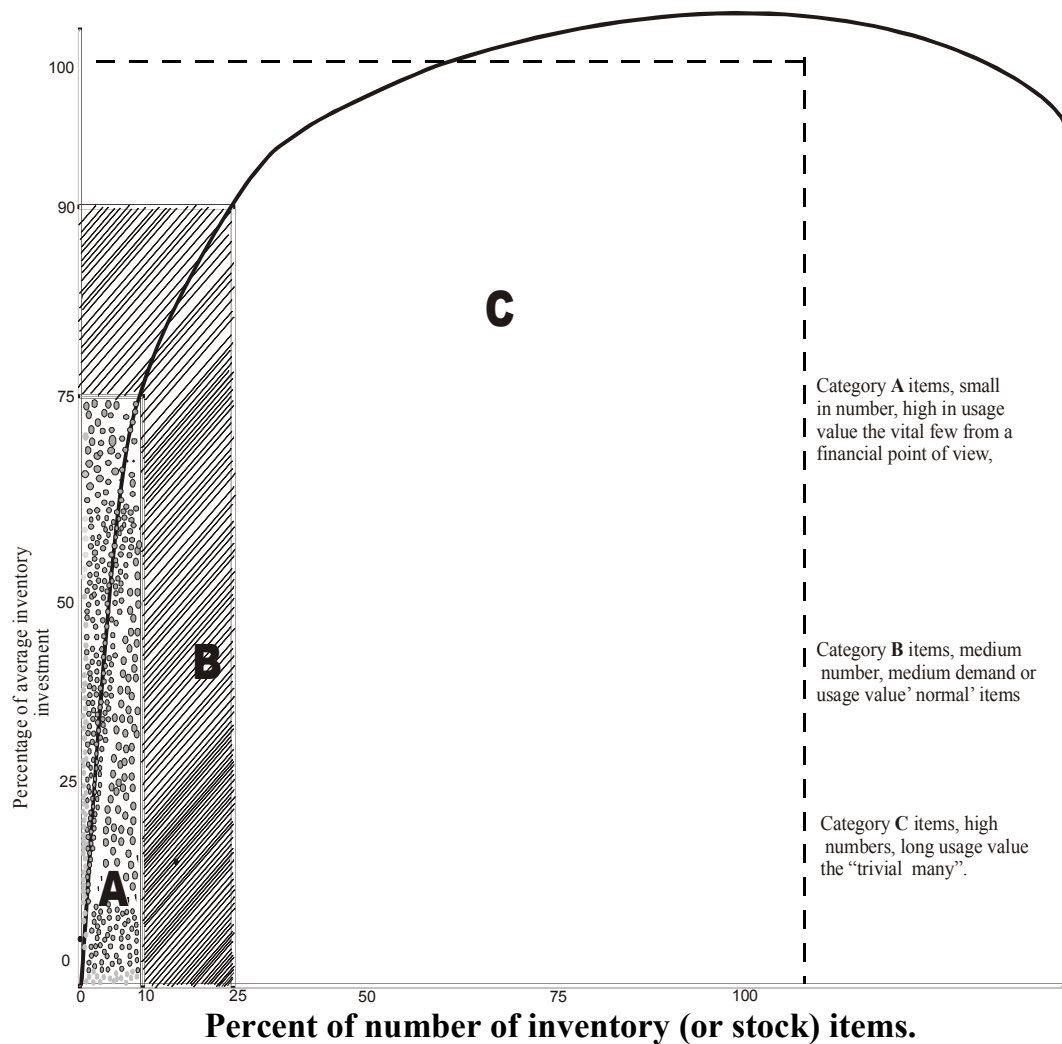


Figure 5.1: Graphic analysis of production and MRO inventories

In the study cited: 10 percent of the stock items account for approximately 75 percent of the (total) investment, and only a quarter of the items make up approximately 90 percent of the total investment. The remaining 75 percent of the stock items constitute, roughly, only 10 percent of the inventory (or stock) investment. While these figures vary somewhat from one firm to another, the magnitude of variation usually is not great. Several similar studies in large corporations have produced strikingly similar results, leading to what some business firms call the 80-20 phenomenon (20 percent of the stock items account for 80 percent of total stock (or inventory) investment).

Historically, some firms have termed this phenomenon the Pareto principle, based on the law of "the vital few and the trivial many".

Developed by the Italian economist, Vilfred Pareto around the turn of the twentieth century, the Pareto principle is essentially the focus of this unit.

3.2 What does 80/20 Means?

The 80/20 Rule means that in anything a few (20 percent) are vital and many (80 percent) are trivial. In Pareto's case, it meant 20 percent of the people owned 80 percent of the wealth. In Juran's initial work, he identified 20 percent of the defects causing 80 percent of the problems. Project managers know that 20 percent of the work (the first 10 percent and the last 10 percent) consume 80 percent of your time and resources. You can apply the 80/20 rule to almost anything from the science of management to the physical world.

A stores manager for instance knows that 20 percent of his stock takes up 80 percent of his warehouse or storage space and that 80 percent of his stock comes from 20 percent of his suppliers. Also 80 percent of the sales will come from 20 percent of the sales staff. 20 percent of a company staff member will cause 80 percent of the company's problems, but another 20 percent of your staff will provide 80 percent of your production. The Pareto's principle works both ways.

Illustrating ABC or Pareto's Analysis

The table below summarises the main point of ABC analysis. In the table below, the terms usage (or demand) means the value in money in terms of the stock items consumed.

	Percentage of Items	Percentage value of annual usage	
Category A items	About 20%	About 80%	Close day to day control
Category B items	About 30%	About 15%	Regular review
Category C items	About 50%	About 5%	Infrequent review

The following example will illustrate how items may be divided into category A,B, or C.

A purchasing department surveyed the ten most commonly used components a year.										
Items Number	101	102	103	104	105	106	107	108	109	110
Unit Costs (Naira)	50	110	150	80	70	160	200	40	90	120
Annual Demand	48,000	2000	300	800	4,800	1200	18,000	300	5,000	500

Step 1: Calculate the annual usage in Naira and the usage of each item as a percentage of total annual cost.

Item Number	Unit cost (Naira)	Annual Demand	Usage(N)= demand x cost	Usage as % of Total =Usage x 100 / Total
101	50	48,000	2400,000	32.5%
102	110	2000	220,000	3.0%
103	150	300	45,000	0.6%
104	80	800	64,000	0.9%
105	70	4,800	336,000	4.6%
106	160	1,200	192,000	2.6%
107	200	18,000	3,600,000	48.8%
108	40	300	12,000	0.2%
109	90	5,000	450,000	6.1%
110	120	500	60,000	0.8%
Total Usage				7,379,000

Step 2: Sort the stock items by usage or demand as % of Total
 = Calculate the cumulative percentage
 = Classify or Categorise item

Item Number	Cumulative %of items	Unit Cost (₦)	Annual Demand	Usage (N)	%of total	Cumulative % of total	Classification
107	10%	200	18,000	3,600,000	48.8%	48.85	A
101	20%	50	48,000	2,400,000	32.5%	81.3%	A
109	30%	90	5,000	450,000	6.1%	87.4%	B
105	40%	70	4,800	336,000	4.6%	92.0%	B
102	50%	110	2,000	220,000	3.0%	94.9%	B
106	60%	160	1,200	192,000	2.6%	97.5%	B
104	70%	80	800	64,000	0.9%	98.4%	C
110	80%	120	500	60,000	0.8%	99.2%	C
103	90%	150	300	45,000	0.6%	99.8%	C
108	100%	40	300	12,000	0.2%	100.0%	C

There are ten (10) stock items. Thus each Item accounts for = $10 = \frac{10\%}{100}$ of usage

Step 3: Report your findings.

Stock Items	Percentage of items	Percentage usage	Action
A	107, 101	20% 81.3%	Close control
B	109, 105, 102, 106	40% 16.3%	Regular review
C	104, 100, 103, 108	40% 2.4%	Infrequent review

Step 4: Illustrate your report with a diagram if required. The diagram is a percentage ogive and is called a pareto diagram. This is done by plotting Cumulative % Usage against Cumulative % Items. The data needed has been extracted in the table below:

Item Number	107	101	109	105	102	106	104	110	103	108
Cumulative										
% Items	10%	20.0%	30.0%	40.0%	50.0%	60.0%	70.0%	80.0%	90.0%	100.0%
Cumulative %										
Usage	48.8%	81.3%	87.4%	92.0%	94.9%	97.5%	98.4%	99.2%	99.8%	100.0%
Classification	A	A	B	B	B	B	C	C	C	C

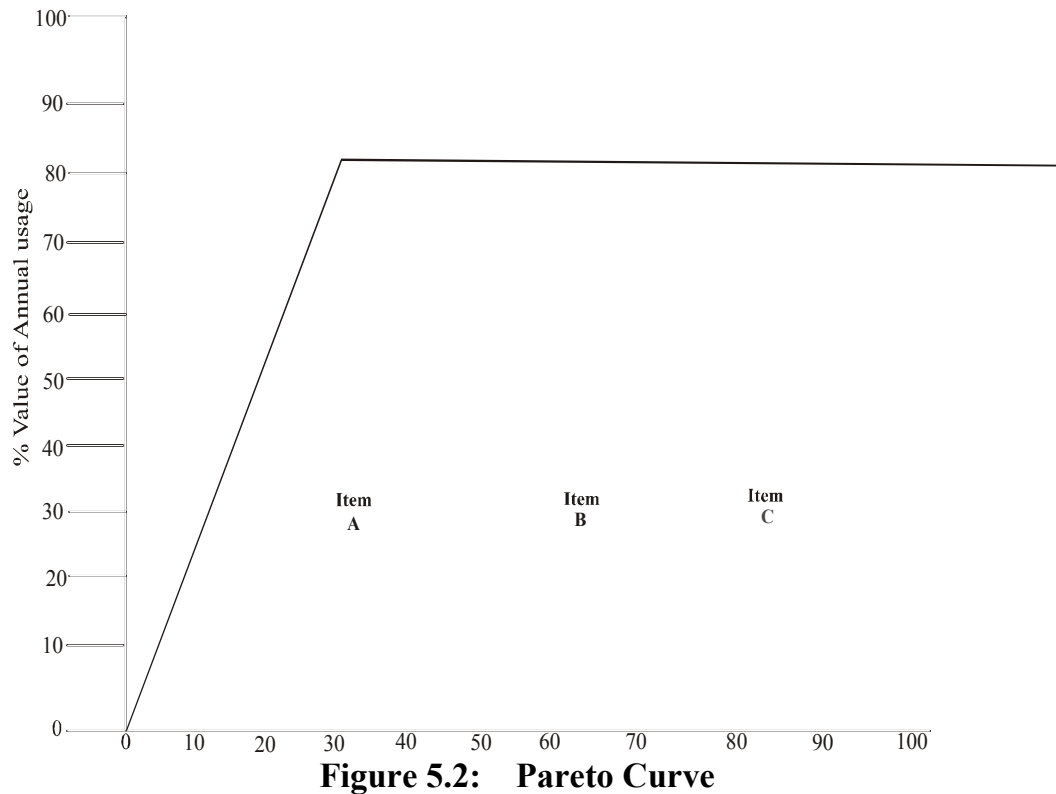


Figure 5.2: Pareto Curve

3.3 How It Can Help You

The value of the Pareto Principle for a manager is that it reminds you to focus on the 20 percent that matter. Of the things you do during your day, only 20 percent really matter. Those 20 percent produce 80 percent of your results. Identify and focus on those things. When the fire drills of the day begin to sap your time, remind yourself of the 20 percent you need to focus on. If something in the schedule has to slip, if something is not going to get done, make sure it is not part of that 20 percent.

There is a management theory floating around at the moment that proposes to interpret Pareto's Principle in such a way as to produce what is called **Superstar Management**. The theory's supporters claim that since 20 percent of your people produce 80 percent of your results you should focus your limited time on managing only that 20 percent, the superstars. The theory is flawed, as it is being discussed here because it overlooks the fact that 80 percent of your time should be spent doing what is really important. Helping the good become better is a better use

of your time than helping the great becomes terrific. Apply the Pareto Principle to all you do, but use it wisely.

3.4 Benefits of ABC Analysis

- 1) Reduces holding costs
- 2) Lowers order time delays
- 3) Fewer stock-out of key items
- 4) Less time managing inventory
- 5) Easy but powerful
- 6) Essential for any large inventory system

SELF ASSESSMENT EXERCISE

Explain with specific example the concept of 80/20 rule.

4.0 CONCLUSION

Pareto Analysis reveals the “vital few” cause of a problem, allowing a narrowed focus study and investigation, which will have the greatest impact on the overall activity.

In a real firm there may be hundred if items used each year. A computer package may be used to determine the percentage of annual usage for which each item accounts. The package can be used to sort the items into order. The boundary between Class A and Class B might not be as sharply defined as in the example give in the previous page. The purchasing manager may need to use judgment in deciding where the class boundaries should be drawn.

In practice, a never-ending problem is that of adequately planning for handling the thousands of low-value C items. In many cases, availability and reliability for these items are just as important as they are for the A and B items. Even with good purchasing planning, because of the sheer number of C items, low-value nuisance purchases frequently require more time than should be allotted to them. Consequently, they reduce the amount of time available to purchasing and supply personnel for supplier studies, value analysis, and other creative work involving high-value A and B items.

5.0 SUMMARY

In 1906, Italian economist Vilfredo Pareto created a mathematical formula to describe the unequal distribution of wealth in his country, observing that twenty (20) percent of the people owned eighty (80) per

cent of the wealth. In the late 1940s, Dr, Joseph M. Juran inaccurately, attributed the 80/20 Rule to Pareto. Calling it Pareto's Law as it is sometimes called, can be a very effective tool to help you manage effectively.

6.0 TUTOR-MARKED ASSIGNMENT

In what definite ways can the Pareto principle help your organisation?

7.0 REFERENCES/FURTHER READING

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MODULE 3

Unit 1	Government Purchasing
Unit 2	Competitive Bidding Procurement
Unit 3	Negotiated Procurements
Unit 4	Expediting or Follow-Up of Order
Unit 5	Buying Internationally
Unit 6	Just –In- Time Inventory

UNIT 1 GOVERNMENT PURCHASING

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3.0	Main Content
3.1	Differences and Similarities between Industrial and Government Purchase
3.2	The Role of the Government Purchasing Agency
3.2.1	Functions Performed
3.3	Tendering
3.3.1	Types of Tender
3.3.2	Tendering Procedure
3.3.3	The Disadvantages of Tendering
3.4	Supplier Selection in Governmental Purchasing
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
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1.0 INTRODUCTION

In virtually all economies of the global community – the government is the single largest purchaser. The case of Nigeria is particularly classical to mention. The federal, state and local governments’ purchasing accounts for almost 55 percent of the Gross Domestic Product (GDP). And the reasons for this are not far-fetched. Government at the various levels is a key player in the service economy of our present society. Among many useful functions they perform are provision of education, health care, security and the maintenance and enhancement of quality of life. Governments, which are the organisations through which “political

units exercise authority and perform function,” include the massive federal government, the state governments, and some 776 constitutionally recognised different local government unit areas in Nigeria. Two reasons are commonly cited for the focus on purchasing by governmental organisation, and this includes:

- i) Purchasing by governments can be clearly distinguished from that in profit making industrial organisations.
- ii) The naira value of purchases by such government organisations is significant and increasing.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Highlight and describe distinctively, the differences and similarities between industrial and government purchases.
- State in clear language the roles of government purchasing agencies
- Explain what tendering is all about and the issues involved.
- Describe how suppliers are selected under governmental purchases

3.0 MAIN CONTENT

3.1 Differences and Similarities between Industrial and Government Purchasing

There are however significant points of similarities and differences between industrial purchasing and government purchasing. In the area of the purchasing objectives there are fundamental similarities. Harold E. Fearon et al (1993:19-820) describes the similarities in the following ways:

The fundamental objective is to identify source of needed materials and to acquire those items when needed, as economically as possible within accepted standards of quality. The function must be able to react quickly, effectively, and efficiently. Requirements, and policies and procedures must conform to sound business practice. Purchasers utilise professional techniques and modern methods, and they employ professional buyers and managers to assure that the purchasing programme fully supports their organisational needs.

Purchasing in government organisations differs from purchasing in industry in several respects as follows:

- 1) Purchasing in government sector is a stewardship function because in this arena hired administrators spend the money derived from someone else's contributions, fees, or taxes in support of activities that the employer has decided to provide on behalf of its clients or constituencies.
- 2) Governments also tend to differ from industrial organisations in that they generally purchase a much broader range of items in order to support a wider spectrum of services by a large number of differentiated sub-units.
- 3) The openness and frequency with which governments cooperate and share information is another point of difference. Generally speaking, the records of government institutions are open to public review and anyone who desires may ask questions and expect answers. An aggrieved party particularly can file protests at any step in the governmental procurement process.

Purchasing departments in government generally operate under authority granted to them by constitutional provisions, statutes, and, in the case of local governments, ordinances. (These are generally the sources of authority for governmental purchasing). Many state and local governments also operate in accordance with regulations developed by policy boards created specifically for that purpose. Purchasing by governmental organisations tends to be somewhat more regulated by legal requirements and more open to public scrutiny.

3.2 The Role of the Government Purchasing Agency

The Government Purchasing Agency is in most country of the world the central procurement unit of the Government (In most cases at all levels) and is responsible for purchasing more than several billion naira in goods and services annually on behalf of departments and agencies. Its responsibilities also include the administration of Tendering and Contracts Division.

Any individual, company or organisation-regardless of size that wants to expand its opportunity for sales is a potential supplier of government requirements. The business community should be aware of the purchasing policies and practices of the government at all levels in the areas of tendering, security and evaluation of bids, source listing and opportunities available through public sector procurement.

The purchasing agency or department in a government plays several roles. These roles, which distinguish it from the purchasing department in an industrial organisation, include those of;

- 1) A supplier of a wide variety of goods and services to many departments and agencies, which, in turn, use those items to produce public services and support internal operations.
- 2) A decision maker, which must strike the appropriate balance between qualities, total cost, timeliness, control, accountability, and politics.
- 3) A staff adviser, which assists management and line departments in developing budgets, planning projects, and making lease-or-buy and make-or-buy decision.
- 4) An implementer of socio-economic policy, which often is on the frontline of economic development for local, small, and disadvantaged business.
- 5) A marketer of business opportunities and a provider of information and technical assistance, especially to small and disadvantaged businesses.
- 6) The application and administration of inter-governmental procurement agreements.

3.2.1 Functions Performed

Functions performed by government purchasing departments include:

- 1) Developing and maintaining vendors' lists
- 2) Working with end users to prepare invitations to bid, request for proposals, and other written solicitations.
- 3) Evaluation of bids and proposal in cooperation with end users and others.
- 4) Ensuring continuity of supply through planning and scheduling of purchases, term contracts, and other strategies and techniques.
- 5) Responding quickly to emergency situations when goods or services must be obtained immediately in order to protect life/or property.
- 6) Assuring the quality of goods and services through standardisation, specifications, and contract administration.
- 7) Documenting purchasing actions and making pricing and other non-proprietary data reasonably available to those who request it.
- 8) Advising management, departmental officials, and others on such matters as product improvements and new products, lease-or-buy and make-or-buy decisions, and economic development opportunities.

3.3 Tendering

In most governmental institutions of the world, the Government Purchasing Agency functions under the legislative provisions of the Public Tender Act. The Act defines the legislative framework within which the Agency operates.

The main goal of the public tender system is to ensure procurement is conducted in an open and competitive environment while maintaining fair and equitable opportunities for suppliers to compete for government business.

Tendering is indeed one of the support tools in purchasing which though is sometimes used to obtain prices by private sector enterprises or undertakings, particularly in respect of construction and service contracts, it is in the public sector that tendering is most used to ensure the principles of public accountability.

As a concept, Lysons, K. (2000, p. 404) defined tendering as;

A purchasing procedure whereby potential suppliers are invited to make affirmative and unequivocal offer of the price and terms which, on acceptance shall be the basis of the subsequent contract.

3.3.1 Types of Tender

1) Open Tenders

Prospective suppliers are invited to compete for a contract advertised in the press; the lowest tender generally being accepted, although the advertisers usually state that they are not bound to accept the lowest or any tender.

2) Restricted Open Tenders

Prospective suppliers are invited to compete for a contract, the advertising of which is restricted to appropriate technical journals or local newspapers.

3) Selective Tenders

Tenders are invited for suppliers on an 'approved list' who have been previously 'vetted' regarding their competence and financial standing.

4) Serial Tenders

Prospective suppliers are requested either on an open or selective basis to tender for an initial scheme on the basis that, subject to satisfactory performance and unforeseen financial contingencies, a programme of work will be given to the successful contractor, the rates and prices for the first job being the basis of the rest of the programme.

Advantages claimed for this system include:

- 1) Contractor are given an incentive to maintain a high performance level
- 2) Saving in cost and time by eliminating pre-contract negotiations for each stage of a programme.
- 3) Reams of employees and plant can be moved to successive jobs without disruption.
- 4) Supplier security of contract should enable purchasers to negotiate keener prices.
- 5) Negotiated tenders: a tender is negotiated with only one supplier so that competition is eliminated. This type of contract is unusual. In the case of a local authority it would require the waiving of standing orders.

3.3.2 Tendering Procedure

In public purchasing, procedures are usually codified within standing orders which usually prescribe;

- a) a cash limit above which tenders must be invited,
- b) the forms of contract to be used, and
- c) to whom and under what circumstance responsibility may be delegated, e.g. to senior officers.

In general, the procedure for open tendering involves:

- 1) The issuance of a public advertisement inviting tenders.
- 2) Full and identical specifications being issued for each prospective contractor, who is required to submit his tender in a sealed and identifiable envelop by a prescribed date.
- 3) On the date arranged for the opening of tenders, appointed officers from the purchasing department and an external department, e.g. finance department, will attend.
- 4) Tenders will be initialed, listed and entered on an analysis sheet showing details of prices, rates, carriage charges, delivery, settlement terms and other information necessary for their evaluation.

- 5) Late tenders are not considered and are usually returned unopened.
- 6) Standing Orders frequently give delegated powers to chief officers or the officer in charge of the purchasing function to place orders against tenders up to a specified value. For contracts exceeding this amount, delegated authority is given provided the lowest tender to the specification is accepted; where the acceptance of the lowest tenders is not recommended, Standing Orders may require the consent of a prescribed committee chairman (e.g. policy and Finance) before the tender is accepted.

3.3.3 The Disadvantages of Tendering

- 1) Contractors may quote a price that is too low, leading to subsequent disputes if goods or services supplied are unsatisfactory.
- 2) Tendering is unsuitable for certain contracts. With plant contracts, for example, consultation with one or more of the more favourable tenders is often essential to clear up technical points. These often result in the tender making suggestions that will result in cheaper running and maintenance costs. The extent to which technical change can be allowed without affecting the validity of open competition is a matter of difficulty.
- 3) Tendering procedure is too slow for emergencies- this is usually recognised by Standing Orders.
- 4) Where tenders are accepted on the principle of the lowest price, credit may not be given to suppliers for past performance.
- 5) Tendering procedure, particularly with open tendering, may be expensive from the standpoint of clerical, stationery and postage costs.
- 6) Tendering is expensive to the contractor. For this and reason 5, selective tendering is usually preferable.

3.4 Supplier Selection In Governmental Purchasing

Dobler and Burt (2000:754) presented five principal methods of source selection commonly used in government procurement; these are discussed in the following section:

3.4.1 Competitive sealed bidding

- 1) **Conditions for Use:** Contracts shall be awarded by competitive sealed bidding except as otherwise provided.

- 2) **Invitation to Bid:** An invitation to bid shall be issued and shall include a purchase description and all contractual terms and conditions applicable to the procurement.
- 3) **Public Notice:** Adequate notice of the invitation to bid shall be given a reasonable time prior to the date set forth therein for the opening of bid, in accordance with regulations promulgated by the standards board or Public Procurement Commission (PPC). The standards boards or PPC may require different types of public notice on the basis of the size of the purchase or contract or the type of supplies, services or construction. Such notice may include, but is not limited to, publication in a newspaper of general circulation within a reasonable time prior to bid opening, mailing to suppliers on a list of established suppliers, and/or posting notice.
- 4) **Bid Opening:** Bids shall be publicly opened in the presence of one or more witnesses at the time and place designed in the invitation for bids. The amount of each bid and such other relevant information as may be specified, shall be read aloud and recorded and the record shall be open to public inspection.
- 5) **Bid Acceptance and Bid Evaluation:** Bids shall be accepted without alteration or correction, except as authorised in this code. Bids shall be evaluated based on the requirements set forth in the invitation to bid, which may include criteria to determine acceptability such as inspection, testing, quality, workmanship, delivery and suitability for a particular purpose. Those criteria that will affect the bid price and be considered in evaluation for award shall be objectively measurable, such as discounts, transportation costs and total or life costs. The invitation to bid shall set forth the evaluation criteria to be used. No criteria may be used in bid evaluation that is not set forth in the invitation to bid.
- 6) **Correction or Withdrawal of Bids:** Cancellation of Awards. Correction or withdrawal of inadvertently erroneous bids before or after awards, or cancellation of awards or contracts based on such bid mistakes, shall be permitted in accordance with regulation promulgated by the standards board or PPC. After bid opening no changes in bid prices or other provisions of bids prejudicial to the interest of the government or fair competition shall be permitted. In accordance with regulations of the standards board or PPC, the purchasing division may correct mathematical errors. Except as otherwise provided by regulation, all decision to permit the correction or withdrawal of bids, or to

cancel awards or contracts based on bid mistakes, shall be supported by a written determination made by the purchasing agent.

- 7) **Multi-Step Sealed Bidding:** When it is considered impractical to initially prepare a purchase description to support an award based on price, an invitation to bid may be issued requesting the submission of unpriced offer to be followed by an invitation to bid limited to those bidders whose offers have been qualified under the criteria set forth in the first solicitation. The standards board or PPC shall adopt regulations governing the use of multi-step sealed bidding and establishing procedures.
- 8) **Award:** The contract shall be awarded with reasonable promptness by written notice to the lowest responsible and responsive bidder whose bid meets the requirements and criteria set forth in the invitation for bids.
- 9) **Rejection:** The purchasing agent may reject any or all bids received for purchasing or sales.

SELF ASSESSMENT EXERCISE

Which roles distinguish a government purchasing agency from a similar department in an industrial organization?

4.0 CONCLUSION

The Government Purchasing Agency in most country of the world is the central procurement unit of the Government (in most cases at all levels) and is responsible for purchasing worth more than several billion of naira in goods and services annually on behalf of departments and agencies. Its responsibilities also include the administration of Tendering and Contracts Division.

Any individual, company or organisation-regardless of size that wants to expand its opportunities for sales is a potential supplier of government requirements. The business community should be aware of the purchasing policies and practices of the government at all levels in the area of tendering, security and evaluation of bids, source listing and opportunities available through public sector procurement.

5.0 SUMMARY

Purchasing departments in government generally operate under authority granted to them by constitutional provisions statutes, and, in the case of local governments, ordinances. (These are generally the

sources of authority for governmental purchasing). Many state and local governments also operate in accordance with regulations developed by policy boards created specifically for that purpose. Purchasing by governmental organisation tends to be somewhat more regulated by legal requirements and more open to public scrutiny.

6.0 TUTOR-MARKED ASSIGNMENT

Discuss fully the general open tendering procedures.

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UNIT 2 COMPETITIVE BIDDING PROCUREMENT

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1.0 INTRODUCTION

Competitive bidding is a formal process consisting of procedures that may also be referred to as competitive sealed bidding, or more simply as sealed bidding or formal bidding. According to the America Bar Association model procurement code, competitive bidding is the preferred method of procurement

Competitive bid procurement, as the name implies, involves vendors or suppliers competing in some way for the contract. The traditional method involves the owner issuing an invitation or request to either select vendors (invitation bidding) or even the general contracting community (public bidding) to participate in a process of competition. Bidders who wish to participate submit binding offers to do the work or supply the goods by a fixed rate and time and in accordance with the owner's requirements. The owner then reviews and evaluates all on-time bids and (usually but not always) chooses one Bidder to do the work. The owner and that Bidder then sign a contract to do the work.

Within this basic system, there are many variations but the basic features:

- (1) Invitation to bid issued
- (2) Bound bids submitted
- (3) Owner chooses one for award,

are common to all types. In the Courts, what turns a procurement into a competitive bid are these three features- a competition for award, bidding bids and the Owner choosing from the competitors.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Describe each types of competitive bidding
- State and explain the prerequisites of competitive bidding process.
- Discuss the issues involved in the waiver of competitive Bidding

3.0 MAIN CONTENT

3.1 Types of Competitive Bidding

The three most common types of competitive bidding in current use in Nigeria are:

- 1) The Request for quotations,
- 2) The Invitation to Tender, and
- 3) The Request for Proposals.

Requests for Quotation (RFQ) to be issued to select suppliers, tends to be used for small purchases or those where several vendors/suppliers can supply the same or similar products and the real competition occurs over such things as price or delivery date.

Invitations to Tender (Invitations) for major construction projects and other large naira purchases, are most often issued to the general Contractor / Vendor/supplier community, tend to have very detailed requirements (specifications) to be met, and con use a host of factors or criteria in evaluation but price is often the most critical competitive factor in award.

Requests for Proposal (REP) follows the same general format but tends to be used for procurements where the Owner is generally describing its needs and the proponents are expected to offer their method of achieving the objectives described by the owner. REP tends to be issued to select vendors/suppliers and evaluation. Price is not unimportant but

the manner and method of achieving the Owner's described result are much more critical in award.

The law does not control which method of competitive procurement is chosen. Most often, an organisation's policies will dictate at is used and more importantly how is used. However, the law does become deeply involved in the process once the owner chooses any method of competitive bidding. Once a buyer or the sourcing team has identified the potential suppliers to be invited to submit bids (or proposals), a decision must be made whether to use competitive bidding or negotiation (or a combination of the two) as the basis for source selection. When competitive bidding is used by private industry:

- Request for bids are traditionally sent to three to eight potential suppliers depending on the naira size and complexity of the purchase.
- Requests for bids ask suppliers to quote the price at which they will perform in accordance with the terms and conditions of the contract, should they be the successful bidder.

Government buyers generally are not able to restrict the number of bidders to only eight. Rather, all suppliers desiring to bid are permitted to do so (for large purchases, the numbers are literally in the hundreds) under competitive bidding, industrial buyers generally, but always award the order to the lowest bidder. By law, government buyers are routinely required to award the order to the lowest bidder provided the lowest bidder is deemed qualified to perform the contract.

3.2 Five Prerequisites of Competitive Bidding

The proper use of competitive bidding is dictated by five criteria (Dobler & Burt, 2000:249). When all five criteria prevail, competitive bidding is an efficient method of source selection and pricing. The criteria are:

- 1) The naira value of the specific purchase must be large enough to justify the expense; to both buyer and seller that accompanies this method of source selection and pricing.
- 2) The specifications of the item or service to be purchased must be explicitly clear to both buyer and seller.
- 3) The market must consist of an adequate number of sellers.
- 4) The sellers that make up the market must be technically qualified and actively want the contract-and, therefore, be willing to price competitively to get it. Frequently, criteria 1,2 and 3 prevail yet there is no real competition because the sellers are not anxious to bid.

- 5) The time available must be sufficient for using this method of pricing. The time required for preparing, mailing, opening, and evaluating bids is usually considerably longer than those unfamiliar with this system would expect. Thirty days is not an uncommon time.

3.2.1 **Four Conditions when Competitive Bidding Should not be Used**

In addition to satisfying the preceding five prerequisites, four other conditions should not be present when employing competitive bidding as the means of source selection:

- 1) Situations in which it is impossible to estimate costs with a high degree of certainty.
- 2) Situations in which price is not the only important variable, for example, quality, schedule, and service may well be negotiable variable of equal importance.
- 3) Situations which the purchasing firm anticipates a need to make changes in the specification or some other aspect of the purchase contract.
- 4) Situation in which special tooling or setup costs are major factors. The allocation of such costs and title to the special tooling are issues best resolved through negotiation.

If these nine conditions are satisfied, then competitive bidding usually will result in the lowest price and is the most efficient method of source selection.

When all these prerequisites to the use of competitive bidding are not satisfied, the negotiation process should be employed to select sources and to arrive at a price.

3.3 **The Competitive Bidding Process**

Competitive bidding serves several purposes.

- First, it is designed to prevent fraud, collusion, favouritism or improvidence in the awarding of public contracts and enable the buying organisation to obtain the best work or supplies at the most reasonable prices.
- A secondary purpose of competitive bidding is to provide a fair forum for bidder.
- Competitive bidding system also projects the public interest.

3.3.1 Specification

Specifications should be written in a manner to promote full and unrestricted competition by citing actual, minimum requirements. Here are elements to consider when writing specifications:

- 1) Identify these essential characteristics of the item to be purchased. Don't include unnecessary features.
- 2) Emphasize performance over design
- 3) Do not allow them to be written by a bidder
- 4) When possible provide for commercial, off-the-shelf products.
- 5) Avoid unique requirements.
- 6) Allow for competitive bids to the maximum extent possible
- 7) Should be quantifiable rather than qualitative
- 8) Should be verifiable
- 9) Do not overstate quality.

3.3.2 Bid Amendments

If after issuance of a bid, changes must be made in quantity, specifications, delivery schedule, or closing date, or if corrections are needed because of defects or ambiguities, an amendment to the bid should be issued. The amendment should be in writing. You will need to consider the time set for receipt of quotations and the necessary or desirability of extending the closing date. You may inform bidders of such extension by telephone and then send confirmation by mail or electronically. All firms to whom the original bid was sent must be notified of all changes and time extensions.

3.3.3 Bid Receipt and Opening

The requirement for public opening of bids is designed to reduce the possibilities of collusion and favoritism and to foster public confidence in the procurement system. The language of the laws and rules state that only pertinent information is to be read at the opening and that time for complete and full disclosure is after award.

Upon receipt, bids should be time-and-date-stamped to document whether they were received in compliance with the specifications.

Bids that are not received in a sealed envelope by bid opening date and time should be rejected. Bidders who deliver their bids in an envelope that is not sealed may be allowed to correct this, however, decency provided they do so before the date and time specified for opening of bids

Bids/quotes that are neither signed nor include satisfactory evidence of the bidders desire to be bound by terms and conditions should be rejected.

3.3.4 Bid Evaluation

Bids must be evaluated in exact compliance with criteria stated in the specifications in order to determine which represents the lowest responsive and responsible bidder. Any criteria, other than price, to be used in evaluating solicitations should be clear and exact and stated in the bid document. Such criteria must be stated in the bid request with sufficient clarity and exactness to inform each bidder of the factors that will be used in evaluating a bid in relation to others. This statement enables bidders to estimate, within reasonable limits, how the application of the evaluation factors will be applied to their bid.

3.3.5 Responsiveness

The first event that must occur in bid evaluation is determining if the bid is responsive. If a bid is non-responsive then it must be rejected. Rejected bidders should be notified and should not be considered for award.

To be considered responsive, the bidders need to comply with the requirement of the solicitation, including specifications and contractual terms and conditions. It also ensures that all bidders responded to a solicitation in a common manner that provides the basis for equal competition. Absolute conformity is not required.

Failure by the bidder to accept the requirements of the bid is grounds for rejection of its bid. Some common instances in which bids must be rejected and declared non-responsive are:

- 1) The bidder does not submit all required documents.
- 2) The bidder states that he will not accept an award unless the solicitation terms and conditions are modified or altered.
- 3) The bidder states that it will only accept an award for all line items when the solicitation allows award by line item or aggregate grouping of line items.
- 4) The offer and award sheet is not signed and there is no indication such as a cover letter the bidder is responding.
- 5) The bid item does not meet the stated specifications and the bidder has not indicated the item bid is an alternate.

There are factors that come into play in evaluating a responsive bid:

- a) **Price of cost:** In many acquisitions, various statutory adjustments to price may need to be made, singly or in combination. The buyer must often analyses cost factors such as multiple awards, all-or-none qualifications, and transportation charges in determining the lowest evaluated price to the state.
- b) **Technical:** Acquisitions require technical evaluation to determine which quotes are technically acceptable, i.e., are they responsive to the specified quality requirements?
- c) **Responsibility:** A determination must be made that a bidder is responsible. A review indicates that it has the wherewithal and the commitment necessary to do the job and do it properly.

3.3.6 Bid Award

Upon award, all bidders should be provided bid results. Notification to bidders may be by facsimile, e-mail or Nigeria Postal Service. Regardless of the notification method used, timely action must be taken in order to minimise any liability to the federal, state to local governments in the event a protest is filed. Evidence of notification of all bidders should be maintained in the purchase file.

3.4 Waiver of Competitive Bidding

CIRCUMSTANCES PERMITTING WAIVER

If deemed to be in the public interest, competitive bidding may be waived in cases of emergency, where performance or price competition is not available or otherwise as provided below.

Circumstances permitting waiver and providing for direct negotiation include, but are limited to:

- 1). Where a needed product or services is available from only one source of supply
- 2). Where bids have been solicited but no satisfactory bid(s) were received
- 3). Where standardisation or compatibility is the over-riding consideration
- 4). Where personal or certain professional services are required
- 5). Where an ongoing job or task is involved
- 6). Where products are bought for “over-the-counter” resale
- 7). Where a particular product or service is desired for experimental, developmental or research work
- 8). Where the equipment is already installed, connected, and serviced and it is determined advantageous to purchase
- 9). Where there is evidence of resale price maintenance or other control of prices, lawful or unlawful, which thwarts normal bidding procedures

- 10) Where the amount of the purchase is too small to justify soliciting quotations
- 11) Where small purchase is being made and a satisfactory price is available from a previous bid or quotation.
- 12) Where the requirement is for an authorised cooperative project with other governmental unit(s) or charitable non-profit organization(s);
- 13) Where a used item is available on short notice and subject to prior sale.

JUSTIFICATION

The waiver of the competitive bidding process, like single source purchase, is infrequently used and subject to substantial justification. All requests to waive competitive bidding should be forwarded to the Purchasing Department accompanied by a purchasing requisition and justification.

SELF ASSESSMENT EXERCISE

What are the criteria that determine the efficiency of competitive bidding as source selection and pricing methods?

4.0 CONCLUSION

Lately, attention has been focused on the advertising requirements associated with the competitive bidding process, especially in instances of inter-local agreements. A point of reminder must however be made to the audit staff, federal, state, and local governments that advertising is just one compliance requirement to address when auditing or engaging in a formal bid process. Even when an original bid was executed in a competitive manner. This guidance is being provided as a resource to help increase awareness of best practices regarding the bid process.

5.0 SUMMARY

Competitive bid procurement, as the name implies, involves vendors or suppliers competing in some way for the contract. The traditional method involves the owner issuing an invitation or request to either select vendors (invitational bidding) or even the general contracting community (public bidding) to participate in a process of competition. Bidders who wish to participate submit binding offers to do the work or supply the goods by a fixed rate and time and in accordance with the owner's requirements. The owner then reviews and evaluates all on-time bids and (usually but not always) chooses one bidder to do the work. The owner and that Bidder then sign a contract to do the work.

6.0 TUTOR-MARKED ASSIGNMENT

Explain the instances in which bid can be rejected and declared non responsive.

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UNIT 3 NEGOTIATED PROCUREMENTS

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1.0 INTRODUCTION

The most flexible, but sometimes complicated, means of procuring goods and services is negotiation. This method is used when contracting offices:

- 1) cannot define all the requirements of a procurement, or
- 2) when factors other than price are important enough to require evaluation.

Negotiation procurements take many forms. They may call for competitive proposals, may involve restricted competition, or may even be sole source. Some permit discussion with of errors, while others allow award of a contract without discussion

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Define the term Negotiation and clearly states its objectives.
- Comment on time Negotiation is most appropriate and Highlight the requisite position and qualifications of the Negotiator
- List and Explain the steps involved in the Negotiation process
- Identify and describe the various Negotiation Postures.

3.0 MAIN CONTENT

3.1 What is Negotiation?

Regardless of the size of the purchasing department or the volume of purchases, negotiations have to be conducted in every type of industry or business engaged in the function of procurement, whether it is of services or of materials. It is generally accepted that the ability to negotiate is a key competence in a purchasing executive. In industry, and most levels of government, the term negotiation frequently causes misunderstanding. Depending on the level of perception and/or objective:

- (1) some may consider negotiation as a form of **horse-trading** (arguments about something e.g. prices); or hassling and
- (2) sometimes, it is confused with **price chiseling** (that is obtaining price deceitfully). But negotiation is neither haggling nor bargaining.

The dictionary defines negotiation as a:

“Mutual discussion and arrangement of the term of a transaction or agreement”. OR simply; confer with others in order to reach a compromise or agreement”

Another expert opinion described negotiation as,

‘The process by which we search for terms to obtain what we want from somebody who wants something from us.’

This particular definition more importantly revealed that negotiation implies some mutuality of wants, resolved by exchange. Purchasing and supply is certainly concerned with exchanging for value, and with finding new ways of doing business. However, defined, negotiation is more usefully seen as a process whereby agreement is sought.

Professional negotiation is thus a means by which two parties reach an agreement by a specialised process of communication techniques and arrives at a mutually satisfactory settlement, resulting in a balancing of the interests of the parties.

Indeed, the following facts must be established about negotiation in purchasing.

- 5) Negotiations may involve dealing with a single issue or many
- 6) They may also be conducted on a one-to-one basis or between teams of negotiators representing different interests, and

- 7) May be conducted over a telephone in a matter of minutes, or take many months to complete.
- 8) It can be for the purpose of setting the price of materials or it can relate to finalizing various terms and conditions such as specifications, delivery packaging, insurance and so on.

The most important ingredient in the art of negotiation is communication. Therefore the essential techniques in negotiation are those, which are employed in the communication of ideas. Since negotiation involves convincing the other party of your point of view and reaching an agreement, communication skills, prove useful. It does not involve any science or mathematical formula. It is an art.

Contracting officers use negotiated procurements whenever sealed bidding is not appropriate. Generally, negotiation is appropriate:

- a) if item does not permit sealed bidding,
- b) if award will be based on factors other than just price,
- c) if discussions are necessary, or
- d) if the Government is only aware of one source.

David Jones et al (1994:165) argued that there are alternative ways of reaching agreement that do not involve negotiations and can be appropriate and effective in the right circumstances.

Some of these alternatives to negotiation are:

- 1) **PERSUADE:** This involves encouraging the other party to accept the merits of a particular case with no concessions from yourself.
- 2) **GIVE IN:** That is, accepting totally what the other side offers.
- 3) **COERCE:** This is an insistence that the other side meets your demands or else.
- 4) **PROBLEM SOLVE:** This alternative removes the difference between the parties so that there is no need to negotiate.

3.1.1 Objectives of Negotiation

Generally speaking, the objective of negotiation is agreement. In other words, it is to persuade and convince the other side with your viewpoint and it must not be used to win an argument but to reach an agreement. This is one major difference between negotiations and a ball game or a war. Those activities, only one side can win; the other side must lose. In successful negotiation, both sides win something. Popular usage calls this approach, **win-win negotiation**.

Several objectives are common to all procurement/sales negotiations:

- 1) To obtain the quality specified.
- 2) To obtain fair and reasonable price.
- 3) To get the supplier to perform the contract on time.

In addition, the following objectives must be met:

- 1) To exert some control over the manner in which the contract is performed.
- 2) To persuade the supplier to give maximum cooperation to the buyer's company.
- 3) To develop a sound and continuing relationship with competent suppliers.
- 4) To create long-term partnership with a highly qualified supplier.

3.1.2 When To Negotiate

In most cases purchasing orders are concluded on the basis of quotations received. Negotiations with the vendor will quite often follow after he has submitted his quotation, but sometimes negotiations take place as the first step in the purchasing deal. Negotiation is required when changes in the scope of a contract, call for changes in initial pricing and terms and conditions. Menon K.S. (1993:142) listed the following instances when the buyer and seller may consider negotiating:

- 1) Variations in the quality being purchased.
- 2) Changes in drawings and specifications.
- 3) Change in transportation, packaging or delivery point.
- 4) When supplies or services can be obtained from only one source. That it when competitive bidding is impractical
- 5) When no acceptable quotations are received from the responding vendors.
- 6) Price or other items and conditions of the contract, relating to large volumes of a large value, especially of scarce commodities where the contract relates to a long period.
- 7) When it is not practicable to draw up detailed specification and descriptions for certain service or supplies and these are required to be orally explained or clarified.

3.1.3 The Negotiator's Position and Qualifications

Purchasing executive and salesmen are individuals usually acting as representative of the various organisations that employ them. Their behaviour in negotiation will be influenced:

- (i) by their personal characteristics,
- (ii) which in turn will be partly determined by their roles, and

(iii) the situation in which they are negotiating.

3.1.3.1 The Negotiator as a Representative

In negotiation, it is important for a buyer to know the extent of his authority to commit the organisation he is representing, since such authority prescribes his options and his responsibility for the outcome of the negotiation. The degree of authority he has as a negotiator may range from that of:

- 1) An emissary commissioned to present without variations, a position determined by his superior,
- 2) To that of being a free agent. And as a free agent, he can negotiate freely and even vary the stand taken by his company depending on the situation at the negotiation table.

It is however recommended that the complex can open the negotiations, the greater should be the status of the negotiator(s).

There are five conditions that prevent a negotiator from responding spontaneously to his opposite number:

- 1) When a negotiator has little in determining his position.
- 2) When he is held accountable for his performance.
- 3) When he has sole responsibility for the outcome of the negotiation.
- 4) When he is obligated to a constituency that is present during the negotiations.
- 5) When he is appointed rather than elected.

In the above situations, a negotiator's behaviour is constrained by his obligations.

3.1.3.2 Personal Characteristic of the Negotiator

The fewer the constraints imposed in a negotiator such as knowledge, experience and personality the wider the scope of his ability to influence the negotiation process. Studies have shown that personality variables such as anxiety, dogmatism, risk-avoidance, self-esteem and suspiciousness affect the degree of cooperation or competitiveness present in a negotiation situation.

3.2 The Process of Negotiation

In the broadest sense, negotiation begins with the origin of a firm's requirement for specific materials or services. According to Donald Dobler and David Burt (1996:363), actual two-party negotiation begins with a buyer's requests for proposals from potential suppliers. It develops as the negotiator carefully evaluates these proposals and prepares for discussion of the important issues that may arise in the impending negotiation conference. The negotiation process ends with the resolution of all issues that actually do arise during the negotiation conference. It is therefore useful to consider negotiation conceptually as a three-phase process.

- The first of the phases is the preparatory stage.
- The establishment of objective is the second stage.
- While face-to-face discussions, which result in agreement on all items and conditions of a contract or a decision not to enter into an agreement with the potential supplier is the third phase.

3.2.1 Preparation for Negotiation

It is arguable that over 90 percent of the time involved in a successful negotiation is spent in preparing for the actual face-to-face discussions. David Jones et al (1996:169) provided a list of key considerations as identified by Kennedy in the preparation for negotiation. This includes:

- 1) **What do we want?** Such want may for example include:
 - a) A lower price
 - b) An improved relationship
 - c) A bigger discount
 - d) Faster delivery
 - e) Changes in quality.

The range of negotiable variables in most buyer-seller relationships or transactions is very wide.

- 2) **How valuable is each of our wants to us?** Perhaps, for example;
 - a) Prompt delivery = high priority;
 - b) Lower price = medium priority; and
 - c) Quality changes = low priority.

- 3) **What are my entry and exit point?**

As a negotiator, your point is really your opening bid. Once disclosed, you are unlikely to better it, so the bid obviously requires careful thought. The exit point is your walk away position. It is important that

these facts be identified and understood at the preparatory phase. If only remove the possibility of striking an agreement, which may be regretted later.

In addition, Dobler and Burt suggested that the negotiator must:

- 1) Know the item or service.
- 2) Know the seller's Bargaining Strength

The seller's bargaining strength usually depends on three basic factors:

- a) how badly the seller wants the contract;
- b) how certain he or she feels of getting it, and
- c) how much time is available to reach an agreement on suitable terms.

The buyer should encounter no difficulty in determining how urgently a seller wants a contract. The frequency with which the sales person calls, and general market conditions are positive indicators of sellers' interest.

- 3) Know the Buyer's bargaining strength. The buyer's bargaining strength depends on three basic factors:
 - a) The extent of competition present among potential suppliers
 - b) The adequacy of cost or price analysis; and
 - c) The thoroughness with which the buyer and all other members of the buying team have prepared for the negotiation.
- 4) Know the adequacy of cost or price analysis.
- 5) Know the Seller.
- 6) Know the thoroughness of buyer and negotiating team preparation.

3.2.2 Establishing Objectives

Meaningful objectives are essential to successful negotiating but rarely are such negotiation objectives meaningfully and clearly defined. Negotiation objectives must be specific. General objectives lower than previous prices; good delivery etc, are inadequate. For each term and condition to be negotiated, the negotiating team should develop three specific positions:

- 1) An objective position;
- 2) A minimum position, and

3) A maximum position.

The objective position for instance, is the negotiator's best estimate of what he or she expects to strike as an agreement. It can be very helpful to write down the agreed objectives(s) for the coming negotiation. Writing them down will serve to ensure that those involved know;

- 1) What is to be achieved; and
- 2) Upon what assumptions those objectives have been based.

It is important to recognise that the objectives, which are set, will be based upon an assessment of the situation within the given existing information. If some of the information proves to be faulty, then it may be necessary to change the stated objectives and probably the methods by which they are to be achieved

3.2.3 The Actual Negotiation

The actual negotiation involves a four phase face-to-face negotiations and specifically the processes include:

1) Fact Finding.

During the initial meeting with the potential supplier, the professional negotiator and the negotiating team limit discussions to face-finding. The important consideration is that during the face-finding session, the buyer and the supplier should attempt to analyse each other's point of view. The buying and selling representatives should disclose their interests – not their positions.

2) The Recess

While it may not be necessary to call for a recess in negotiation relative to small procurement, in major negotiations, it would be good strategy to call for recess after the face-finding session, to enable both teams to evaluate the facts and analyse the issues, assess the negotiating ability of the opposite team and, if needed, revise the issues. The duration of the recess depends on the circumstance and the issues involved.

3) Narrowing the Difference

When the formal negotiations reconvene, the negotiator defines each issue, states the facts, and attempts to convince the supplier's representatives(s) that the negotiator moves on to the next issue. During this phase of the negotiating process, problem solving and compromise are used to find creative solutions where both parties win. If a

satisfactory agreement cannot be reached, the negotiating team has the choice of adjourning (an attractive alternative for buyer if another supplier is in the wings) or moving on to hard bargaining.

4) Hard Bargaining

Hard bargaining session is the last resort and this involves the use of take – it – or – leave – it tactics. Its use is limited to one –time or adversarial situation where long-term collaborative relationships are not objective.

3.2.4 The Post-Negotiation Phase

The primary activity of the post-negotiation phase is implementation. Successful negotiation is complete until what has been agreed is implemented. Only very ordinary or value free negotiators will pay insufficient attention to this aspect of the work. An effective negotiator would therefore need to take a number of necessary actions.

Firstly, skilled negotiators need to confirm with other party a clear understanding of what has been agreed.

Secondly, they also specify who is to do what, and by when, not only as between them and other party but also in their organization.

David Jones et al in their model of negotiation process provided the following prescriptive guidelines for the post – negotiation phase:

- 1) Produce the first draft agreement. This involves reporting in your own version what has been agreed, developing such agreement and sending your draft to the party for his comments and agreement
- 2) Ensure the commitment of people in your organisation to making the agreement work
- 3) Prepare official contract in line with the agreement
- 4) Remember no negotiation is successful until what has been negotiated is done.
- 5) Find time to evaluate performance, first, in negotiation, and secondly in, implementation. Implementation of successful negotiation has the consequence of positively influencing the behaviour of both parties in future negotiations especially where purchasing transaction involves long-standing partners in the supply and demand market.

3.3 Negotiation Postures

Negotiators must be skilled at watching for, understanding and interpreting body language. No matter what people say, how they really feel can often be picked up from their body positions and gestures during the negotiations. You may consider that the other party is being honest and open, but this may not be true. You may equally feel the other side is happy; this also may not be the case. Therefore as a negotiator, you must watch for the body language.

A number of postures and what they might indicate have been provided by David Jones et al (1996 pp. 180) as shown in table 1 below:

Posture	Possible Meaning
Leaning forward when making A point	Interested; wants to emphasize a point
Avoiding eye contact	May be embarrassed; not telling
Arms folded. Body turned away From you	The truth Defensive; no compromise Not interested.
Body turned toward you leaning your Forward.	Interested; Warning toward Comments
Looking away to watch or at a further Window	Wants to leave or avoid any discussion
Hands supporting head and Leaning back in chair.	confidence.
Stroking nose regular with a Finger-avoid eye contact	May be lying.
Good eye contact. Fingers stroking Face.	Interested in what you are saying

Table 15.1 The Interpretation of Postures.

A negotiator should however interpret body language with sufficient caution. He/she may indeed be wrong. Nevertheless, it is a quality, that over a period of time, an experienced negotiator gets to understand the body language of the other side; this can greatly contribute to effectiveness at negotiation conference.

SELF ASSESSMENT EXERCISE

What would you regard as the conceptual facts about negotiation?

4.0 CONCLUSION

The objective of negotiation, it must be emphasized is agreement. Even though agreement is the fundamental goals of negotiation, negotiations occasionally end without agreement. In the short run, reaching no agreement is sometimes better than reaching an unsatisfactory agreement. By its nature, negotiation is a complex, fascinating subject, since it involves people, contains many variables. Generally speaking, however, experienced negotiators seldom let negotiations break down completely.

5.0 SUMMARY

However, defined, negotiation is more usefully seen as a process whereby agreement is sought. The most important ingredient in the art of negotiation is communication. Therefore the essential techniques in negotiation are those, which are employed in the communication of ideas. Since negotiation involves convincing the other party of your point of view and reaching an agreement, communication skills prove useful. It does not involve any science or mathematical formula. It is an art.

In most cases purchasing orders are concluded on the basis of quotations received. Negotiations with the vendor will quite often follow after he has submitted his quotation, but sometimes negotiations take place as the first step in the purchase ideal. Negotiation is required when changes in the scope of a contract, call for changes in initial pricing and terms and condition.

6.0 TUTOR-MARKED ASSIGNMENT

Highlight in clear order the schematic process of negotiation.

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UNIT 4 EXPEDITING OR FOLLOW-UP OF ORDER

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The Nature of Expediting Work
 - 3.2 Expediting Process
 - 3.3 Characteristic of Good Expeditor
 - 3.4 Organization of the Expediting Activity
 - 3.5 Advantages of the Expediting Function
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In order to achieve the purchasing aim of obtaining delivery on time, expediting is frequently undertaken. A dictionary definition of expedite is: assist the progress of something. In manufacturing industry, this activity may be undertaken in connection with the progress of a customer's order to the point of dispatch (this is internal expediting), or liaising with suppliers to ensure that materials are received from them or as scheduled (this is external expediting). In organisations providing a service rather than manufacturing anything, most of the expediting will be internal, and in manufacturing companies, it is the external expediting, which involves the purchasing function. Following-up the order to ensure prompt deliveries is an important function and this function is also variously called, progressing, expediting or follow-up.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- describe the nature of expediting work
- explain the expediting process
- state the characteristic of a good expeditor
- discuss the various methods of organization for expediting activity
- list the advantages of the expediting function.

3.0 MAIN CONTENT

3.1 The Nature of Expediting Work

Expediting is a planned, proactive task. As a concept, expediting is a purchasing responsibility/task of attempting to speed up delivery as the buyer's timing requirements undergo unexpected changes. More concisely, to expedite (a term that is used rather loosely in industry) involves actions to achieve an earlier delivery than originally planned.

To de-expedite is indeed the opposite and this is to attempt to delay delivery beyond the original schedule delivery time.

Expression such as hastening, progress chasing, and urging are sometimes used to describe the process of attempting to ensure that delayed supply of materials does not cause problems for the buying organisation. These expressions often indicate that process is seen as a reactive one, where a problem of lateness arises, and work then begins to try to save the situation. Ideally, the relationship between the selling and buying organisations is one of mutual trust and respect, and liaison, rather than expediting.

3.1.1 Elements of Expediting

The following elements are involved in expediting work i.e., the specific issues inherent in the follow-up job:

- 1) First, it is necessary to secure an acceptance of the purchase order by the supplier so also a promise of delivery
- 2) A proper record must be kept of due delivery dates and these records must be updated as and when deliveries arrive.
- 3) A review should be made of outstanding orders at regular intervals.
- 4) Communication should be made with suppliers as and when required. This can be through e-mail, telex message, phone calls, personal visits, etc.

3.2 Expediting Procedures

One very important matter relating to expediting is that all suppliers should be given strict instructions to inform the buying company as soon as some trouble is noticed about fulfilling delivery dates. If the suppliers can be trusted to do this, expediting becomes easier. Menon K.S. (1993:162) presented a simple procedure, which can be followed as follows:

- 1) Two copies of the purchase order are sent to the supplier and one copy to the expeditor.
- 2) The expeditor files the purchase order, vendor-wise, in a current file. This file is checked every week.
- 3) If the acknowledgement copy has not been received back within ten days, the expeditor should do the following:
 - (a) He should check back with the buyer if there has been any development in regard to the order; (for example, the supplier may have written that the term of agreement requires revision).
 - (b) If nothing has been heard from the supplier, he should send him a routine reminder.
 - (c) If within a week after the first reminder no acknowledgement has arrived, a letter should be sent, preferably by name to the official concerned in the supplier's company. If this fails, a telegram and a telephone call respectively should be the means of communication.
 - (d) Though the supplier has not formally accepted the order, he may have started supplies. In law, this is a proof of acceptance. The expeditor should check with the stores on this matter.
- 4) The expeditor will consult the file every week and take such action as is necessary for follow up.
- 5) When a delivery has been effected, the receipt section will send him a copy of the materials receipt note. The expeditor will make the relevant entries in the order copy. As soon as the order has been fulfilled, the copy of the order is removed from the file.

Follow-up procedures may be more elaborate than the one described above, but the basic elements are the same. Another point that must be made is that progressing activities does not commence until a reasonable period of time has elapsed; constant progressing can become counter-productive and results in sour supplier relationships. Figure 16.1 below shows a typical progressing format, indicating that progressing does not commence until a reasonable period of time has elapsed.

Date of Order	Jan	Feb	Mar	June	July	Aug	Sept
1 st Jan	Estimated completion period						→
Item A	→	→	Progress 1	→	→	2	→

Figure 4.1: Progressing Format

3.3 Characteristic of Good Expeditor

The work of an expeditor calls for considerable foresight, good judgment, initiative and intelligence to ensure that the right degree of attention is given to the various types of orders. A good expeditor must therefore have the following characteristics.

- 1) An expeditor must be a good communicator. An expeditor must be skilled at transferring information in a language that can be easily understood.
- 2) An efficient expeditor must be resourceful.
- 3) An expeditor must be a progressive individual, in other words, he must be capable of gingering up and building up pressure on the supplier.
- 4) Time consciousness and alertness is another characteristic. A good expeditor will know when to take strong action and how.

Expediting is not a routine function carried out by clerks. A supplier does not often have the courage to be honest and gives reports which do not commit him but which can be interpreted as encouraging by a buyer. A clever expeditor can see through such reports and distinguish the genuine from the misleading report.

3.4 Organisation for the Expediting Activity

There are various methods for organising for the follow-up activity. Indeed, there is a wide difference of opinions concerning the most effective arrangement for handling the expediting activity.

Some firms require each buyer to do his/her own expediting.

- 1) Because of the buyer's status and intimate knowledge of the order, these firms believe that a buyer can obtain more effective results from suppliers than can someone of lesser status in the organisation.
- 2) More important reason is that many companies using this approach want the buyer to assume total responsibility for each of his or her orders. They feel that the buyer can do this best by personally participating in all phases of an order and for all supplier contracts; it is easier to measure and control his or her performance.

Since much follow-up and expediting is a routine work, it often represents an inefficient use of a buyer's time. Some companies

therefore develop a hybrid organisation. To achieve the benefits of specialisation, they assign the follow-up and expediting function to a separate expeditor. So that the buyer can retain full control of his or her orders, though, each expeditor is assigned directly to one buyer (or a buying group). Thus, the expeditor does his or her work as directed by the buyer, and the buyer is helpfully accountable for his or her orders. In practice, the expeditor usually handles all routine follow-up enquiries and calls on the buyer for assistance with the difficult or delicate expediting problems. Figure 16.2 shows a typical basic structure of organisation for the follow-up and expediting activity.

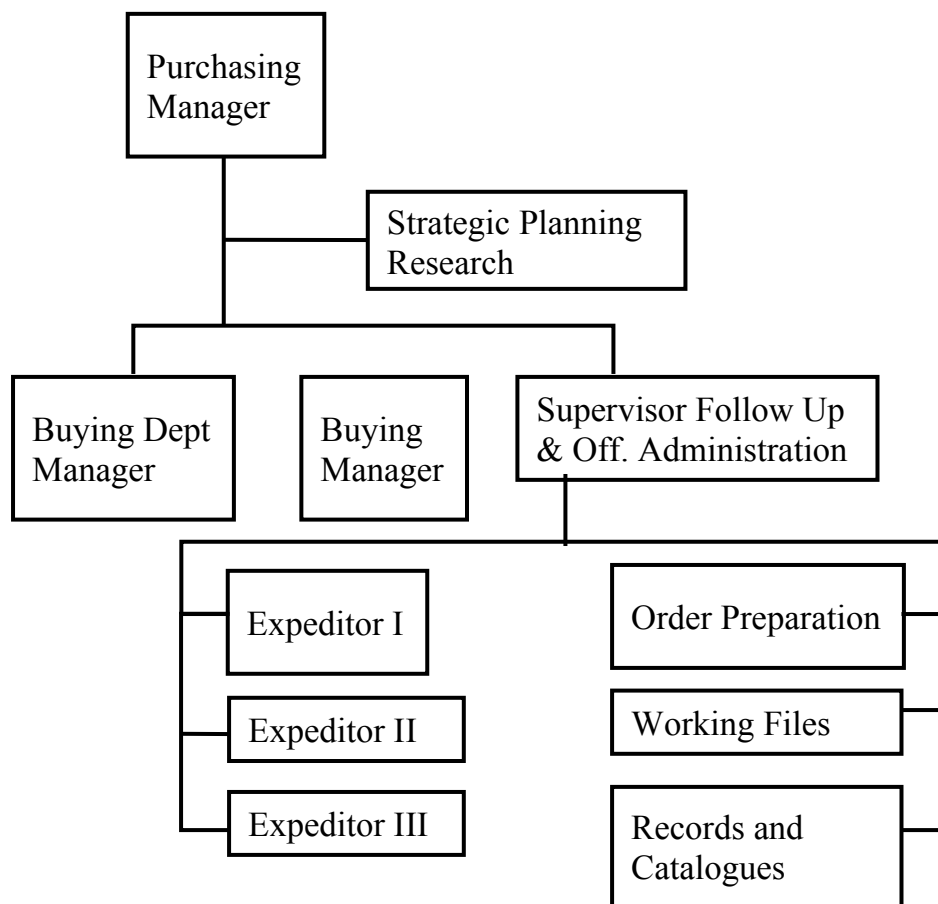


Figure 4.1: A Typical purchasing Organisation Internal structure showing the Expediting Section

3.5 Advantages of the Expediting Function

The progressing or follow-up activity has the following advantages:

- 1) The supplier is aware of the purchasing department's interest and control
- 2) Possible late deliveries or delays will be identified via the early warning system and therefore alternative suppliers can be secured

or alterations of production programmes can be made, without loss of output.

- 3) The purchasing manager has a complete and updated visual picture of the purchasing department's position in term of ordering and suppliers.

SELF ASSESSMENT EXERCISE

List the basic characteristics of a good expeditor.

4.0 CONCLUSION

Expediting is an important function, which ought to be centralised. The term "expedite" is used rather loosely in industry. In a more precise sense "follow-up" involves activities to ensure delivery as scheduled. This function is absent in most of the companies. It is true that this function is irrelevant when you have an excellent relationship with the supplier, i.e., with the Electronic Data interchange (EDI) system where company's computer constantly talks to the supplier's computer and the company is able to follow the just-in-time system of inventory. Until this is into practice, expediting will ever be inevitable and must be available centrally.

5.0 SUMMARY

The systematic follow-up of the orders to secure the required delivery is an important purchase function. The purchasing department responsibility for an order does not terminate with the making of a satisfactory contract. Purchasing bears full responsibility for an order until the materials are received and accepted. The purchasing department will often have a wide range of outstanding orders at any given time, orders which are in process of being produced or obtained by the supplier. All these orders will beat various stages of completion. The purchasing executive must maintain a degree of control over this area of the purchasing function. To enable this control to be effective, a system of progressing has to be introduced and monitored.

6.0 TUTOR-MARKED ASSIGNMENT

Explain the issues involved in the follow – up procedure.

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UNIT 5 BUYING INTERNATIONALLY

CONTENTS

- 1.0 Introduction
- 2.0 Objective
- 3.0 Main Content
 - 3.1 International Procurement Concept
 - 3.2 Approaches to International Sourcing
 - 3.3 The Benefits and Risk of International Sourcing
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

International purchasing is a rather complex discipline. Among the most significant business developments in the last four and half decades have been the rapid growth of international business and the proliferation of multinational firms. Although a number of companies have been engaged in this area for nearly a century, the explosive growth in the size and the number of international firms is a recent phenomenon, as is the much closer central control exercised by managements. Conceptually,

“International business is business whose activities involve the crossing of national borders.”

This definition includes not only international trade and foreign manufacturing, but also encompasses the growing service industry in areas such as transportation, tourism, banking, advertising, construction, retailing, wholesaling, and mass communications.

Today, international expansion has made international problems an organic aspect of purchasing and materials management. Indeed, international procurement is one of the most challenging aspects of purchasing and supply management.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Define concept associated with buying internationally
- List out and explain each of the approaches to international sourcing

- State the benefits of buying internationally and the problems associated with it.

3.0 MAIN CONTENT

3.1 International Procurement Concept

Technically, international purchasing involves the performance of the purchasing activities across the national boundaries.

International sourcing, or purchasing goods from sellers in other countries for internal use or resale, can be risky, as there is an increasing need to understand foreign environments, purchasing methods and the techniques of adapting purchasing management processes and organizational behaviour to new and different conditions.

Dobler and Burt (1996:267) argued that, more recently, the term “foreign sourcing” has largely been replaced with “international sourcing”, the process of purchasing from suppliers outside of the firm’s country of manufacturing. At a number of leading firms, international sourcing is being replaced with a broader international approach called “global sourcing”. Professors Monczka and Trent (1991:3) defined global sourcing;

“...as the integration and coordination of requirements across worldwide business unit, looking at common items, processes, technologies, and supplier.”

This unit essentially focuses on the benefits, risks of and approaches to international sourcing.

3.2 Approaches to International Sourcing

With ever increasing global competition and demands for continuous cost improvement, today’s purchasing management is being challenged with the question, “Are we buying from the best place in the world?” Depending on your company’s internal resource, skill sets, and long-term strategies, there are many ways to obtain the answer. In this section, attempt will be made to discuss the advantages and disadvantages of the following five most common methods that local companies can use to approach international sourcing:

- Nigeria Sales Contacts of Foreign Suppliers
- Nigeria Global Sourcing Companies
- Overseas Sourcing Representatives
- Direct to Suppliers

- International Procurement Office (IPO)

3.2.1 Nigeria Sales Contacts of Foreign Suppliers

Nigeria Sales Contact of Foreign Suppliers abound in the country and exist in all traditional supplier forms including sales representatives, agents, distributors, Importers, direct sales officers, Trading Companies, Brokers etc. They are distinguished from other global sourcing approaches in that they are undisputedly working on behalf of the supplier. Buyers approach to them is essentially the same as traditional domestic/local supplier relationships and this of course is their greatest advantage since they generally make buying from overseas extremely simple. They generally handle all communications, logistics, import, contractual, and pricing issues on behalf of the foreign supplier to the point that the local purchaser may not even know the name of the foreign Supplier. Sparing the purchaser from dealing with the many issues that shall be discussed later in the Direct Approach is of course a great advantage; particularly if the purchaser is limited in resources and skill sets, however we should point out the disadvantages.

3.2.2 Nigeria Global Sourcing Companies

Purchasers can take advantages of the capabilities and experience of the Nigeria Global Sourcing Company as in the case of many areas in international business; this segment is not well defined so that purchasers can find these Sourcing Companies having numerous classifications. Whether they are called Trading Companies, Third Party Sourcing, Importers, Brokers, Global Search or Sourcing Companies they represent the purchaser and not the supplier. The advantages of using the Nigeria Global Sourcing Company approach can be summarised by stating that they can make buying internationally as simple as buying from the Supplier across the street. Usually they provide the following services:

- 1) Determine items suitable for global sourcing
- 2) Locate and develop suppliers
- 3) Negotiate pricing
- 4) Determine logistics and import costs
- 5) Coordinate formal evaluation process
- 6) Place and administer orders
- 7) Handle communication & Translation
- 8) Administer Quality Programme
- 9) Accept financial risk
- 10) Handle currency issues
- 11) Pay the supplier
- 12) Administer logistics and importation processes

13) Pay freight, duty, insurance, broker and other import costs

The major disadvantages of using Nigeria Global Sourcing Companies for global sourcing fall under the categories of (1) increased price, (2) reduced control, and (3) the failure to develop internal capabilities that may be essential to maintaining competitiveness.

Although Sourcing Companies do not usually restrict direct communication between the purchaser and supplier, as a practical matter, most communications flow through the Sourcing Company. As a result, the beneficial exchanges between purchaser and supplier personnel who have specific product knowledge may not occur, and product or process improvements may be missed.

3.2.3 Overseas Sourcing Representatives

Overseas Sourcing Representative (OSR) can be a valuable resource in the Purchaser's efforts to determine the best value in the world. They are based in and usually are citizens of the target country who have extensive knowledge in purchasing, the capabilities of the local supplier base, and acting as buying representative for Foreign Purchasers. They range in size from one-person operations to companies with large staff members with numerous departments specialising in specific commodities. They routinely provide the following services:

- 1) Understanding the Purchaser's requirements
- 2) Guidance in selecting viable opportunities
- 3) Translating
- 4) Finding and qualifying potential suppliers
- 5) Helping potential suppliers understand Purchasers
- 6) Obtaining Quotes
- 7) Negotiations with Suppliers
- 8) Arranging for evaluation visits by Purchaser and escorting purchaser while in the country
- 9) Insure order entry
- 10) Resolve Issues
- 11) Facilitate communications
- 12) Expedite for delivery
- 13) Resolve any quality issues
- 14) Handle Shipping
- 15) Orders can be placed on OSR who will place on supplier
- 16) OSR may make payment to Supplier
- 17) OSR may perform or arrange for inspection
- 18) OSR may take full quality and financial responsibility

Just like Nigeria Global Sourcing Companies, OSRs can greatly speed-up and improve the success rate of international buying projects. Although it is not like buying across the street, since the purchaser must communicate internationally and usually handles all import details, the OSR does give the Purchaser what amounts to an experienced purchasing department in that country. Since most OSRs work on commission paid by the purchaser, the purchaser does not incur a cost unless the OSR come up with a good Supplier used by the purchaser. This is both good and bad news, since the OSR will not continue to support the Purchaser's Global Sourcing efforts unless there are financial successes for the OSR along the way.

Finding the best supplier in a country is;

- 1) Usually made easier by using an OSR since they know the reputations of the Suppliers and are more likely to find the small obscure suppliers who often offer the greatest values.
- 2) OSRs can be invaluable in negotiations since they know the customs, culture, and the objectives of the Supplier in ways not known or easily understood by the Purchaser.
- 3) OSRs also have the ability to make in country visits by the purchaser much more productive since they handle the logistics.
- 4) The ability of many OSRs to provide technical expertise and perform or arrange for quality inspection.

The major disadvantages in using an OSR are that:

- 1) They will add 5 to 20% to the direct material cost.
- 2) Although there are many potential OSRs in each country, their capabilities and performance vary widely so that purchasers have to exercise a great deal of due diligence in the selection process.
- 3) Additionally OSRs are usually good in just one country or in some cases good in only one major city, so that if an area such as Asia is targeted, the Purchaser will have to select OSRs for each targeted country
- 4) Since OSRs may also be limited in product expertise, specialising in stamping, castings, or electronic

For example, purchasers having varied product categories to source may do well to have multiple OSRs.

3.2.4 Direct

With today's improved communications and the availability of high quality Suppliers all over the world, many purchasers deal directly with the Supplier in the foreign location without the use of any third party. According to a survey reported in the purchasing journal (April, 1997), of those who source overseas, use the direct approach. When considering whether or not to use the Direct Approach, Purchasers must first understand that all the services identified above as being by Nigeria Global Sourcing Companies and OSRs, will have to be provided by the Purchasers in the Direct Approach. This means that the following skill sets among others will have to exist or be developed by the Purchaser for maximum success in international Sourcing:

- 1) Targeting countries
- 2) Locating suppliers in targeted countries
- 3) Selecting suitable products
- 4) International and country specific business practices
- 5) Understanding the foreign supplier's capabilities, expectations, and needs.
- 6) International terms and conditions
- 7) Dispute resolution
- 8) International negotiations
- 9) Communications
- 10) Understanding cultural differences
- 11) Inspection at foreign locations
- 12) Payment methods
- 13) International transportation, insurance, etc.
- 14) Import process, regulations and duties
- 15) Country specific export regulations
- 16) Currency exchange
- 17) International order administration and overseas expediting
- 18) Packaging for international shipments

In addition to the above skill sets, the purchaser must also have available the financial and human resources to carry out the Global Sourcing Process. These resources often involve the need for additional people and considerable monies for travel, research, training, qualification and approval.

For most purchasers, the decision to go Direct should be based on

- 1) The expected volume of international purchases,
- 2) The commitment to long-term international sourcing strategies and
- 3) The internal resources available.

The direct approach can result into the advantages of

- 1) greater control
- 2) development of internal capabilities,
- 3) avoiding the country references of third parties, and
- 4) obtaining lower total material cost.

3.2.5 International Procurement Office (IPO)

Having an International Procurement Office (IPO) is “actually” having the Purchaser’s own Procurement Operation located overseas. An IPO is owned and operated by the purchaser, staffed with the purchaser’s employees and does sourcing only for the Purchaser. IPO while providing all of the services defined above for the OSR, also gives the following advantages to the Purchaser over the OSR.

- 1) No third party mark-ups
- 2) Dedicated overseas resource with no other
- 3) Direct in –country purchaser interface with the supplier
- 4) Development of long-term in –country relationships with government and business community.
- 5) Better communications by direct interface with purchaser’s engineering, production, and quality groups.
- 6) Reduces purchaser’s need for foreign travel.
- 7) Better in-country quality and engineering support.
- 8) Greater flexibility to coordinate with other purchaser’s overseas entities such as sales offices, manufacturing plants, joint ventures, etc. to obtain advantages in administrative cost, taxes, currency, human resources, import / export status, logistics, etc.

With all the valuable services provided by IPOs and the above advantages, why do not all international Purchasers use them? The major reasons are that they are:

- 1) Costly and challenging to operate;
- 2) Usually difficult to staff, and
- 3) Add to the Purchaser’s head count.

Even with an IPO, the purchaser must still develop import capabilities. These issues notwithstanding and because of their many advantages, IPOs should be considered when:

- 1) there is sufficient annual volume to cover expenses,
- 2) a long-term –commitment to the country or region, and
- 3) the direct approach is not providing the expected results.

3.3 The Benefits and Risks of International Sourcing

3.2.4 Why Purchasing International Goods and Services

International sourcing requires additional efforts when compared with domestic sourcing, but it can yield large rewards.

1) Quality

A key reason for international sourcing is to obtain the required level of quality.

2) Timeliness

A second major reason for purchasing international goods and services is, generally, the dependability of the supplier in meeting scheduled requirements

3) Cost

International sourcing generates expenses beyond those normally encountered when sourcing domestically. Nonetheless after all of the additional costs of “buying international” are considered, in the case of many materials it frequently is possible to reduce the firm’s total cost of the materials through international sourcing.

4) Product and Process Technologies

No country holds a monopoly on new technology. International sources in some industries are more advanced technologically than their domestic counterparts. Not to take advantage of such product or process technologies can result in a manufacturer’s losing its competitive position *vis-a-vis* manufacturers that incorporate the new technologies.

5) Broadening the Supply Base

Professional buyers want to develop and maintain an adequate supply base for required materials. It may be necessary to develop international suppliers in order to have a competitive supply base. In some cases, there may not be a qualified domestic source.

6) Counter trade

Many countries require their non-domestic suppliers to purchase materials in their country as part of the sales transaction. These arrangements commonly are called barter, offsets, or counter trade.

3.3.2 Problems Associated with International Procurement

1) Culture and Communications

The nature, customs, and ethics of individuals and business organisations from two different cultures can raise a surprising number of obstacles to successful business relations. What is considered ethical in one culture may not be ethical in another. Differences in culture, language, dialects, or terminology may result in miscommunication and cause problem.

2) Payment Terms Conditions

From the buyer's point of view, the preferred method of payment is after receipt and inspection of the goods. However, it is customary in many countries for advance payments to be made prior to commencing work. Such a provision ties up the purchaser's capital.

3) Long Lead Times

Variable shipping schedules, unpredictable time requirements for customs activities, the need for greater coordination in international purchasing, strikes by labour unions, and storms at sea (which can cause both delays and change) usually result in longer lead times.

4) Additional Inventories

The quantity of additional inventory needed when purchasing from foreign sources can be difficult to determine quite often, however, the additional inventories are not as large as one might expect. Nevertheless, inventory –carrying costs must be added to the purchase, the freight, and the administrative costs to determine the true total cost of buying from international sources.

5) Quality

As previously mentioned, international suppliers frequently are utilized because many of them can provide a consistently high level of quality. But problems do exist. Non-domestic suppliers tend to be less responsive to necessary design changes than do their domestic counterparts.

6) Higher Costs of Doing Business

The need for translators, communications problems, the distance involved in making site visits, and so on all add to the cost of doing business with international suppliers. Port-order services are more complicated because of currency fluctuations, methods of payment, customs issues, and the utilisation of import brokers

and international carriers. Inadequate local (international) logistical support functions such as communication systems (telephones, telexes, and fax machines), transportation systems, financial institutions, and so forth can complicate communications and product distribution.

SELF ASSESSMENT EXERCISE

What are the services of the global sourcing companies in the international procurement functions?

4.0 CONCLUSION

International sourcing, or purchasing goods from sellers in other countries for internal use, resale, can be risky, as there is an increasing need to understand foreign environments, purchasing methods and the techniques of adapting purchasing management process and organisational behaviour to new and different conditions.

Today, international expansion has made international problems an organic aspect of purchasing and materials management. Indeed, international procurement is one of the most challenging aspects of purchasing and supply management.

5.0 SUMMARY

With ever increasing global competition and demands for continuous cost improvement, today's purchasing management is being challenged with the question, "are we buying from the best place in the world?" Depending on your company's internal resources, skill sets and long-term strategies, there are many ways to obtain the answer. Today, international expansion has made international problems an organic aspect of purchasing and materials management. Indeed, international procurement is one of the most challenging aspects of purchasing and supply management.

6.0 TUTOR -MARKED ASSIGNMENT

Would you advise your manufacturing company to have an international procurement office?

7.0 REFERENCES/FURTHER READING

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UNIT 6: JUST-IN-TIMES INVENTORY

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 - 3.2 JIT Illustration
 - 3.3 Characteristics of JIT
 - 3.4 JIT Requirements
 - 3.5 Comparison of JIT with Traditional Purchasing Approach.
 - 3.6 Benefits of JIT
 - 3.7 Possible Disadvantages of JIT
- 4.0 Conclusion
- 5.0 Summary
- 5.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

One reason for Japan's high manufacturing productivity is the cost reductions it achieves through its just-in-time (JIT) inventory method. JIT is a philosophy of operation that is initially devised by Japanese companies as an alternative to the use of inventories for meeting the customer service objective of having the product at the right place at the right time. It is a method of management of the supply channels.

Although originally pioneered by Henry Ford, the JIT manufacturing concept has been refined and developed over the past several decades in Japanese industry. The JIT concept is considered by many to be a technique used for reducing inventories. In reality, its much more. To complete JIT concept is an operations management philosophy whose dual objectives are to reduce waste and to increase productivity. It is true, however, that operationally speaking the basic theme of the JIT concept is that inventory is evil. Inventory is considered to be undesired as highlighted below:

- i) It hides quality problem
- ii) It hides production inefficiencies and productivity problem
- iii) It adds unnecessary costs to the production operation-carrying costs of approximately 25 to 35 percent of the inventory value per year.

Hence, in an effective JIT application, the operating policy is to minimise production inventories and work – in process inventories by providing each work centre with just the quantity of materials and components needed to do a given job at the exact time they are needed.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Define what JIT is as a concept
- Graphically illustrates the nature of JIT
- List the characteristics of JIT
- Compare with the Traditional Purchasing Approach
- State and explain the benefits and possible disadvantages of the JIT Concept.

3.0 MAIN CONTENT

3.1 JIT Definition

White lee (1985:41) gave the definition of JIT as follows:

“Just-in-time (JIT) is an inventory control philosophy whose goals are to maintain just enough material in just the right place, at just the right time to make just the right amount of products.’ More concisely, JIT is ‘the exact adjustment of production to quantity and time held.”

In the language of Ballou (1992:528) JIT is;

“A philosophy of scheduling where the entire supply channel is synchronised, in response to the requirements of operations or customer.”

JIT is really a philosophy, not a technique as such. The aim is the prevention of all kinds of wastes, whatever their nature and wherever they may occur. Hence, in this inventory system, the supplier delivers the components and parts to the production line just-in-time to be assembled.

Other names for this or very similar methods are zero inventory and stock less production. And such other names as ZIPS (Zero Inventory Production Systems), MAN (Materials as needed), DOPS (Daily Overhead and Perfect Supply) and NOT (Nick-of-Time). In all such cases, the essential requirement is that supplies must be delivered frequently in relatively small quantities just-in-time for use. All resources, therefore, are continuously flowing-from the arrival of raw

materials to sub-assembly, final completion, and shipment of finished products. JIT indeed brings together all the needed materials and parts at the precise moment that they are required for each production process because it is time for it to be used.

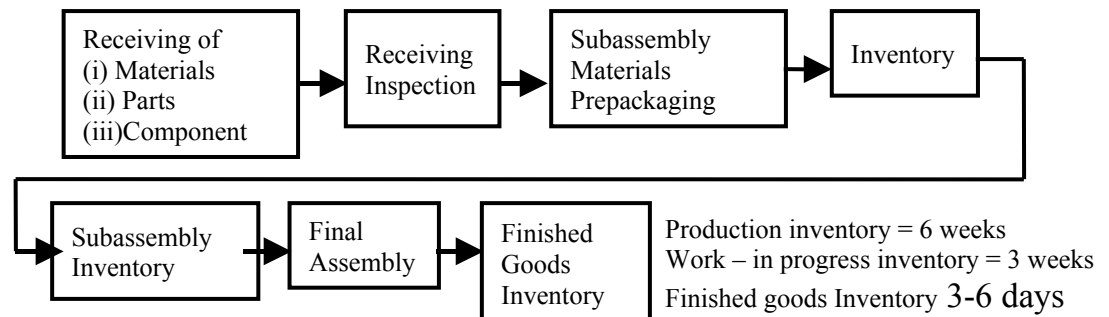
3.2 A JIT Illustration

Figure 16.1 provides a flow diagram of the major production operations in an electronic instrument manufacturing plant, both before and after the firm implemented a JIT system.

The top portion of the figure shows the original operation. After incoming material was received, counted, and logged into the system, it went through a standard visual receiving inspection operation where potential quality problems were detected, and perhaps submitted to quality assurance for further detailed inspection. The next step was to pre-package the materials parts and component that would subsequently be used in putting together a given sub-assembly. This was done for each sub-assembly produced to facilitate stock picking for the later assembly work. Most production inventories were thus stored in this sub-assembly kit form. After sub-assembly operations occurred, sub-assembly units were then inventoried until later used in a product's final assembly operation. Approximately a week's finished goods inventory for most products was maintained at the plant.

The lower portion of figure 6.1 shows the dramatic change that occurred as a result of JIT implementation. The receiving inspection and quality control technical inspection operations for purchased materials were completely eliminated. The responsibility for incoming quality was placed with the purchasing department and delegated to each supplier organisation. This required a reasonable amount of supplier education. In most cases, purchasing and QC work with suppliers to develop and install Statistical Process Control (SPC) systems in their manufacturing operations. SPC control charts were then required to be submitted with each shipment of delivered material.

Conventional Operation



JIT Operation

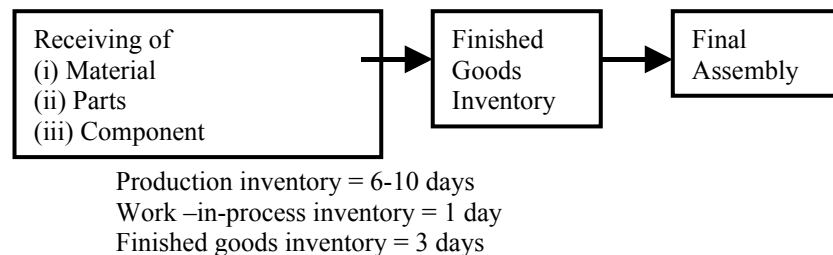


Figure 16.1 How JIT was implemented in one US firm.

3.3 Characteristic of JIT

The main characteristics of JIT can be identified as follow:

- 1) Close relationship with few suppliers and transport carriers.
- 2) Information is shared between customer and suppliers
- 3) Frequent purchase and transportation of goods, in small quantities with resulting minimal inventory levels.
- 4) Elimination of uncertainties whenever possible throughout the supply channel
- 5) High quality.

A limited number of highly reliable suppliers are located and cultivated. The relationship is workable and mutually beneficial with long-term contracts. Suppliers are provided with buying companies production and inventory planning data and thus can plan their policies in a coordinated manner. This is achieved usually by on-line Electronic Data Interchange (EDI). Thus the suppliers are treated as internal work centres and are viewed as the external factory.

Frequent and relatively small deliveries are made to the work station area without receiving and inspection processes conducted. Suppliers are trusted with high quality controls as there are no quality checks on

items delivered. It also demonstrates the confidence placed on the supplier.

3.4 JIT Requirements

For the JIT method to work, a number of requirements must be fulfilled:

- 1) There must be significant beginning inventories
- 2) Demand and supply can be forecasted accurately
- 3) The quality of the parts must be very high
- 4) There must be dependable relationships and smooth co-operation with suppliers.
- 5) Ideally, the suppliers should be located near the company, with dependable transportation available.

For JIT to work, two additional things must happen as argued by Lyons, K. (2000, p. 248);

- 1) All parts must arrive where they are needed, when they are needed and in exact quantity needed.
- 2) All parts that arrive must be usable parts.

Where these are not achieved, JIT may easily become 'just-too-late.'

In achieving these requirements, purchasing has the responsibilities summarized below.

- 1) Liaison with the design function: The emphasis should be on performance rather than design specifications. Loose specifications enable suppliers to be more cost effective by being more innovative with regard to the quality/function aspect of suppliers. In JIT purchasing, value analysis is an integral part of the system and should include suppliers.
- 2) Liaison with supplier to ensure that they understand thoroughly the importance of consistently maintaining lead times and a high level of quality.
- 3) Investigation of the potential of suppliers within reasonable proximity of the purchaser to increase certainty of delivery and reduction of lead-time.
- 4) Establishing strong long-term relationships with suppliers in mutual effort reduce costs and share savings. This will be achieved by the purchaser's effort to meet the supplier's expectations with respect to:

- continuity of custom
 - fair price and profit margin
 - agreed adjustment to price when necessary
 - accurate forecasts of demand
 - firm and reasonably stable specification
 - minimizing order changes
 - smoothly timed order releases
 - involvement in design specifications
 - prompt payment.
- 5) Establishment of an effective supplier certification programme which ensures that quality specifications are met before component leave the supplier so that receiving inspections are eliminated.

3.5 Comparison of JIT With Traditional Purchasing Approach

When compared with the traditional approach to inventory management, JIT produces the following effects:

Issue Approach	Traditional Approach	Just-in-time
Quality Vs. cost zero defects	Least cost with “acceptable Quality”	Top quality with
Inventories with reliable deliveries.	Large inventories Quality price. Discounts manufacturing economies of scale. Safety stock Protection	Low inventories continuous flow
Flexibility Customer much	Long minimum lead times. Minimum flexibility.	Short lead times. services driven with flexibility
Transportation service levels	Least cost with acceptable service levels	Totally reliable
Seller/carrier Negotiations	Tough ‘adversarial’ negotiations	Joint venture ‘partnerships

Number of Suppliers relationship /carriers	Many Avoid single sourcing or carrier. No exposure to leverage Or dependency	Few long-term open
Seller/Carrier sharing	Minimal secretive tightly	Open information
Communications solving	Controlled	joint problem
General customer	Business is cost or	Business is

3.6 Benefits of JIT

The potential benefits of JIT to an organisation, and its purchasing function in particular, have been summarised by Schnoberger and Ansari (1984) as follows:

- 1) Part costs-low scrap costs; low inventory carrying costs
- 2) Quality- fast detection n and correction of unsatisfactory quality and ultimately higher quality in purchased parts.
- 3) Design- Fast response to engineering change requirements
- 4) Administrative efficiency- fewer suppliers; minimal expediting and order release work; simplified communications and receiving activities.
- 5) Productivity- reduced rework, reduced inspection; reduced parts – related delays.
- 6) Capital requirements reduce inventories of purchased parts, raw materials, work progress and finished goods.

3.7 Possible Disadvantages of JIT

Some organization have experienced problems with JIT for the following reasons:

- 1) Faulty forecasting of demand and inability of supplier to move quickly to changes in demand.
- 2) JIT required the provision of the necessary systems and methods of communication between purchasers and supplier ranging from vehicle telephone EDI (Electronic Data Interchange). Problems will arise if there is inadequate communication both internally, i.e. from production to purchasing, and externally from purchasing to suppliers and vice versa.
- 3) Organisations with, ideally, no safety stock are highly vulnerable to supply failures.
- 4) Purely stockless buying is a fallacy; lack of low-cost C class items can halt a production line as easily as a failure in the delivery of highly priced A class items.

- 5) The advantages of buying in bulk at lower price may outweigh the saving negotiated for JIT contracts, since suppliers may increase their prices to cover costs of delivery, paperwork and storage.
- 6) JIT is not generally suitable for bought-out items having a short lifecycle and subject to rapid design change
- 7) JIT is more suitable for flow methods with consequent changes in system required to support the new methods
- 8) Even mass production manufacturers produce a substantial percentage of components by number, if not value, on batches as well as small number of high value components dedicated flow lines.
- 9) Apart from suppliers, JIT requires a total involvement of people from all disciplines and the breaking down of traditional barrier between functions within an organisation. This may involve substantial investment organisational development training.

SELF ASSESSMENT EXERCISE

What are the main features of just – in – time purchasing?

4.0 CONCLUSION

Summarising from the above, JIT (Just – in –Time) can be defined as the processing of items or customers in the quantities required, when required. JIT, therefore, involves processing materials items only as and when required rather than in anticipation of needs. One of the prerequisites for the effective implementation of JIT is vendor reliability. JIT involves the pursuit of low or zero inventories, so that incoming goods and materials inventory is of particular importance.

5.0 SUMMARY

The common problem most manufacturing firms have is the detection of the massive waste that lies all around the companies; most of which is hidden from observing eyes- although not hiding in the real sense of being invisible but the inability of our mind's eyes to identify the things we physically see as waste.

A classical example in point is that probably since the industrial revolution took place, man has recognised inventory as a necessary evil- necessary because without it we would never be able to manufacture goods in time (even a housewife needs inventory of everything from salt and match sticks to rice and cooking oil) and evil because:

- 1) its carrying charges erode company's profits;

- 2) it necessitates massive amount of space to store them (almost 50 percent of a factory premises is a storage area for one sort of inventory or the other);
- 3) a large number of personnel are required to look after the stores, and so on.

We got so used to inventory, that in course of time we forget the work evil and took it for granted that inventory is something that is indispensable. On the other hand, the Japanese dropped the word necessary and considered inventory as a total evil. Once one gets such a feeling, he begins to devise ways and means of attacking it.

6.0 TUTOR-MARKED ASSIGNMENT

Comment on the JIT requirements.

7.0 REFERENCES/FURTHER READING

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