

Management of Inventory Systems
Prof. Pradip Kumar Ray
Department of Industrial and Systems Engineering
Indian Institute of Technology, Kharagpur

Lecture – 42
Basics of Purchasing Management
(Contd.)

So, during this the lecture session on Basics of Purchasing Management I will be referring to three important issues.

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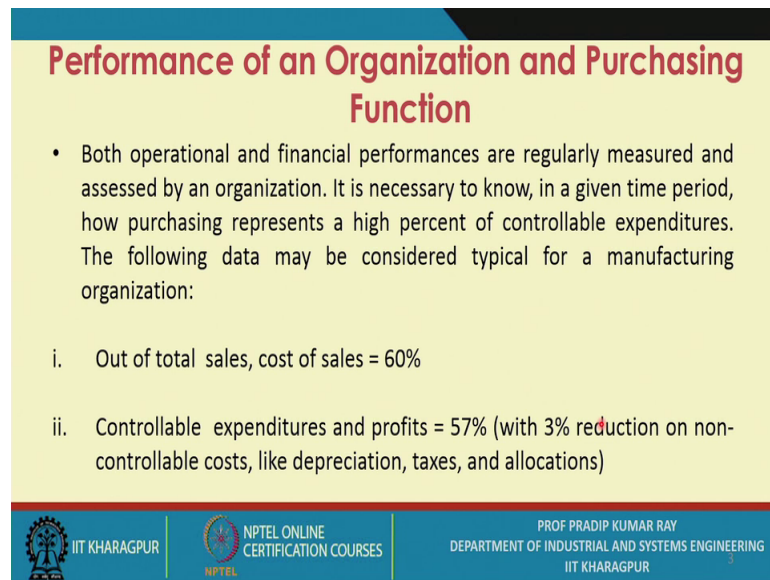
Basics of Purchasing Management

- ✓ Performance of an Organization and Purchasing Function
- ✓ Objectives of Purchasing
- ✓ List of Purchasing Activities

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We will discuss them one by one after another. First one is the performance of an organization and the rule of purchasing function, then the next important say the issue we will take up that is the objectives of purchasing. So, must have very clear understanding of this concept that is what are the specific objectives of the purchasing function and you also must be able to identify specific purchasing activities.

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Performance of an Organization and Purchasing Function

- Both operational and financial performances are regularly measured and assessed by an organization. It is necessary to know, in a given time period, how purchasing represents a high percent of controllable expenditures. The following data may be considered typical for a manufacturing organization:
 - Out of total sales, cost of sales = 60%
 - Controllable expenditures and profits = 57% (with 3% reduction on non-controllable costs, like depreciation, taxes, and allocations)

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Now, as far as the performance of an organization is concerned and it is a relationship with the purchasing function now, what we should consider, that is the first we should consider both operational and financial performance. And then, once you know the levels of the operational performance and then the financial performance when you try to assess these performances you must be able to relate the performance which you know the purchasing functions related factors.

So, both operational and financial performances are regularly measured and assessed by an organization that is you know everybody knows. It is necessary to know, in a given time period how purchasing represents a high percent of controllable expenditures, ok. Usually this is the case already we have pointed out sometimes this proportion may go as high as to say 60 percent, 70 percent even 80 percent.

The following data may be considered typical for the manufacturing organizations. So, when you go through the case studies of related to the organizations, so, you come across several sorts of data and information. So, I will just highlight some of this important information. So, out of the total sales what you find is a typical data, the cost of sales may be as high as 60 percent. So, this is your starting point, 60 percent of the total sale is essentially due to cost of sales.

Now, what is this cost of sales; that means, in order to make the sales several activities you need to carry out and any activity you carry out there is a cost associated with it. So,

you should the you should know what are these activities and the corresponding costs. So, this is cost of sales. So, it is 60 percent controllable expenditures and profits out of the 60 percent that is 57 percent of the total sales; that means, 3 percent reduction on non-controllable costs like depreciation.

So, the depreciation is non controllable, you have to keep a provision for depreciation similarly for the taxes and other allocations. So, from 60 percent you deduct 3 percent you get 57 percent.

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Performance of an Organization and Purchasing Function

- iii. Controllable expenditures = 52% (with deduction of 5% profit)
- iv. Out of 100% controllable expenditures:
 - purchase – 65%,
 - other expenses – 35%
- Before any improvement effort in purchasing function is initiated, data pertaining to above-stated costs need to be collected.

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Next what you do that with controllable expenditures that is 52 percent of the total sales now how does it become 52 percent; that means, from 57 percent you deduct 5 percent profit. So, it becomes 52 percent and the 52 percent is the controllable expenditures 52 percent of the total sales.

Out of 100 percent controllable expenditures; that means, 52 percent of the total sales now, 65 percent do come from the purchase due to purchase and remaining thirty 5 percent do come from other expenses. So, 65 percent of 52 percent essentially when you means we will consider the purchase cost as a percentage of the totals one. So, this is a typical example you can get an idea and once you have the data immediately you conclude whether the purchase is a critical function or not.

Before any improvement effort in purchasing function is initiated, data pertaining to above stated cost need to be connected. That means you know when you try to say the study where inventory control systems. So, many a time has a part of the study of inventory control systems we need to study the purchasing system also and you find that the purchasing system is essentially controls the inventory control system. So, you must thoroughly study the purchasing system and then you check that what is to what extent the purchase is affecting the financial performance of the organizations with respect to a group of products or say single product.

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Performance of an Organization and Purchasing Function

- It is to be noted in this context that primary commodities of oil, grain, wood products, and metal companies are not usually procured by purchasing.
- Once present status of financial performance is known, it is essential for any organization to make effective steps to improve both operational and financial performance.

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It is to be noted in this context that primary commodities of oil, grain, wood products, and metal companies you please note them down not this the commodities of oil, grain, wood products and metal companies are not usually procured by purchasing. Now, for this the commodities you have a special sale, ok. So, and that is maybe say considered as a division, but as such the they do not come under the purview of the common purchasing function.

Once present status of financial performance is known, like the kinds of data we have shown it is essential for any organization to make effective steps to improve both operational and financial performance.

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Performance of an Organization and Purchasing Function

- Operational performance of a running production system depends on continuous supply of raw materials, semi finished purchased parts, and MRO items at workplaces/workstations. Procurement lead time and procured quantity as per the required demand rate and the numbers of suppliers during time periods are decided by inventory management system (material management) with ordering policies executed by purchasing department. For meeting demand on time, supply is primarily controlled by purchasing department. In this context, operational performance may determine the financial performance of an organization.



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Now, what do you mean by the operational performance. So, now, and what are the factors they may affect the operational performance of a running production system. So, so, this performance depends on continuous supply of raw materials that is the essential and that is to be guaranteed semi finished purchased parts, ok; that means, continuous supply of not only raw materials, but also a semi finished purchase parts and MRO items, ok.

So, ah; that means, the maintenance related items, the repair related items and other indirect materials the supplies also you need to run the production system. So, all these there must be continuous supply of all these items at workplaces or the workstations. So, these conditions we have to you have to guarantee and you have to there must be an assurance systems for such a condition.

Procurement lead time, this point already we have elaborated and procured quantity likes with the order quantity as for the required demand rate and the numbers of suppliers during time periods are decided by inventory management systems; that means, against a particular item for the given the or so, for the for the given quantity to be supplied there may be a single supplier or there could be multiple suppliers.

Now, these ordering policies are executed by the purchase department. For meeting demand on time, supply is primarily controlled by purchasing department. So, in this context operational performance may determine the financial performance of an organization. So, there are the many cases you come across where you find that the

financial performance is solely effected by you know the performance of the purchase department.

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Performance of an Organization and Purchasing Function

For improvement of financial performance (profit) a number of alternatives may be independently opted for (considering one factor at a time, keeping other possible factors at present level). Out of many factors you may consider, the following factors may be considered to be important:

- i. **Increase in sales price:** a 3% increase may result in 60% increase in profit
- ii. **Decrease in material cost:** a 5% decrease may result in 34% increase in profit

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For improvement of financial performance that is the profit a number of alternatives may be independently opted for; that means, now your the key question is how to improve the financial performance of an organization. Now, there could be many alternatives and all these alternatives you may try and for which alternative you get the best possible you know say the effect that you analyse.

So, considering that means, this approach we follow quite bluntly that is considering one factor at a time keeping other possible factors at present level this approach is very very simple. So, out of many alternatives you just select one alternative and you first analyse that what extent these alternative is affecting the financial performance of all the organization.

Now, out of many factors you may consider the following factors and you may consider the following factors may be considered to be important. So, what are these factors? The first one is increasing sales price. Now, I am just giving you certain the data and this observations the first data is; that means, a 3 percent increase these are these data are very very typical, in fact, increasing sales price.

So, you can just increase your sales price and what you observe that a 3 percent increase may result in sixty percent increase in profit. So, that is one option. Second option is decreasing materials cost a 5 percent decrease may result in 34 percent increase in profit.

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Performance of an Organization and Purchasing Function

- iii. **Increase in sales volume:** a 10% increase may result in 29% increase in profit
- iv. **Decrease in manufacturing labour cost:** a 5% decrease may result in 14% increase in profit
- v. **Decrease in inventory investment:** a 10% decrease may result in 12% increase in profit
- vi. **Decrease in selling and administrative expenses:** a 5% decrease may result in 7% increase in profit

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What is the third alternative for improving profit? Increase in sales volume: a 10 percent increase in sales volume may result in 29 percent increase in profit, ok. So, these are just typical you know the data for your organization, for other organizations it may be slightly different, but with this data you can conclude that out of many alternatives which alternatives you basically you prefer to improve the financial performance of the organization.

The fourth you know the alternative base decrease in manufacturing labour cost. So, a 5 percent decrease in manufacturing labour cost may result in 14 percent increase in profit. The fifth one decrease in inventory investment: a 10 percent decrease may result in 12 percent increase in profit and decrease in selling and administrative expenses: a 5 percent decrease may result in 7 percent increase in profit.

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Performance of an Organization and Purchasing Function

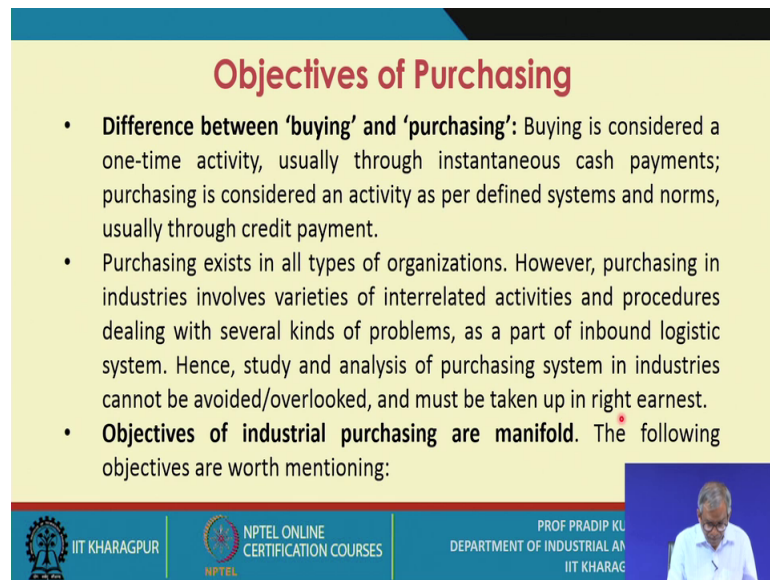
- As has been observed, control of factors (ii) and (v) is the responsibility of both inventory control systems and purchasing function. In particular, ordering policies and purchasing policies are required to be assessed and changed if decrease in materials cost and inventory investment is desired. For the given example, by improving the functioning of internal systems, improvement of substantial amount in profit (49%) can be achieved.
- This analysis highlights the importance of purchasing function out of many alternatives stated.

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Now, what you have observed; control of factors 2 and 5; that means, the decrease in materials cost and decrease in the inventory investment these are the two factors. Now, the control of factors 2 and 5 is the responsibility of both inventory control systems and purchase function. In particular ordering policies and purchasing policies are required to be assessed and changed if decrease in materials cost and inventory investment is desired.

Now, the example which we have given what we have observed by that by improving the functioning of internal systems like say decrease in say that materials cost and decrease in the inventory investment. So, the improvement of substantial amount in profit is approximately 49 percent can be achieved. This analysis highlights the importance of purchasing function out of many alternatives stated.

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Objectives of Purchasing

- **Difference between 'buying' and 'purchasing':** Buying is considered a one-time activity, usually through instantaneous cash payments; purchasing is considered an activity as per defined systems and norms, usually through credit payment.
- Purchasing exists in all types of organizations. However, purchasing in industries involves varieties of interrelated activities and procedures dealing with several kinds of problems, as a part of inbound logistic system. Hence, study and analysis of purchasing system in industries cannot be avoided/overlooked, and must be taken up in right earnest.
- **Objectives of industrial purchasing are manifold.** The following objectives are worth mentioning:

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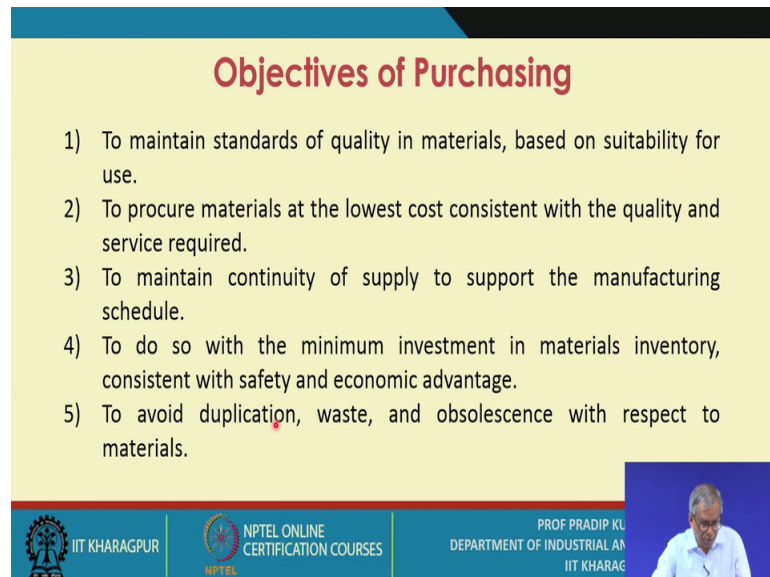
So, it is suggested that for a typical the manufacturing systems or production systems or for any organization. So, this sort of data you collect and then you prove to explicitly that that the purchase department inventory control department plays a very important role in improving the financial performance of the work unit or the organization.

Now, before I discuss the objectives of purchasing I should highlight the difference between the two terms; one term is the buying and the second term is purchasing. Now, the buying is considered a one-time activity you go to the market and you just buy certain items and you forget about it. So, usually through instantaneous cash payments that you do; purchasing is considered an activity as per the different systems and norms usually through credit payment or the credit purchase.

Purchasing exists in all types of organizations; however, purchasing in industries involves varieties of interrelated activities. So, very soon we will come to know in the subsequent lecture sessions when you discuss you know the purchasing cycle or the purchasing procedures we will come to know that how complex the purchasing function becomes in certain instances. So, you come across varieties of interrelated activities and procedures dealing with several kinds of problems as a part of inbound logistics system ok. So, later on we will talk about the supply chain management systems and there also we will bring in the concept of inbound as well as the outbound logistics.

And, study an analysis of purchasing systems in industries cannot be avoided or overlooked and must be taken up in right earnest. So, what are the objectives of industrial purchasing? Now these objectives are many now out of these objectives the following objectives I will just are worth mentioning.

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Objectives of Purchasing

- 1) To maintain standards of quality in materials, based on suitability for use.
- 2) To procure materials at the lowest cost consistent with the quality and service required.
- 3) To maintain continuity of supply to support the manufacturing schedule.
- 4) To do so with the minimum investment in materials inventory, consistent with safety and economic advantage.
- 5) To avoid duplication, waste, and obsolescence with respect to materials.

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So, what are those? There are eight specific objectives to maintain standards of quality in materials based on suitability for use, that is first one the second one is the procured materials at the lowest cost consistent with quality and services required and to maintain continuity of supply to support the manufacturing schedule. To do so with the minimum investment in materials inventory, that is one of the objectives of inventory management systems also.

Consistent with the safety and economic advantage; Make sure that at any point in time the what the inventory investment which you make that is at the minimum level. To avoid duplication waste and obsolescence with respect to the materials.

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Objectives of Purchasing


- 6) To maintain the company's competitive position in its industry and to conserve its profits, insofar as materials are concerned.
- 7) To analyze and report on long-range availability and costs of major purchased items.
- 8) To search the market continually for new and alternative ideas, products, and materials whose adoption might improve company efficiency and profitability.



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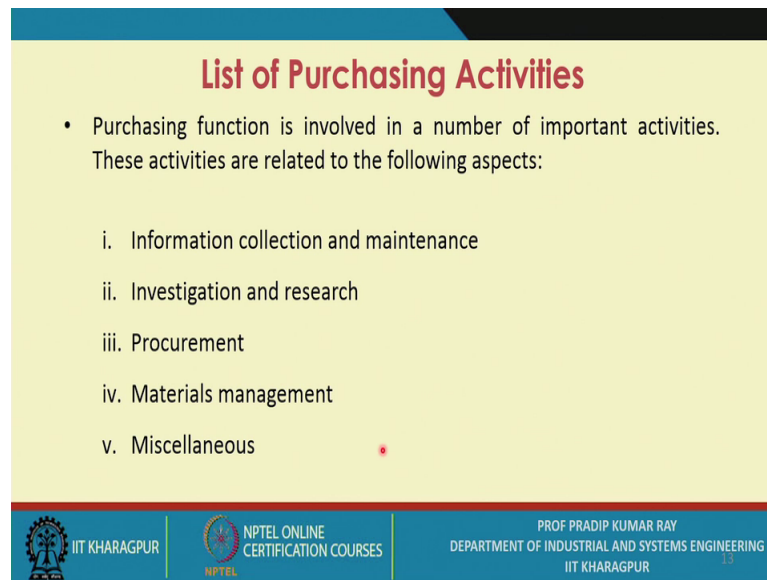
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The sixth objective is to maintain the company's competitive position in its industry and to conserve its profits insofar as materials are concerned. So, that means, one of the basic objective is how to reduce the materials cost, how to reduce the inventory investment and this is the responsibility of purchasing department in the many cases. The seventh objective is to analyze and report on long range availability and cost of measure purchase items, ok.

So, when we refer to the important activities of purchasing functions we will you will come to know what are those you know what sort of analysis you do or what sort of the activities or direct related to fulfilment of this objective. And, the last one that is the eighth objective is to search the market continually for new and alternative ideas products, and materials whose adoption might improve company efficiency and profitability. So, these are the eight specific objectives you have.

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List of Purchasing Activities

- Purchasing function is involved in a number of important activities. These activities are related to the following aspects:
 - i. Information collection and maintenance
 - ii. Investigation and research
 - iii. Procurement
 - iv. Materials management
 - v. Miscellaneous

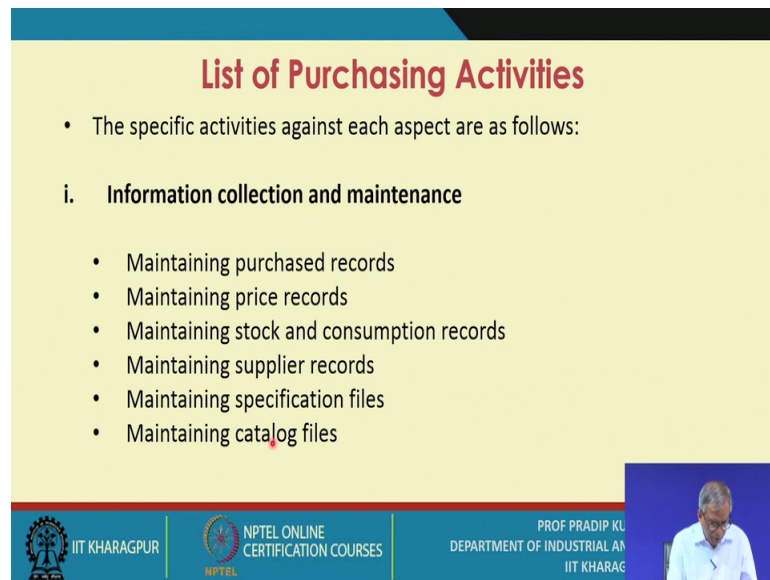
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Now, what does it do; that means, what are the purchasing activities. So, we have made a list of purchasing activities and as far as you know the totality is concerned this is more or less this is an exhaustive list. So, so, in this list of purchasing activities what do you find that that all these activities can be grouped under the five specific aspects. That means, these activities are related to the following aspects there are five aspects.

The first one is information collection and maintenance related activities. The second one is second set of activities are investigation and research related activities. The third one the third set of activities is basically the procurement related activities like you want to purchase the item from the supplier. So, what are the activities to be carried out? So, these are procurement related activities.

The fourth one; that means, the fourth set of activities are specifically related to the materials management and then the fifth category or the fifth category we have the miscellaneous or miscellaneous or the other or the activities normally a typical purchasing function is involved.

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List of Purchasing Activities

- The specific activities against each aspect are as follows:

i. Information collection and maintenance

- Maintaining purchased records
- Maintaining price records
- Maintaining stock and consumption records
- Maintaining supplier records
- Maintaining specification files
- Maintaining catalog files

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Now, as far as information collection and maintenance aspect is concerned so, what do you try to do; that means, you try to maintain purchase records, maintaining; you maintain price records, you maintain stock and consumption records, you maintain supplier records ok, the list of the suppliers, you maintain specification files and you maintain catalogue files. So, the records and files of the different types are kept. So, this is just a set of examples.

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List of Purchasing Activities

ii. Investigation and Research

- Conducting market studies
- Conducting material studies
- Conducting cost/price analysis
- Conducting value analysis
- Investigating supply sources
- Inspecting suppliers' plants
- Developing supply sources
- Developing alternate materials and sources

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As far as investigation and research is concerned the purchasing department plays an important role. So, what are these specific the activities like it conducts market studies, it conducts material studies this is very very important. In fact, that means, as of now what are the you know that the state of the art materials with available under different categories.

Now, it conducts cost price analysis this is also an important analysis we do. Conducting a value analysis; that means, like a one of the important or the activities of one of the important functions of. So, the materials management is are the value engineering. So, so, the value engineering part also you know this is very important and many a time the purchasing department plays the main role in carrying out the value engineering exercises.

Investigating supplies forces because the many a time you need to create the supplier source supply source. So, you need to the study the existing the supply sources, their quality and many other factors important relevant factors. Inspecting suppliers plans that sometimes you know it is required for expediting for follow up action. Developing supply sources ok, this is a very important you know for particularly for the large industries and, even for you know. So, it medium or the small-scale industries you need to develop your own supply source and developing alternate materials and sources.

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List of Purchasing Activities

iii. Procurement

- Checking requisitions
- Securing quotations
- Analyzing quotations
- Choosing between contract and open market purchase
- Scheduling purchases and deliveries
- Interviewing sales-persons
- Negotiating and writing contracts
- Issuing purchase orders
- Checking legal conditions of contracts

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As far as procurement is concerned, now it involves several types of activities. So, what are those activities? Like checking requisitions, this part we allow with later on when specifically we discussed the concept of purchasing cycle or the purchasing process. So, what are those typical activities you carry out one after another? First one is the checking requisitions that, is the purchase equations, securing quotations; that means, the perspective suppliers are bidding for the order. So, in the form of say these are bidding. So, for that one particular form they use that is this is called the quotations.

Analyzing quotations that is your responsibility, choosing between contract and open market purchase, scheduling purchases and deliveries, interviewing sales persons, negotiating and writing contracts with the terms and conditions, issuing purchase orders and then checking legal conditions or contracts, is it ok. So, it is a legal document so, checking legal conditions of the contracts.

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List of Purchasing Activities

- Following-up for delivery
- Checking receipt of materials
- Verifying invoices
- Corresponding with suppliers
- Making adjustments with suppliers

iv. Materials management

- Maintaining minimum stocks
- Maintaining inventory balance
- Improving inventory turnover
- Transferring materials

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Following up for delivery checking receipt of materials ok. So, sometimes for during following up, you need to go for field expediting checking receipt of materials verifying invoices, so; that means, you have to make the payment against the bills or the invoices, corresponding with the suppliers is this a regular activity in fact, and making adjustment with the suppliers. So, that with the situation may change. So, you have to you need to change the conditions, so that you cannot avoid.

As far as the materials management is concerned now these are the important activities like the maintaining minimum stocks. Maintaining inventory balance like so, there are many kinds of inventory control systems we have. So, in certain you know in one such systems so, given the item you need to determine the minimum the stock and you need to determine the maximum stock, and so, if it the inventory position falls below the minimum stock obviously, you know I need to place an order.

So, in order to reduce or the decrease the number of the orders are to be placed in a given time period what do you try to do; that means, you make sure that on only on minimum occasions. So, there could be an inventory position which is or the less than the minimum stock level. Maintaining inventory balance improving inventory turnover, and transferring materials these are the activities.

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List of Purchasing Activities

- Consolidating requirements
- Avoiding excess stocks and obsolescence
- Standardizing packages and containers
- Accounting for returnable containers
- Making periodic reports of commitments

v. Miscellaneous

- Making cost estimates
- Disposing of scrap and obsolete and surplus materials
- Office practice

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Consolidating requirements like say and a typical say p class item or c class items or desirable items and this item is being used in the several locations and in each location there are the stores and suppose you follow a p system of inventory control. So, before you decide on the say so, the how much the requirement you have. So, you must know the requirements at each workplaces, at each stores and accordingly you consider it and the total requirements for the given item.

So, this is an important precise and many a time after you consolidate the requirements then only you know there may be a budget provision monetary budget provision for the

items. Avoiding excess stocks and obsolescence there are so; it is not the safety stock is the excess stock. So, the excess stock so, your purchasing system should be such that there must not be excess stocks.

And, because if there is unchecked excess stock you create the so called dead stock and ultimately you know the huge amount of capital the tied off as what you can say like you know the resource and which is the idle resource. So, standardizing packages and containers this point already we have mentioned is an important say the say field of the specializations the packaging and this may be the say one of the important activities of the purchasing department.

Accounting for returnable containers and making periodic reports of commitments. Now, there could be many other activities you carry out as a purchasing executive. So, these activities are coming under miscellaneous category. Making cost estimates, disposing of scrap, and obsolete and surplus materials there are many procedures in fact, for writing off this excess the materials in fact, or disposal.

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List of Purchasing Activities

- Determination of whether to manufacture or to buy
- Standardization
- Specification
- Substitution of materials
- Acceptance testing
- Materials budget
- Inventory control
- Selection of capital equipment
- Construction projects
- Production programmes dependent on availability of materials

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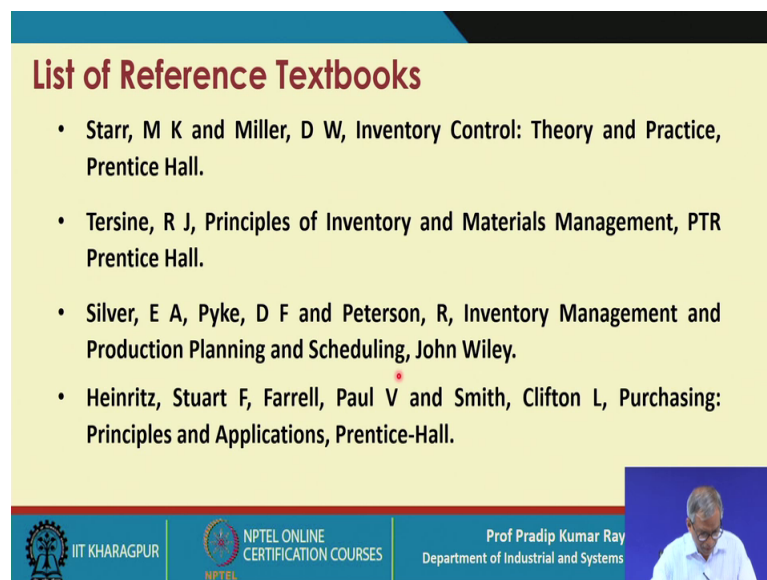
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Office factories determination of whether to manufacture or buy; this point will elaborate a make or buy. Standardization you play your own role, specifications, substitution of materials like when we discuss the value engineering. So, basically you know the cost reduction technique, but with substitution of materials. So, the purchase department plays an very important role.

Acceptance testing; that means, when you relate purchase departments function with the quality control for many many items you go for accepting sampling. So, the first you received the item and then you decide are to accept or not to accept these items the required quantities. So, the materials budget this point; that means, once you consolidated the requirements then you go for the materials budget.

Inventory control, this point already we have been mentioning selection of the capital equipment that is like the missionaries and all or the plant. Construction projects plays very important role without purchasing function or remaining effective you cannot you know carry out these projects; Production programs dependent on availability of materials.

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So, these are the activities. So, what we try to highlight, that the purchasing departments role; as far as you know the control of inventory management system must be well understood, that is the first point. The second point is what are the specific objectives of purchasing department and to what extent these objectives are affecting say the inventory control systems. So, this also we properly understood.

And, in order to the model or formulate the problems of different kinds of problems as you observe as you come across within the purchasing function you must know all the activities which purchasing department is supposed to carry out in theft and what are their implications on the on other functions of materials management.

So, with this we will conclude the second session and the third sessions we will refer to the other important issues of in purchasing management.

Thank you.