Management of Inventory Systems
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Lecture – 44
Basics of Purchasing Management (Contd.)

So, during this lecture session on Basics of Purchasing Management; two important issues I am going to discuss.

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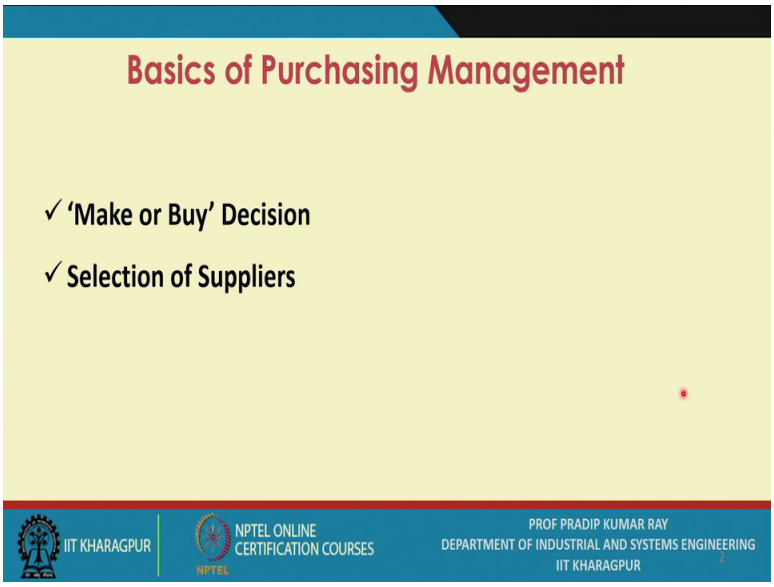

The first one is the 'make or buy' decision, this is an important aspect in any to be considered in any purchasing departments. And the selection of the suppliers; that means, when you place a purchase order to a supplier, but prior to say the placement of a purchase order you need to select the supplier.

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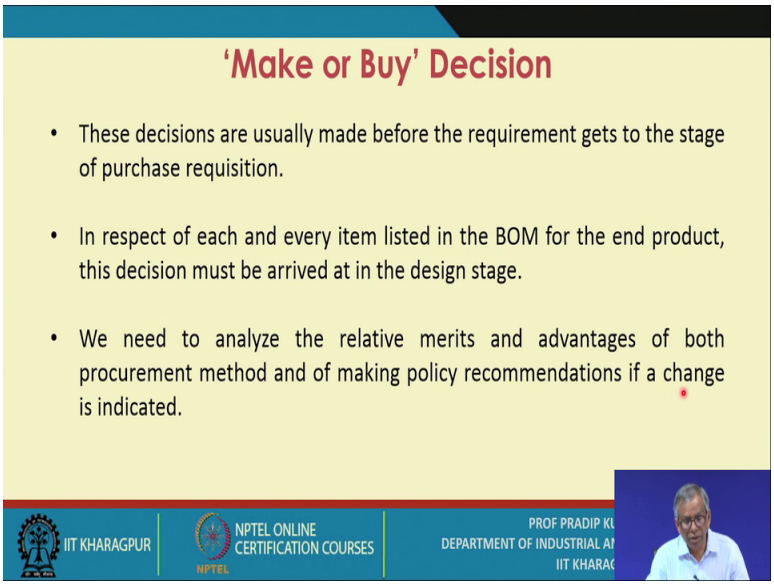

Now, for selection of the supplier what sort of the procedure you should follow? You must know it in detail these procedures, what are the critical aspects to be considered in this selection? But before I discuss this is the selection procedure, let me first concentrate on these aspects called make or buy decisions.

Now, these decisions are usually made before the requirement gets to the stage of purchase requisition; that means, when you send a purchase requisition, you refer to the purchasing process. So, the first the document you need to use that is the purchase requisition form and after you get the purchase requisition from the using department.

Now, so that means, you this item is to be procured from outside; that means, the item listed in the purchase requisition. A decision has already been made that it is to be procured from outside, whereas you know with the reference to the bill of material for the end product. You are also you know the making several items listed in the bill of material with your manufacturing facilities.

So, given an item, the first you need to take a decisions whether this item is to be manufactured in house, or it is to be purchased from outside. So, this is an important decisions; so in respect of each and every item, we listed in the bill of material, you are aware of what is the bill of material. For the end product this decision must be arrived at the design stage.

We need to analyze the relative merits and advantages of both procurement method and of making policy recommendations if a change is indicated; that means, either there could be procuring method or there could be a manufacturing process for an item listed in the bill of material. So, you need to the consider or you need to compare the advantages and disadvantages of say each of say the procurement method as well as the manufacturing say the process employed.

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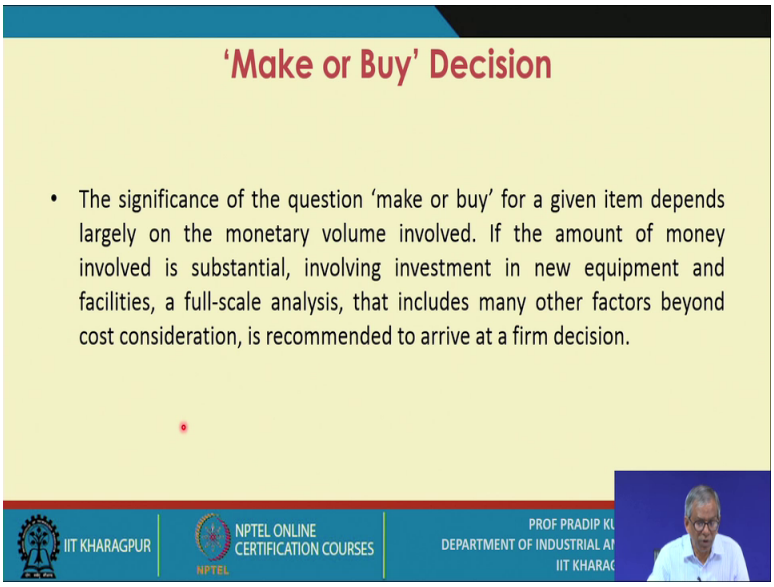

The significance of the question make or buy for a given item depends largely on the monetary volume involved. So, this point you please make a note. If the amount of money involved is substantial, involving investment in new equipment and facilities, a full scale analysis. That includes many other factors beyond cost consideration. So, you will come to know; what are those factors if you go for the detail analysis.

Now this detailed analysis is recommended to arrive at a firm decisions, but when the you have a situation where a substantial monetary volume is involved, is it? So, huge investment is required; so, detailed analysis or full scale analysis is a must.

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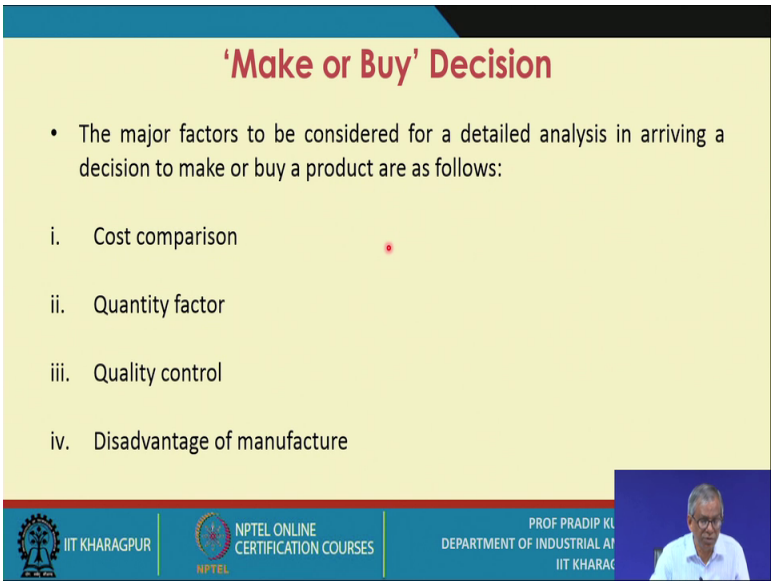

Now, when you go for the full scale analysis so, what are the major factors to be considered in arriving a decisions whether you will go for making it or you will go for buying it. So, the major factors to be considered for a detailed analysis or full scaled analysis. In arriving a decision to make or buy a product are as follows. So, what are the major factors to be considered? First one is the cost comparison. So, the details of the cost comparison we will we will discuss, what are the sub factors involved?

Then the next one is the quantity factor, the third one is the quality control, and the fourth one is the disadvantage of manufacturer. So, specifically what are the disadvantages you should be aware of?

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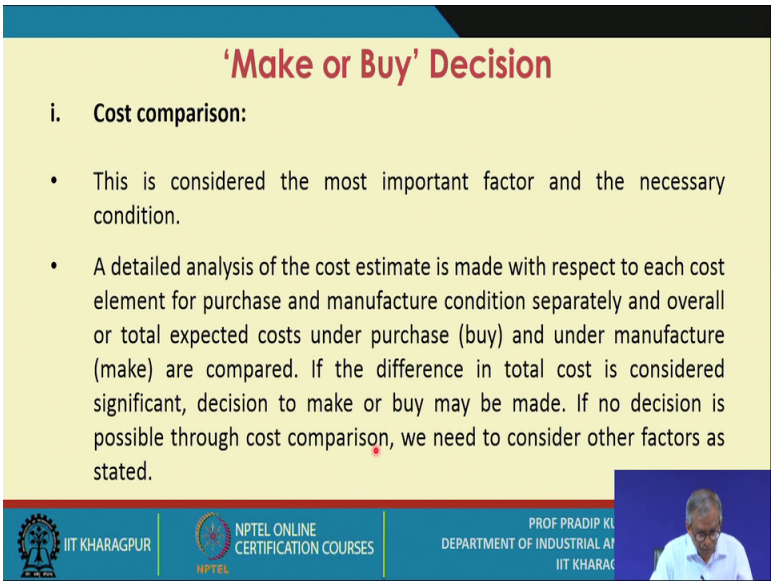

Now, let us talk about the cost comparison, now this is considered the most important factor and the necessary conditions; that means, when you go for comparison, and first you check whether based on the cost comparison. You can make certain decisions or not, ok. Or you may be in a position to make a decision.

It may not be the form conclusion and, but this is a necessary condition; that means, first you check whether you get; that means, on which side you are, whether based on the composition whether you are going to buy the item or you are going to say the manufacture the item. So, the detailed analysis of the cost estimate is made with respect to each cost element for purchase and manufacture condition separately.

And overall or total expected costs under purchase that is the buy condition and under manufacture or the make condition are compared. If the difference in total cost is considered significant ok; that means, you are lucky; that means, a decision to make or buy may be made. If no decision is possible through cost comparison; that means, there is a difference, but in all likelihood you may assume it to be insignificant difference.

Then you cannot take a decision through cost comparison. So, what you try to do; that means, you we try to consider other factors as stated like say quantity factors quality control, and particularly the disadvantages of the manufacture.

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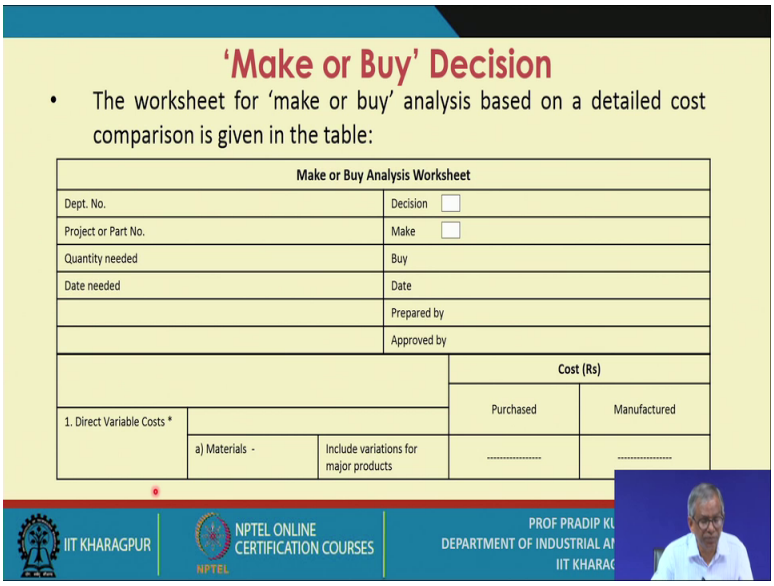

So, what you can do? You can for cost comparison: you can go for designing a worksheet. So, this worksheet for make or buy analysis is based on a detailed cost comparison. So, how do you do it? That means, make or buy analysis worksheet.

So, these all details you mentioned like the department; that means, the project or part number, or either it is a contract project; that means, systems you are talking about or it is related to a particular part. And here after you conclude your analysis, then you have to take a decisions whether you will go for make it, or you will go for say you go for say the buying it.

So, the quantity needed that is buy date needed, so prepared by, approved by. So, first you consider the direct variable costs. So, the direct materials cost the materials cost. So, suppose you go for purchasing the decision is purchased, then what is the cost involved? And you go for manufacturing it then what is the cost component? Cost what is the cost value?

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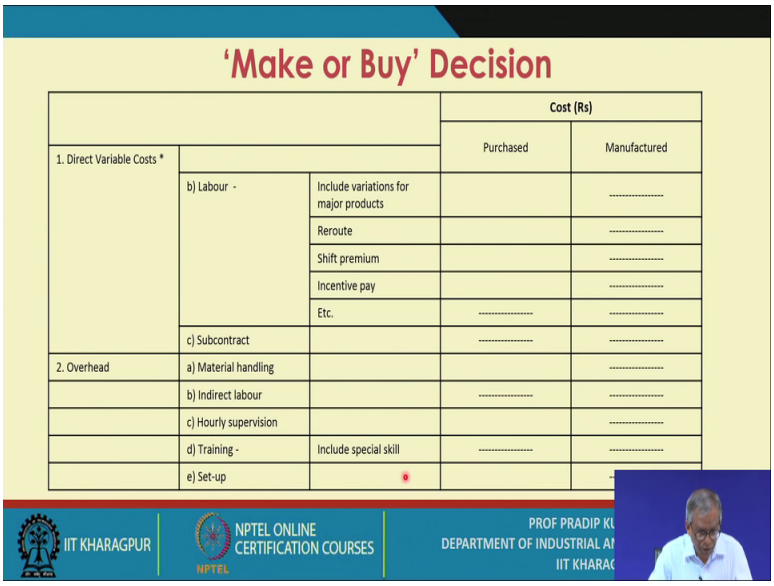

So, include variations for major products. Next what you do? Under direct variable cost you consider the labour also. So, it includes variations for the major products; that means, if it is purchased. So, it is if you go for purchasing; obviously, the labour cost is not relevant. So, only the manufacturing cost manufacturing manufacturing is relevant. So, rerouting or the shift premium incentive pay etcetera.

All the relevant the cost elements related to say the labour. Now these are not applicable if you go for purchasing. But all these cost elements are applicable if you go for manufacturing the go for manufacturing the item in your own facilities or the manufacturing systems.

And if you go for say certain part of the product, you may go for subcontracting. It is most likely that entire the systems or the entire for all the components, you may not in all likelihood in majority of the cases, you do not go for purchasing or you do not go for marketing, or say manufacturing.

So, the subcontract which supposing go for purchasing so, are you going for subcontracting for certain say this is the parts, or certain say the operations, or if you go for manufacturing whether this subcontracting part is there or not. And if it is subcontracting that means what is the cost involved.

Now, you come go into the overhead part. That means the material handling; obviously, it is relevant only for the manufacturing. Indirectly our; that means, this may be applicable for both the cases or purchasing as well as for the manufacturing, so you make a comparison, hourly supervision applicable only for to the manufacturing. Training for is applicable for both the cases, and the setup is applicable only if you go for manufacturing.

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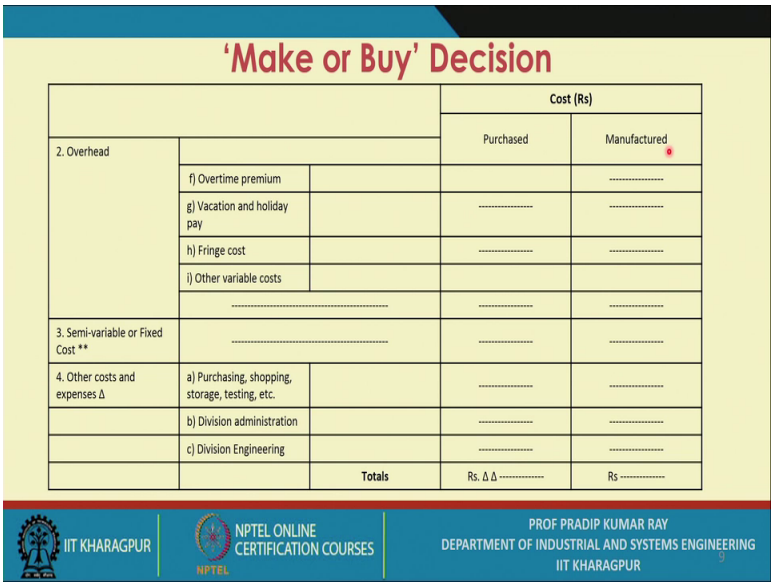

Now, overtime premium applicable for manufacturing, but not applicable for purchasing, vacation and holiday pay you know this is applicable for both the cases. Fringe cost applicable for both the cases and other variable cost, is it? So, that you include as they apply to a particular situation purchasing or manufacturing.

Now, the semi variable or the fixed cost, this may be applicable for both the cases. And other cost and expenses like purchasing shopping storage testing etcetera. This is applicable mainly for say where the purchasing is a significant part whereas, even for the manufacturing it may not be that significant, but this may be a substantial portion of the total or the product cost or the total manufacturing cost.

So, the division administration these are all common cost elements for both say the purchase and manufacture and the division engineering. So, these are all coming under say the overhead costs. So now, when you consider all these cost elements. Now you have the total cost for the purchase if you opt for purchase, what is the total cost, and if

you for if you go for manufacturing you go for making it with your own in your own facilities, then what is the total cost.

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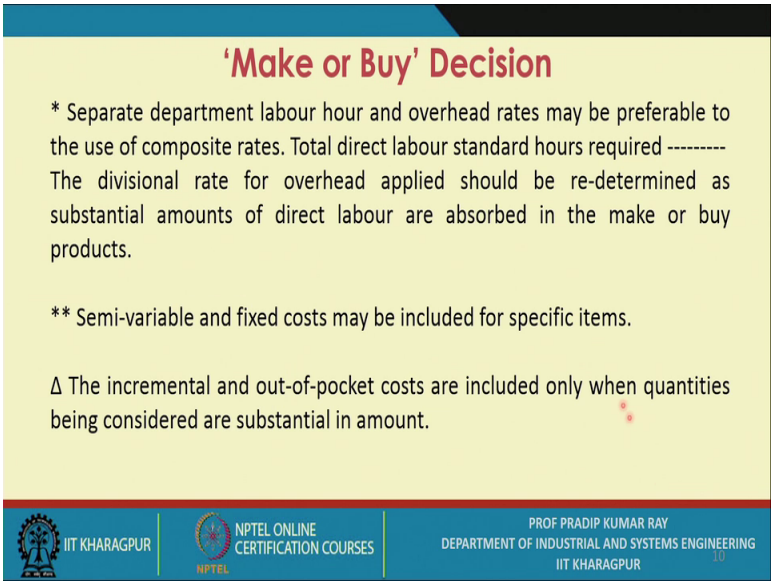

So, separate department labour hour and overhead rates may be preferable to use of composite rates. Total these are the some important points you go through all these important points. And total direct labour standard hours required. So, this is an important data the divisional the rate for overhead applied should be redetermined as substantial amounts of direct labour are absorbed in the make or buy products so this is just a just a guideline.

And the semi variable and fixed cost may be included for specific items. So, you should so, as a purchase executive who is looking after these aspect. You must have a thorough say the idea about the manufacturing processes. And in particular, what are the relevant cost elements, applicable in respect of a specific item.

The incremental or out of pocket costs are included only when quantities being considered are substantial in amount. So, this point you just noted down.

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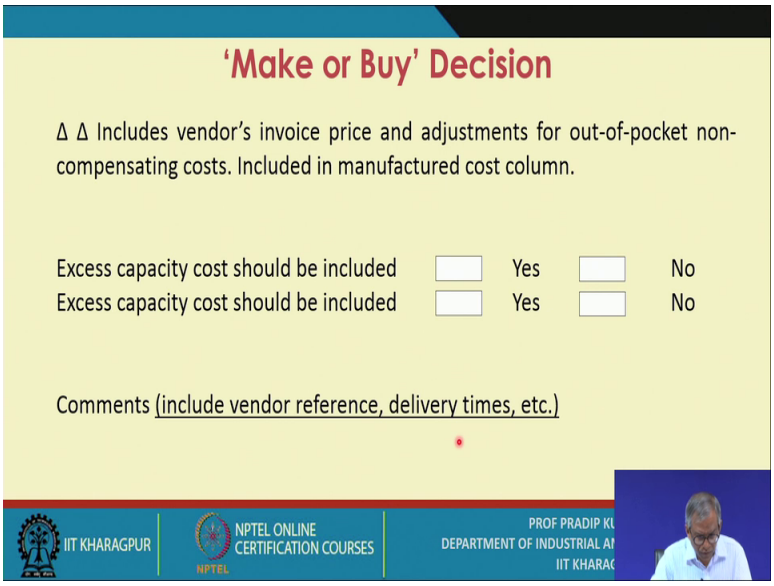

And then what you try to do? That means, now with considering all these the cost elements, and the total cost expected total cost for manufacture expected total cost against purchase when these 2 costs total costs are known. Then you decide or whether the excess capacity cost should be included, ok. Many a time what happens that because of under utilizations of the facilities so, you incur a cost. And as you know that there could be over utilizations or there could be under utilizations.

Now, in comparison with 100 percent utilization both are more expensive. Usually the underutilization is more expensive than over utilization. So, the excess capacity cost should be estimated, and you just check whether these excess capacity cost should be included or not. And many a time you go for say; that means, it is a under underutilization case.

But so underutilization if it is underutilized so better so you must have a long term plan with manufacturing; say, manufacturing other items listed in the bill of materials so that in a phased manner you will be able to say the overcome the problem of underutilization include by including several items the listed in the bill of material, and you decide to the manufacturing them. But this is a very important decision to be make to be made and for which a detailed analysis is a must.

So now you can have several over the comments before you take a decisions.

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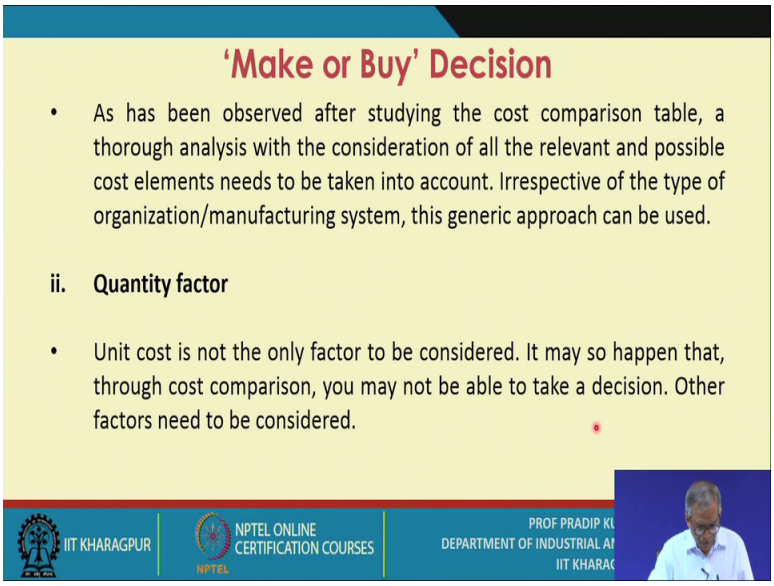

As has been observed after studying the cost comparison table, a thorough analysis with the consideration of all the relevant and possible cost elements needs to be taken into account. Particularly if you add say the one item or the few items to your manufacturing systems you have to helps in utilizing the capacity then possibly you may be tempted to include those items in the list of make items; that means, you need to say produce them in house. Irrespective of the type of organizations of the manufacturing system these generic approach can be used; that means, that worksheet you study the worksheet, and you must be able to interpret in each and every cost elements with respect to your situations or your conditions.

So, now once this cost comparison is made, then you go for consideration of the quantity factor. So, unit cost is not only is not the only factor to be considered. That this point is to be noted, it may so happen that through cost comparison you may not be able to take a decisions other factors need to be considered.

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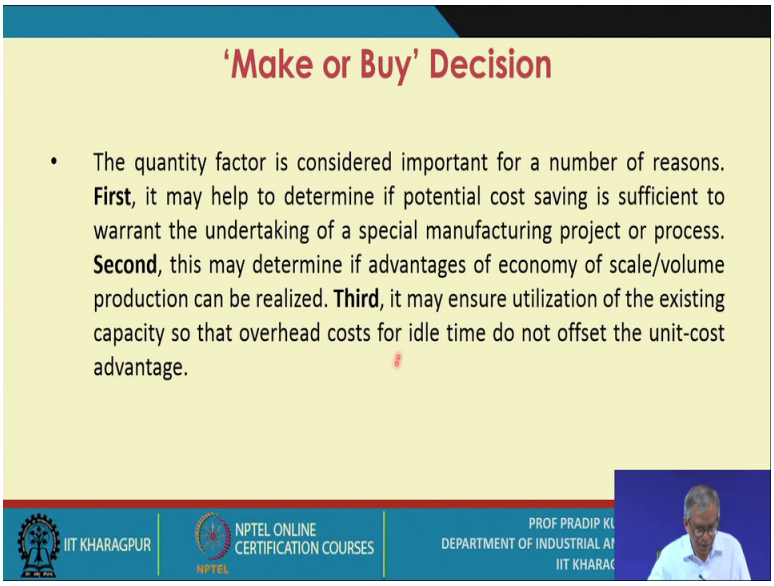

So, one such factor is basically the quantity factor.

So, the quantity factor is considered important for a number of reasons. If there are 3 specific reasons, the first reason is that it may help to determine a potential cost saving is sufficient to warrant the undertaking of a special manufacturing project or the process, ok. That means, if the quantity in bulk is very high; that means, it may be treated as a separate project or a separate assignment with specific characteristics so, that decisions you have to take.

The second one is, this may determine if advantages of economy of scale this is very very important or volume production can be realized. So, the volume production is one condition which is always preferred, there are many advantages. Particularly you know the unit cost unit production cost may come down. So, this will be an advantage to you, and the third consideration is it may ensure utilization of the existing capacity so, that overhead cost for idle time do not offset the unit cost advantage. That means, underutilization is a serious problem in many organizations. So, you may be encouraged to add the few items for manufacture so that the problem of so the underutilization in future or in the near future may not become that significant.

So, 3 factors are basically to be considered, and so with this 3 factors you can justify that or that you go for the making the item in a particular case.

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Now, the next important factor is the quality control. This factor needs to be considered as quality of parts of the products under consideration determines their performance and reliability. So, when manufacturing systems attempts to improve the quality of it is products and parts by adopting all these state of the art tools and techniques on a continuous basis.

The decision to make may have a lot of advantages; that means, you must not take a casual approach; that means, one time you can produce it, but whether you can produce it consistently maintaining or conforming with the say engineering standards. So, that is an important say to important the factor are to be considered.

And you check whether you know there is a system called online real time control for quality exists or not in your situation. So, if you are supported if your manufacturing system is supported by the quality control the system. Then only you know it will it is may you may prefer for. So, the manufacturing the item in your own facilities, or in your own manufacturing systems or quality control aspect is to be considered very seriously, in this case

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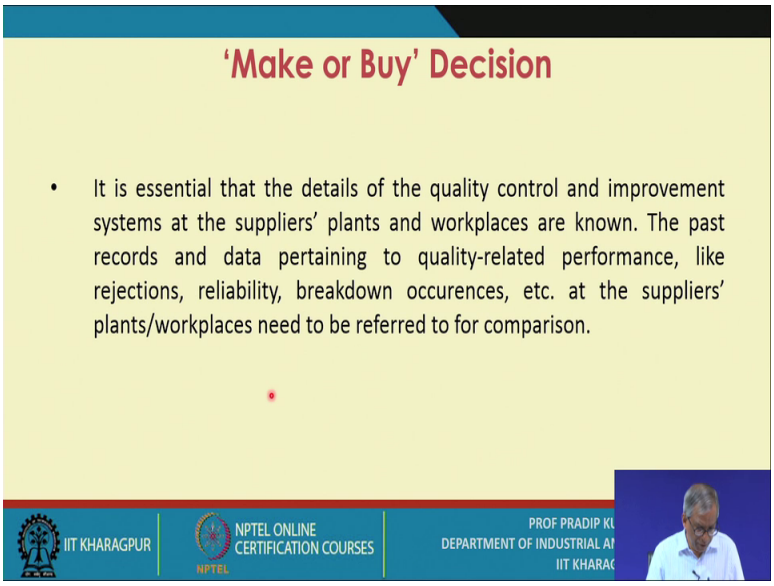

So, it is essential the details of the quality control and improvement systems at the supplier plants and the work places are known, is it ok; so whether the suppliers is having very strong say or very effective quality control system in place at his at his or her factory or not.

The past records and data pertaining to quality related performance. Like, rejections, reliability, reliability of the machine tools, reliability of the materials, break down occurrences, etcetera. So, these data related to say the suppliers company, you must have with you as a buyer. So, at the supplier plants or workplaces need to be refer to for comparison.

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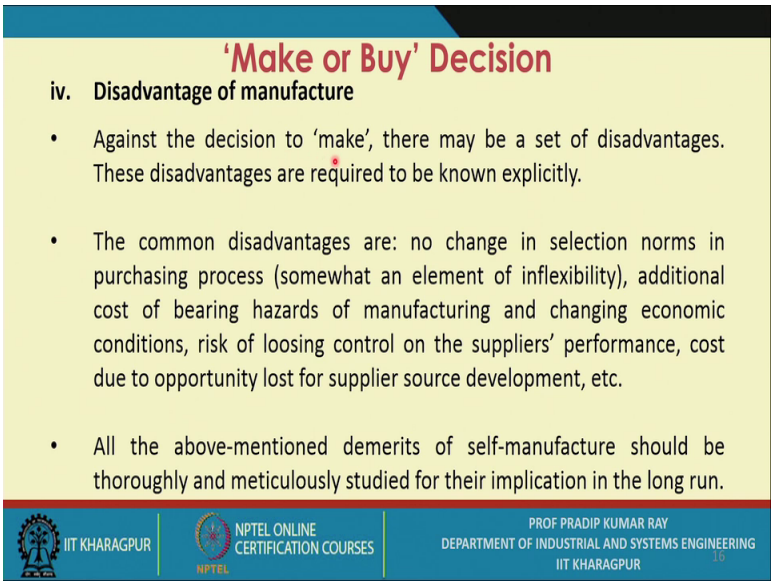

Now, the last factor to be considered that is the disadvantage of manufacture. Against the decision to make suppose all other the factors the lead to when you consideration of all other factors may lead to a decisions of making it. Now, you come to the real issue that is whether what are the possible or say expected disadvantages of manufacture you may have to say we need to consider. They against the decision to make there may be a set of disadvantages. These disadvantages are required to be known explicitly.

The common disadvantages there could be many kinds of disadvantages. So, I have just listed a few the disadvantages for these are very very the critical disadvantages. No change in selection norms in purchasing process; that means, it may so happen that somewhat you or the purchase department may feel or say the supplier base may feel that they follow a fixed norm for purchasing.

So, somewhat this is referred to as a element of inflexibility means the very structured system very rigid systems of purchasing. So, this may act as an disadvantage additional cost of bearing hazards of manufacturing and changing economic conditions, risk of losing control on the suppliers performance. Cost due to opportunity lost for supplier source development etcetera; that means, the message may go to the suppliers that they are not going to say or the use or say you know the buyer company is not able to give. So, the additional support to the supplier base. All the above mentioned demerits of self-

manufacture should be thoroughly and meticulously studied for their implications in the long run.

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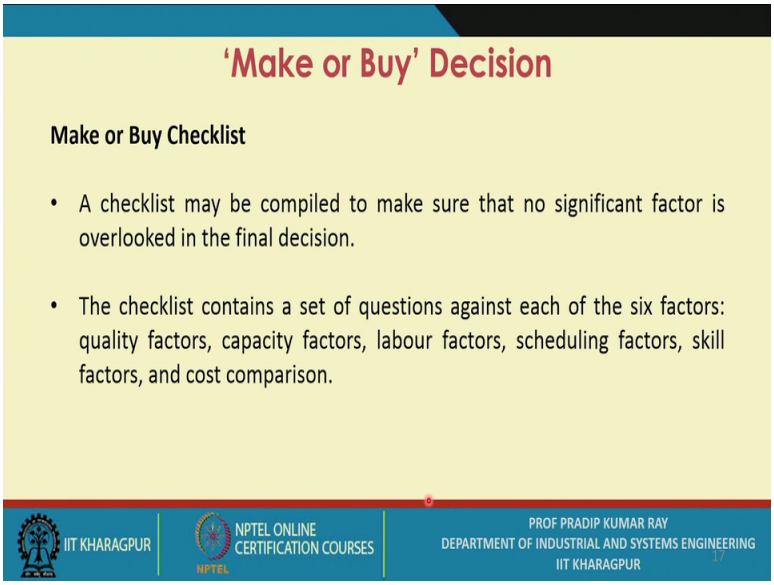

Now, there is you can with this knowledge you can go for a make or buy checklist. So, the checklist contains a set of questions against each of the 6 factors quality factors, capacity factors, just you know down all these factors. There are 6 factors quality factors, capacity factors, labour factors, scheduling factors, skill factors and cost comparison.

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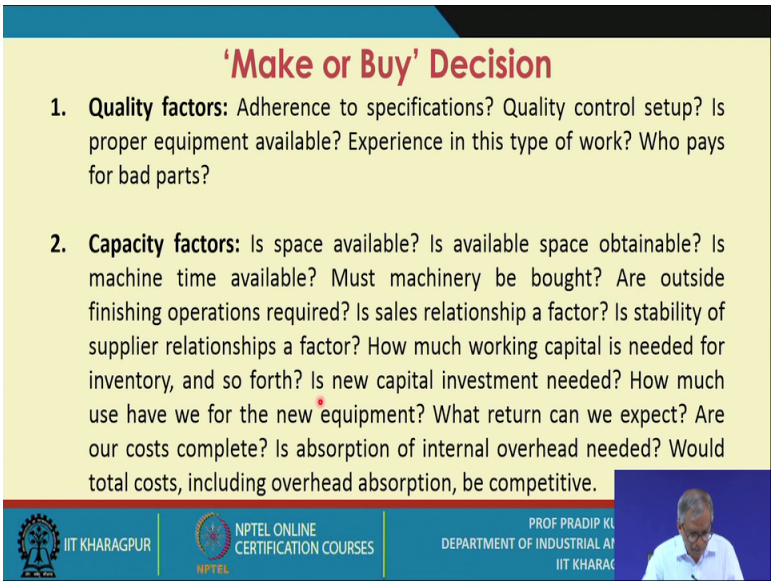

So, what I have done? Against all these say the factors, what could be the possible questions. You may raised and you must be able to. So, answer to all these questions, like for the quality factors adherence to specifications quality control and set up like this and so on and so forth. Similarly, for the capacity factors there could be several questions. So, I have listed all these questions so, please go through them. And you need to answer to these questions and so that is why these are referred to as a checklists.

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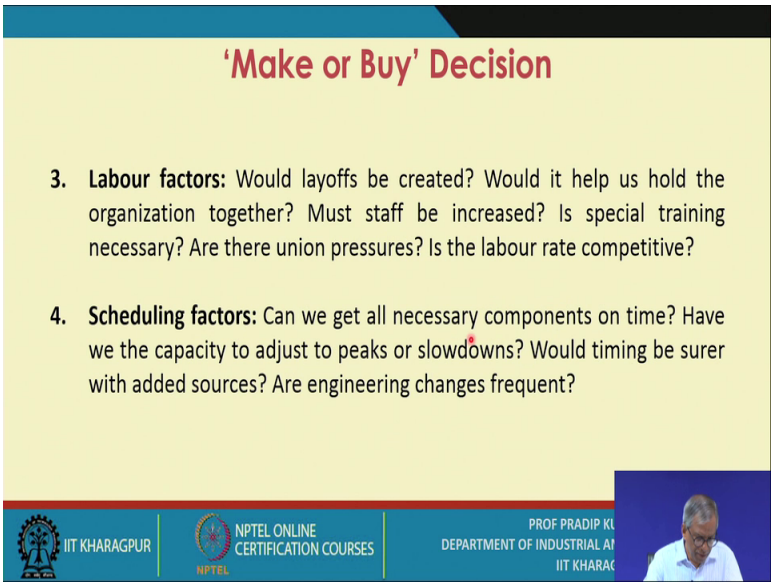

Similarly for the labour factors what layoffs we created etcetera, scheduling factors can you get all necessary components on time. So, this is an important factor in scheduling.

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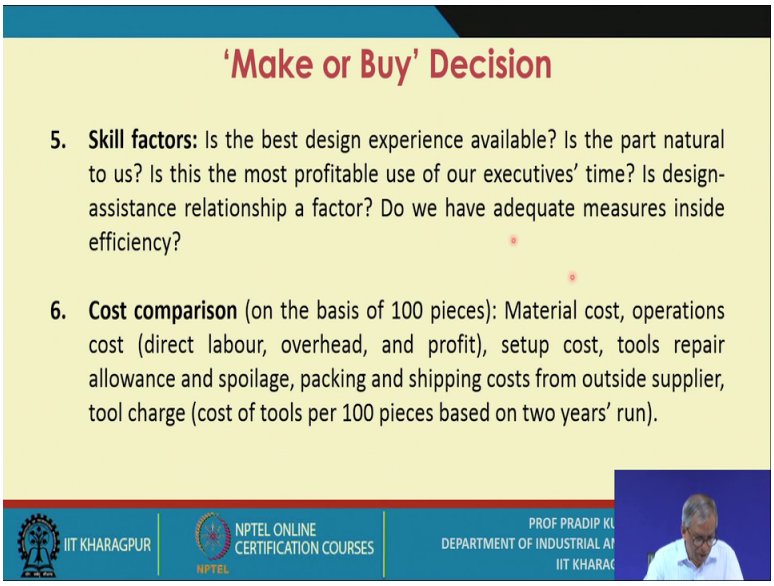

Skill factors is the base design experience available, and plus many other questions you may raised.

So, we have listed all these questions. And for related to the cost comparison, so, we need to consider all these the cost like material cost operation cost etcetera on the basis of 100 pieces that is the norms; in fact, majority of the cases when you go for repetitive manufacturing.

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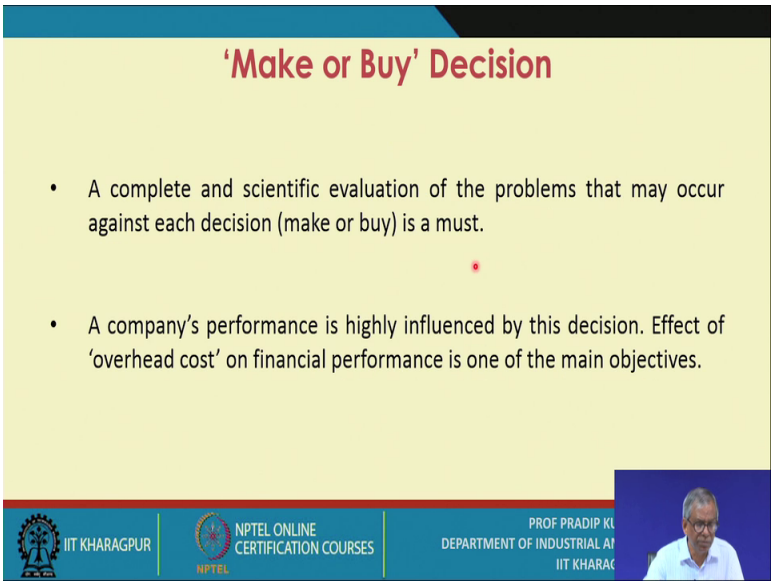

So, a complete and scientific evaluation of the problems that may occur against each decisions make or buy is a must. So, a company is performance is highly influenced by this decision. Effect of overhead cost on financial performance is one of the main objectives.

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So, now what we try to do? That means, when you when you decide that that you go for say go for purchasing the item. So, the first the question you raised how to select the supplier for the given item.

So, obviously, the selection of the suppliers is an important issue, and we will be going for say the selection norms; or you have to follow certain norms certain procedures for selection of the suppliers. And these selection process depends on depends on many factors, and what you try to do; that means, considering all these aspects all these aspects thoroughly we will go for selection of the suppliers.

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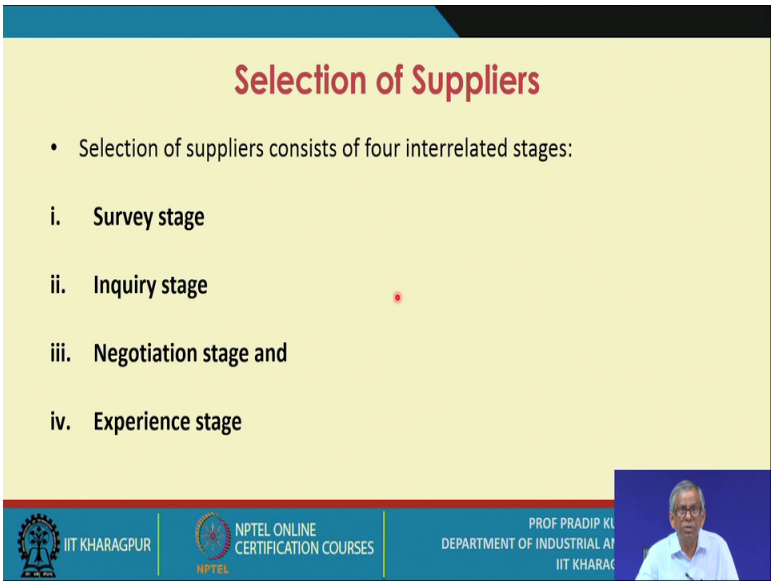

So, in the next the lecture sessions, we will discuss in detail these selection procedures. And what are the factors affecting the selection procedures?

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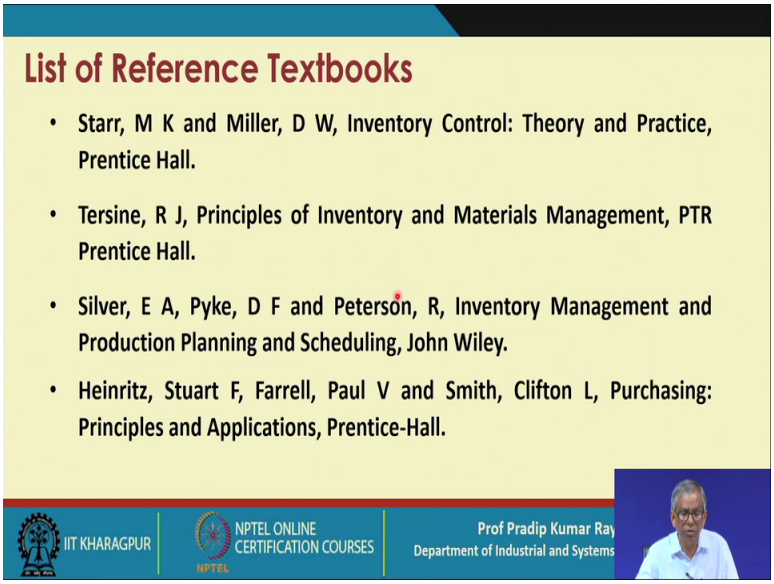

What are the norms to be to be followed? All these details we are going to discuss, or you going to highlight in your in our next lecture sessions.

Thank you.