E-Business
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Lecture 14
E-Procurement: Implementation Issue and Risks

Welcome back now continue our discussion on e-procurement and specifically in this discussion we are going to talk about e-procurement implementation issues and the risks involved therein.

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So we will be first looking at various implementation scenarios and the process risks involved in and the barriers to adoption e-procurement system.

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To remind you we were discussing already that we have four solutions for implementing e-procurement. First one is the e-procurement software, second is internet based market exchanges, third is internet B2B auctions and fourth is internet purchasing consortia. Here once again I remind you this e-procurement software is a supplier based solution whereas this internet based B2B auction is actually a buyer driven activity. And it is implemented by the buyer with its own effort.

While implementing this B2B auction the buyer can use his own IT department for developing the software internally or it can take help of certain third party (servi) service provider like that of (())(01:50). Now the other two that is internet based market exchanges and internet based purchase consortia they are also third party service providers. See we have three options here, internet based market exchange, internet based purchasing consortia and internet based B2B auctions.

All these three service can be taken by the third party. But there is certain difference that I have already told you in case of internet based market exchanges. It provides the opportunity of buying to many companies from different industry segments. Whereas this internet based purchasing consortia is a market place which is for a specific industry segment.

And this internet best B2B auction this can also be provided by the third party but here the company for its own not in a online market place but it is on its own it actually takes help of one it is only for the company. What I mean is it is only for the company. It is for multiple

companies from the same industry segments and this is multiple (co) companies from across different segments.

So but however weather it is internet based market, this is B2B auction or it is internet purchase consortia, all these three things actually provides a facility for conducting B2B auctions only. And this e-procurement software actually provides a catalogue where the items and prices are pre negotiated for a specific time period.

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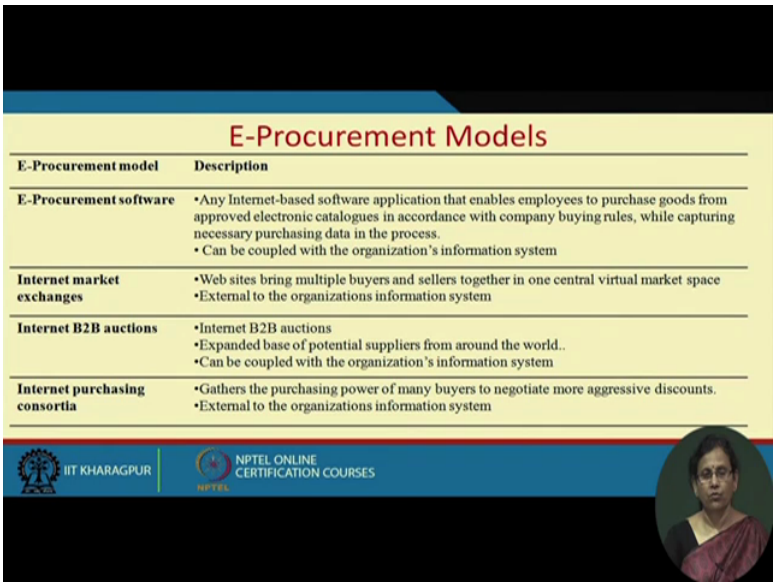

So let us try to see how exactly all these four options that we have discussed are implemented online? Look at this, the first one is about while talking about the price discovery process during B2B procurement we understood that there can be a single round price discovery or this can be multiple round price discovery.

Whether it is single round price discovery or multi round price discovery, both of them are actually part of your organizational procurement process. So here in this particular diagram we are trying to look at how exactly this tendering process that is single round price discovery is carried out?

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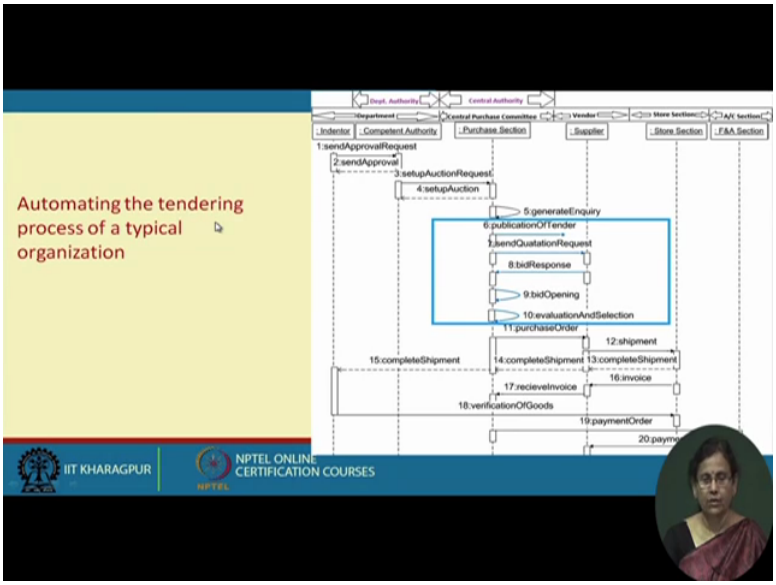

Now look at this. This particular diagram shows the information flow among the entities involved in the purchasing process. So who are those people who are involved in the purchasing process? Actually this is the diagram which we are showing and this is the place where actually tendering takes place. So in the subsequent diagrams when we discuss that does not mean that the other steps will be missing. All other steps will be there. Only this blue outline portion will be replaced in case of a B2B multi round auction. And remaining stages remains same.

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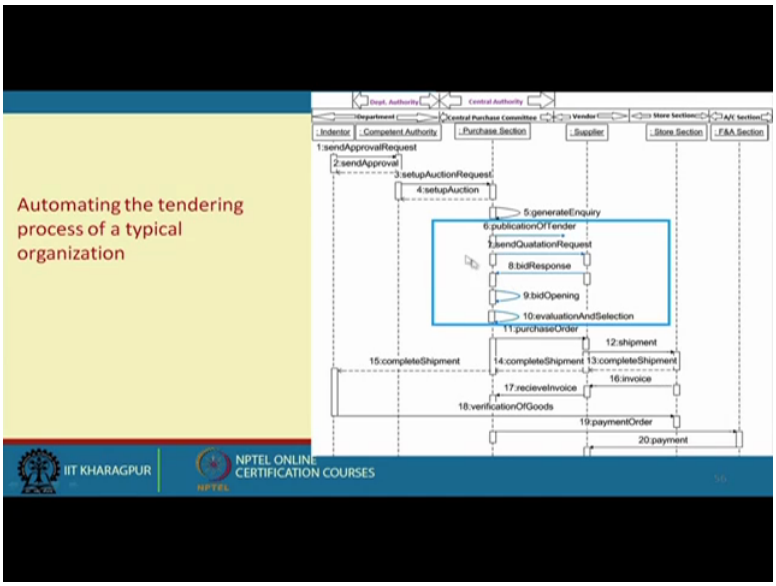

So many entities are involved here. The department who is actually purchasing, then the central purchasing department, then the vendor is involved, then in the company let us say some store section is involved and accounts section is also involved. And the indentation actually takes place in the department which intends to buy the item.

And here the proposal is actually sent to the competent authority in the department itself and the approval is sort. Once the approval is obtained now look at this, all this information flow that we are talking about this information flows are to be automated anywhere and most of the ERP systems will be actually automating them.

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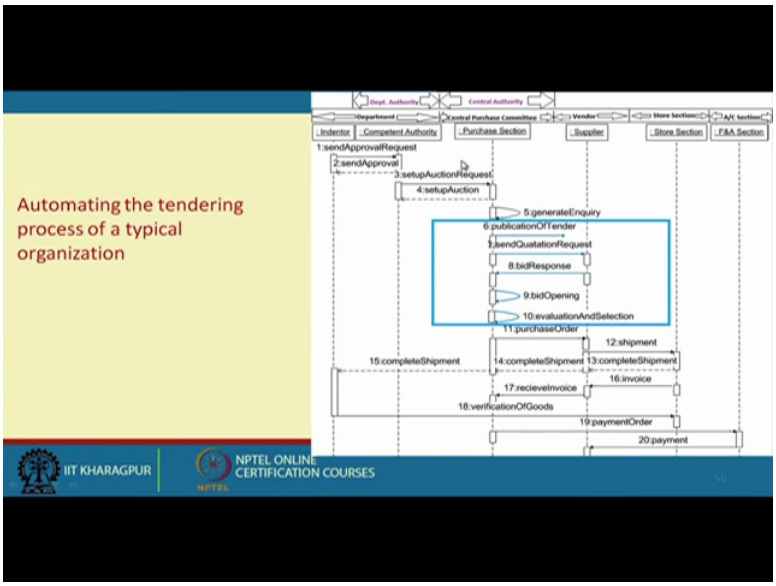

What the ERP system might not be doing and taking help of external procurement system is this blue portion where after the request is sent and it is approved the auction is set up. By setting up (auc) auction we mean we saw that while discussing about (B2) the price discovery we know that you have to have analytical base for creating this bids so that the bids can get automatically evaluated.

For example if you consider the simply taking the prices and comparing the suppliers based on their prices, how will you do it? You will be writing a sorting program to arrange the bids from lowest bid to highest bid and choose the let us say first three suppliers.

So you wrote one sorting program. In case it is a multi attribute bid you have to have a software which will be converting all the quality attributes to possibility to the quantity value and you have to have proper functions which will be combining this quality attribute with

that of the price and you will be evaluating. But whatever may be the case right now we are limiting ourselves to only price.

So while setting of the auction you will be preparing the bid evaluation procedure when the buyer actually inputs his criteria, he may be giving instructions that it has to be only price based evaluation. Then the second thing what he will be doing? He will be providing certain business rules.

By business rules we mean let us take one example of the business rule, let us say we are trying to buy the items let us a thousand pieces of certain item and we provide a business rule that from each supplier maximum we can buy 500 units. So even if one of the suppliers actually supplies the item with the lowest price because of that business rule we should be buying only 500 items from that supplier.

So there will be many such business rules which can come as the constraint to the optimization (pro) problem that is going to be solved. So after this auction is setup this first part has to be carried out in the ERP system.

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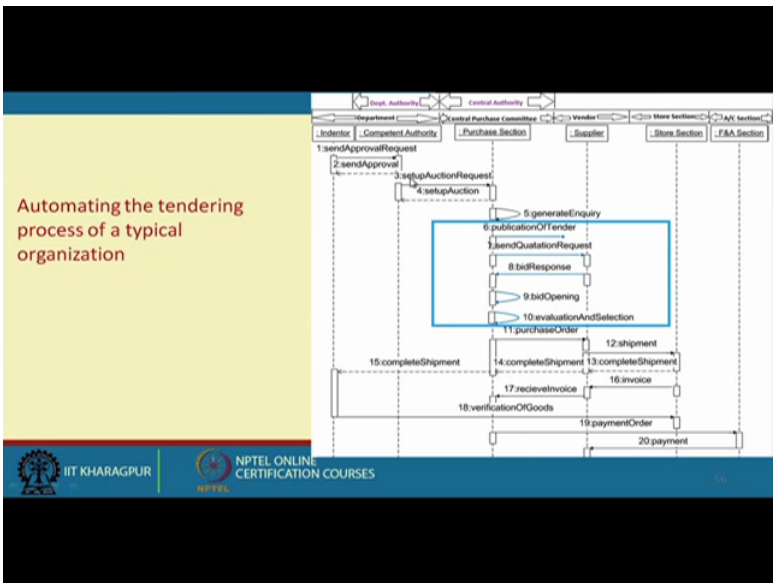

After this your e-procurement software takes over and of course it has to be integrated in some way or the other. Then the tenders are published, supplier provides the quotation and response to their bid, then bid opening takes place.

Now in offline environment when the bids are opened usually a group of purchase committee members will be sitting together and they will be opening the technical bid and comparing

the technical bid and subsequent at certain occasions again the members will come and open the final sale bids. Now if it has to be opened in an online environment now the problem comes in.

All the members will be sitting on their individual computers. So how exactly there has to be coming together in a group environment so that all of them will be available at a particular time and the bid is opened and bid is not compromised. A lot of security issues are involved here. So in an online environment what is after all a bid? A bid is simply a bunch of data and that data if it is not secured properly it can be compromised.

It can be viewed by if nobody at least by the people from the IT department. So there has to be (pro) proper security arrangements as well. So but whatever may be the case we are not going to the technical details of that. But the software has to ensure that whenever all the technical committee members come together then only the bid gets opened. After the bid is opened and the evaluation is made by the software, the selection is made and the role of the e-procurement software is over.

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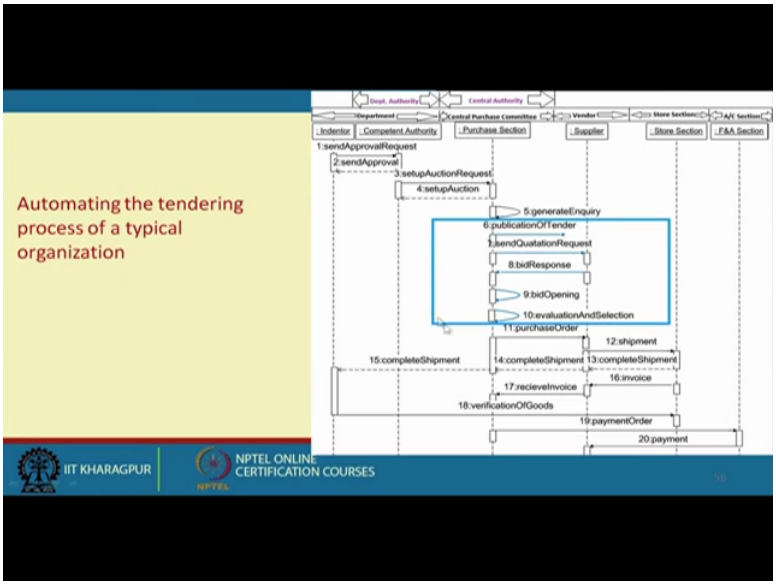

Now again your ERP takes over, purchase order is prepared and it is sent to the supplier. Supplier sends the shipment to the appropriate section. Then the shipment actually comes to the department through the stores department. Then the department actually provides the verification of the goods. In the meantime this store department also sends invoice to the supplier.

And this invoice is also received by the purchase section and this payment is made to the supplier and the payment order is actually released by the department and finally the payment is made to the supplier by finance and accounts department. So as the point that we are going to make here is this whole process is automated by through this your traditional procurement two cover system is actually automated.

But part of the work is carried out by your internal ERP system possibly and this part is also carried by your ERP system and this blue part is actually carried out by your e-procurement solution.

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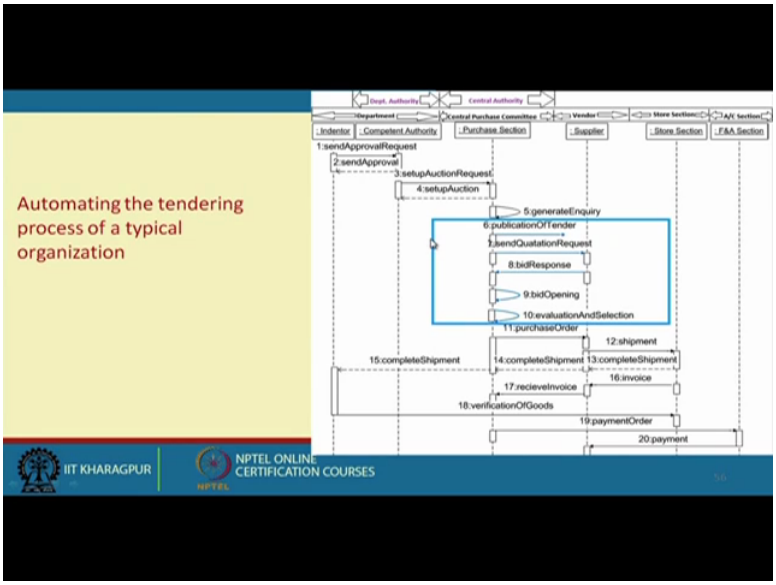

Now either you have your own e-procurement server for doing so or you take help of certain third party. And taking (he) help of the third party can happen in three ways. Either for your company only you have this auction hosted or you be a part of a consortia or you participate in a industry independent marketplace.

Now second thing that we are going to look at is that whenever this e-procurement takes place through third parties either it can be internet based market exchange, B2B auctions or through a purchase consortia, this is a typical semantic of what all happened.

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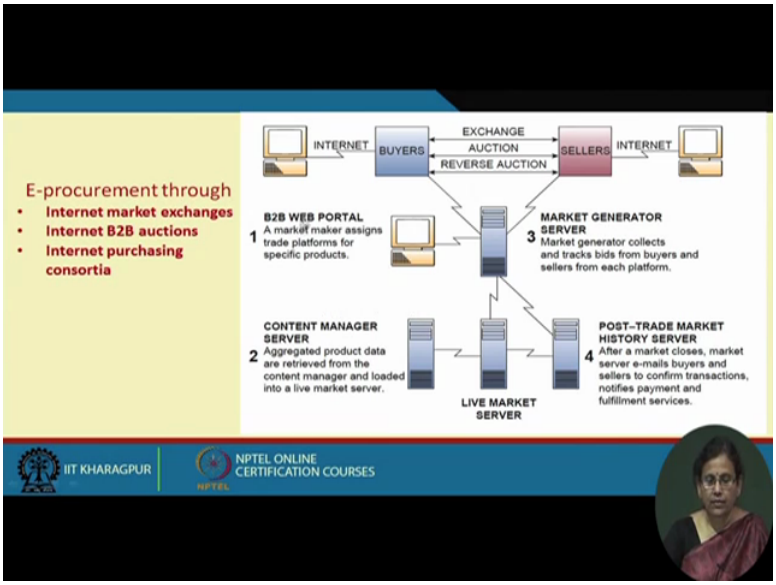

What all happened? First is your B2B web portal where the market maker designs the trade platform for specific products. As I have told you he has to now specify his RFQ etc then there is a market generator server. Market generator server who will be actually (con) contacting the buyer and contacting the seller. Both buyer and seller will be communicating through this particular server.

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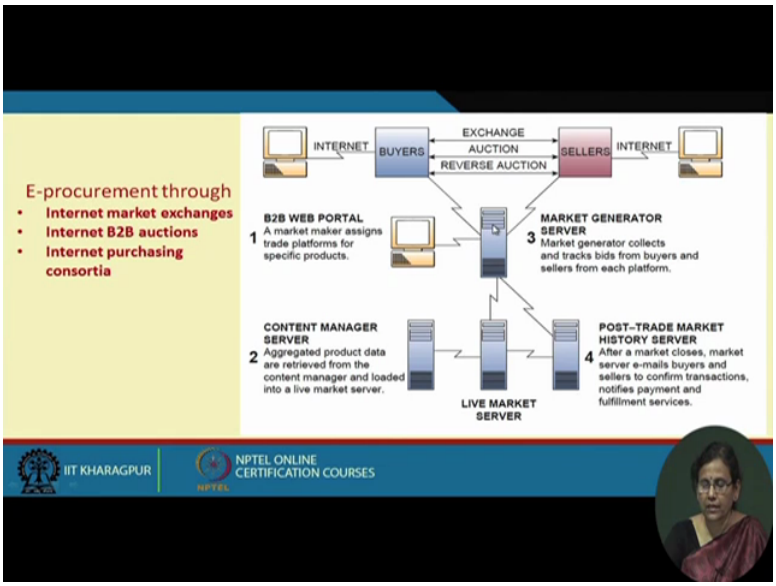

Look, this particular server is actually different from your company's internal server. It is one server external to this and the data flows from whatever I told you like in the last slide this

part and this part, the first part before this blue box and the second part after this blue box, for both this the activities are to be carried out by the company.

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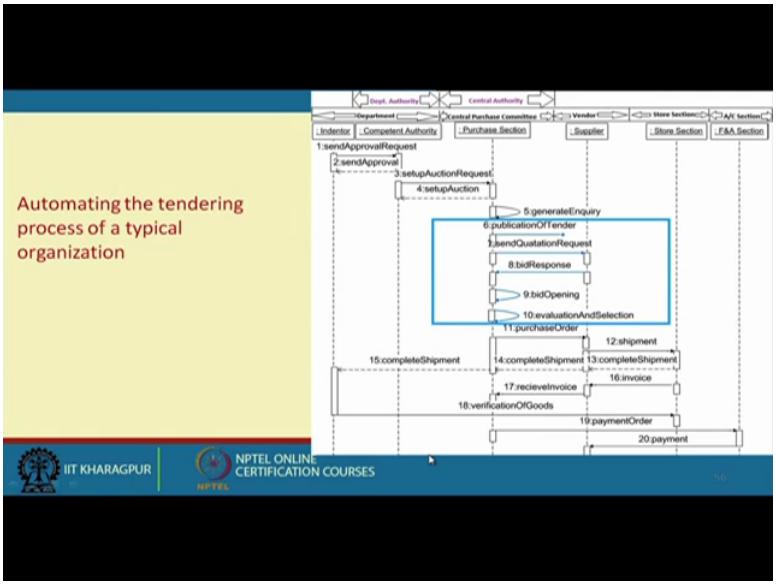

And this third party server is actually responsible for that blue line part and it actually contacts the buyer, it contacts the seller and either the tendering or the auction whatever is the case actually takes place and whatever is the outcome of the auction both of them get to know. Now if you see in today's world many of the companies are actually preferring third party service provider instead of having their own B2B auction portal hosted.

The reason being these third party service providers are not only are specialized but they provide many other facility other than these contract negotiations to the buyer. So let us try to see what all facilities they provide? They provide the whole lot of facilities both for buyer as well as for the seller. For both for buyer and seller they provide facilities (sutas) such as technical training and support, then cash management, discount management, receivables and finance management, supply chain finance, invoice management and payment management.

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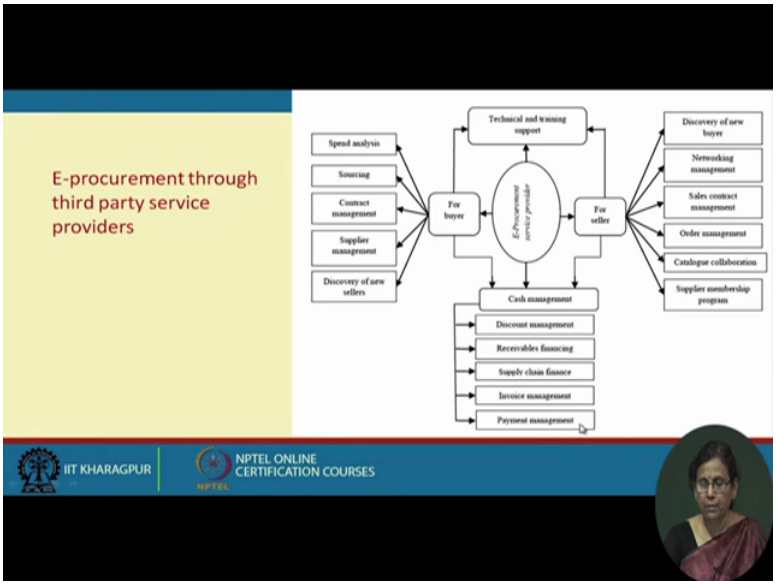

So they actually provide support for all this so it is not that they become another ERP for you, no, because all these terms actually appear in your ERP. While discussing about ERP you might be getting ideas that it is actually, no. It is not like that, it is actually for example let us say payment management, okay. Let us consider let us say payment management.

In case of payment management in fact we have already discussed while talking about Tata Steel e-procurement case we saw that Tata Steels third party service provider that is your metaljunction, one of the entity it connects with is actually the bank. So for the payment also they provide you with the facility to connect with the bank so that the payment can be made conveniently.

So all this cash management options like discount management, receivable financing etc all these options are provided by the e-procurement service provider. Then specifically for the buyer they provide many facilities. They provide spend analysis as we are talking about. Spend analysis is definitely not a part of the traditional ERP.

Then they provide facilities for sourcing, for contract management, for supplier management and discovering new sellers because if you are carrying out your B2B procurement process through hosting your own B2B procurement site then definitely you have your own list of registered vendors.

But if you are a part of a third party service provider then besides your own vendor base you get to know many more vendors who exist in the market who are not otherwise registered in your company. So you can also discover new vendors.

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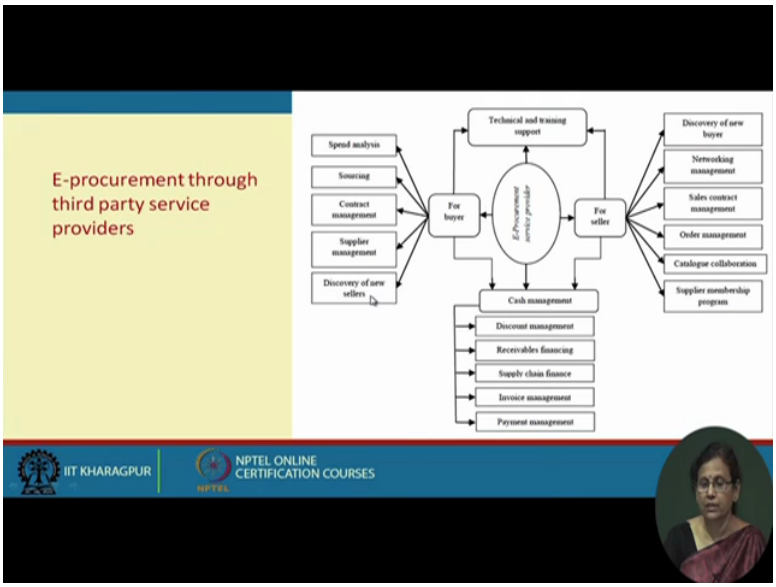

Then for sellers it provides many facilities. It discovers new buyers, it provides networking management, sales contract management, order management, catalogue collaboration and supplier membership programs. So basically people are participating in a third party service provider's platform to get the benefits as has been discussed here.

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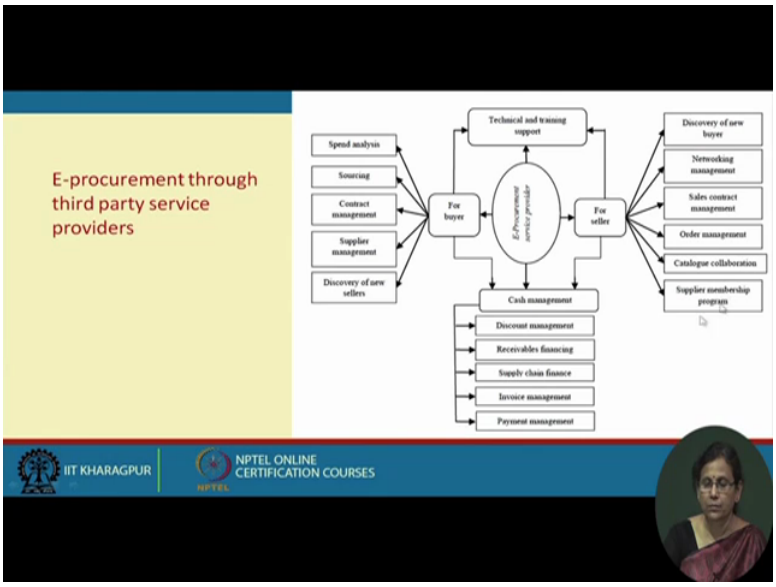

Then next e-procurement solution is through e-catalogue. It is actually different from earlier ones because it is a supplier driven solution. So here what happens once you have this approved set of catalogues ready, the employees over the intranet and this particular catalogue has to be now integrated with your ERP system or at least your corporate information portal.

So here the employees can browse through the suppliers which consist of multi supplier catalogue, corporate catalogue, order form and they can know about the availability of the item, it would have the facility for order entry.

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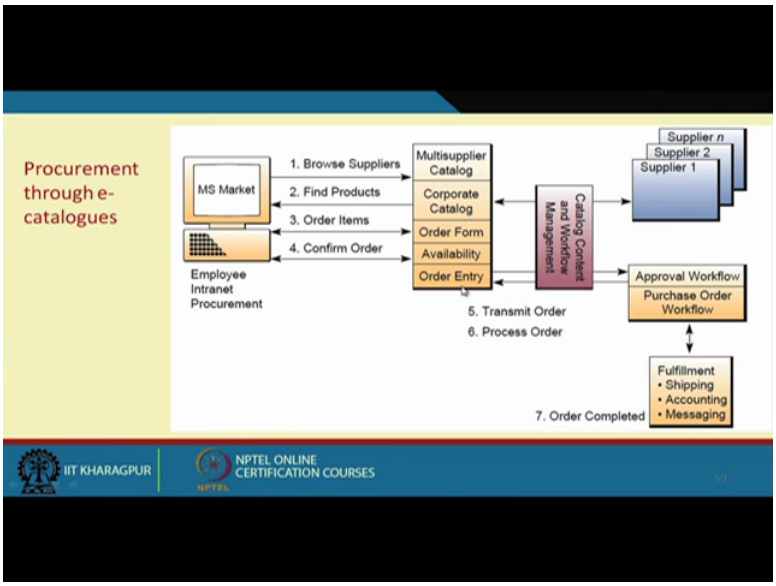

So what they will do? They will be browsing the suppliers, they can find products, they can order items, they can confirm order and so on. Then you can have the catalogue contract (work) workflow management, part of it to transmit the orders and process the orders and these orders will be sent to the suppliers and detailed information about this order etc will enter into your approval workflow process which possibly will be a part of your own ERP system and order fulfilment takes place.

And as you know there will be a certain physical fulfilment activities shipping etc and corresponding information has to come in. So let us try to look at the various risks associated with e procurement technologies. We have four broad categories of risks internal business risk, external business risk, technology risk and process risk.

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Coming to this internal business risk, the availability of appropriate resources for the successful implementation has to be insured if you are going for in house implementation. And even if you are going for a third party service provider you should be ensuring that appropriate integration takes place with your existing infrastructure. And this integration with third party or developing your own platform requires significant investment, okay?

So besides developing this see software is one part but making a software and making a task successfully through the software is another part which involves not only the technical component but there are many other issues. For example your employees need to be motivated to use that software.

So besides technical issues there could be many such psychological issues, interpersonal issues which are involved therein. But anyway it requires significant investment. So it is your internal business risk.

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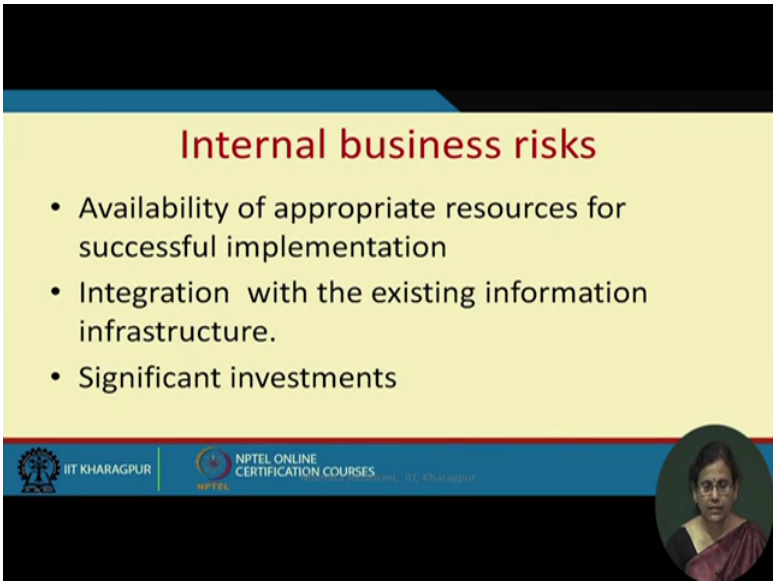

Then there is external businesses risk. your company cannot make the e-procurement process successful on its own because e-procurement is about automating the procurement process which inter involves your suppliers. So therefore the suppliers also need to invest in technology. At least a supplier has to have a website or internet connectivity. So if it is not there how it is possible? Of course nowadays you cannot imagine any supplier not having these kinds of facilities but they have to invest.

Similarly for example if somebody is actually adopting a catalogue based solution. Might as a company I would like to adopt the catalogue based solution. Can I adopt it on my own? The supplier has to first provide this facility to me then only I will be able to use that catalogue. But creating this catalogue and integrating to the internal processes of my own business requires significant investment on the part of the suppliers as well, okay?

So if the supplier is not willing to do so, you cannot actually guarantee the use of e-catalogue. And again this particular e-procurement process because of negotiation this reverse etc it actually decreases the price so much that the suppliers are hardly benefited though it is beneficial to the buyer. So it may happen the buyer supplier relationship in the long run. Again while coming to this buyer supplier relationship two three more facts I will be able to say.

Let us say here the supplier is actually involving a lot of money for being a part of your e-procurement process. And it is also helping you in developing let us say appropriate technical proposal for procurement.

But because of this involvement of the software there is no guarantee that this particular supplier who has helped you in preparing the proposal and also invested a lot of money for connecting with your e-procurement system may not be getting because it is a competitive pricing. He may not actually get the order. So therefore he has a lot of risk and he may not be motivated enough to participate.

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Then next is your technological risk. It is lack of clear understanding of which e-procurement technology best suits the needs of each company requires a lot of third process on the part of the management and unless otherwise this understanding is clear you may end up choosing a wrong kind of e-procurement implementation platform.

Then lack of widely accepted solutions for integration of different e-procurement software across the supply chain is another problem because integrating two heterogeneous information systems has to resolve many technical compatibility issues. Then lack of clear and open standards that would facilitate inter-organizational e-procurement technologies is another risk.

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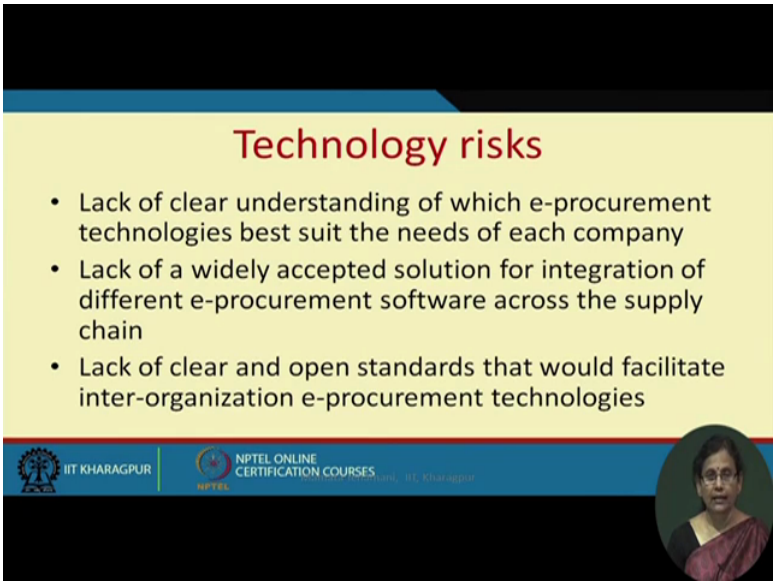

Then next one is your process risk. This is the last one. The process risk the organizations must be confident that they are going to get benefits through e-procurement. In fact many times the internal stakeholders of the companies will not be willing to go for e-procurement because they feel their control over the process is actually decreasing and they can feel there are many security and privacy concerns (aso) associated with this, okay. So therefore there are many process risk involved while implementing the solution.

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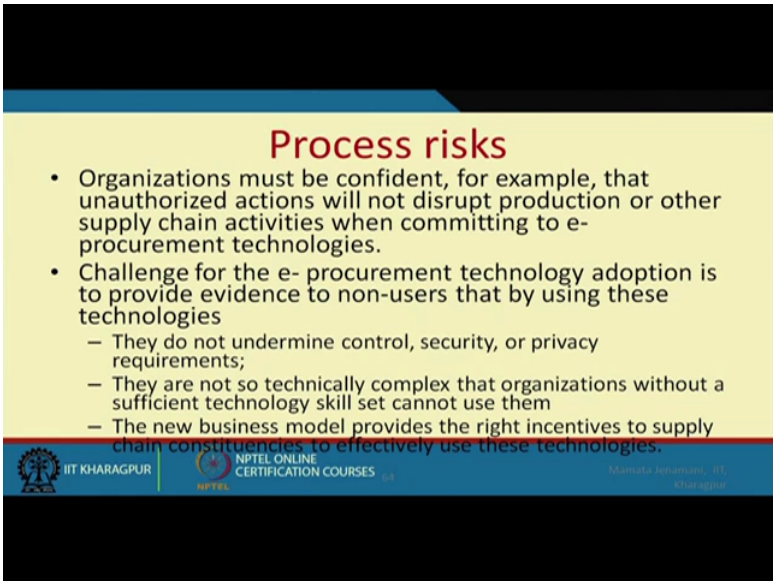

There are many barriers to e-procurement adoption as well which are result of these risks. Coming to this e-procurement software the technological barriers are the problems of

integrating with the existing system. As I told you there can be technological (in) incompatibility issues, then lack of common standard for this (so) software development is lack of suppliers accessibility through the organizations e-procurement system and lack of suppliers investment in the catalogue development are the barriers.

And coming to internet exchanges, if you do not have enough suppliers to create a liquid market place then such marketplaces actually fail. Then suppliers reluctance to participate in the selling environment where the prominent focus is actually on decreasing the price. They would not like to be the part of it and so the lowest possible price level where they can go. Then supplier's reluctance to participate because the control is lost over the presentation and brand name and the product features.

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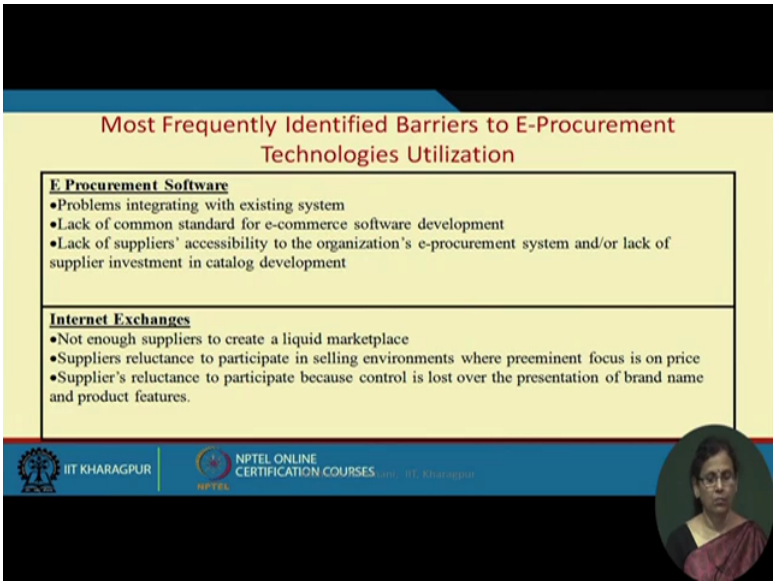

Then with e-auction the issues are the organizational discomfort with auctions as opposed to honouring commitment to a suppliers (patening) partnership and consolidation. In fact this I have been repeatedly telling that here because the software actually takes the final decision about selecting the right supplier. If you are already obliged to certain supplier in some manner by getting help for preparing your proposal etc, then that commitment you cannot keep.

Then this downward price pressure on the vendors can also result in diminished customer service and quality because to win the order they can lower the price to the best possible way. But to adjust that later on they may decrease the quality and they may not honour the service

contract. Then inability to identify the potential items for auction is again another problem by the companies.

Then you see for example auctions, if you have certain strategic item purchased would you like to go for auction? Because if your market is a supply driven market, you may not be actually be willing to be making your suppliers compete with each other because it is a supplier driven market and supplier decides about whether you get the item or not? You are not the person who will be. So e-auctions are only possible the scenarios where it is a buyer driven market.

Then you have purchasing consortia. In case of purchasing consortia the price is not significantly better than available without consortia. Now getting sufficient number of vendors into the process is another problem. Now ensuring conformance of state laws and regulations is also some kind of (techno) barriers for utilizing say technology.

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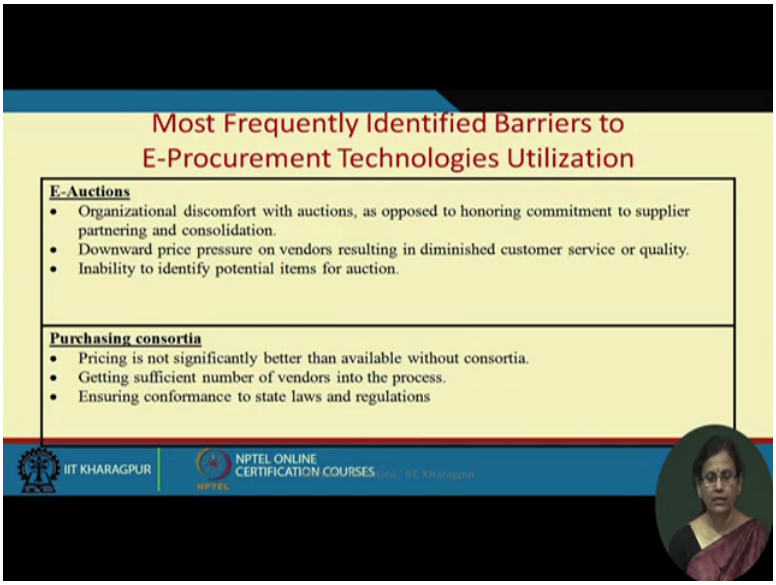

So with this we finish. Thank you very much and see you in the next lecture.