Lecture-24
Alternative Channels of Distribution

So welcome back in our last session we started discussions about network design decisions and we discuss the role of facilities in our supply chain decisions and facilities we have already discussed are one of the important drivers of supply chain cost with the help of facilities you can achieve responsiveness as well as efficiency. If I start making large number of facilities in my supply chain configuration, so I will achieve high level of responsiveness.

If I consolidate facilities on the other side I make figure facilities maybe with respect to retail, maybe with respect to distribution centre or maybe with respect manufacturing facilities. All these consolidation will give me economics of scale. And in our last two sessions we have discussed that how with respect to facilities different types of cost maybe cost of inventory, maybe cost of transportation and the cost of facilities itself will change.

And therefore we need to decide one of the optimum number of facilities in our supply chain configuration. This optimum number of facilities will give us the minimum possible cost of facilities in a supply chain configuration, but sometime we want higher responsiveness but optimum level of services optimum level of facilities will give you a particular level of response in the supply chain.

But there are certain cases where we require even higher responsiveness and when we want that high level of responsiveness we need to go beyond that optimum number of services, optimum number of facilities and therefore depending upon yesterday we discuss that your supply chain strategy is the first important area from where we will start discussions about the configuration of your supply chain.

And supply chain strategy where we have already discussed in the earlier session that it has one broad spectrum. On the one side of the spectrum you have highly efficient supply chains and on the other side of that spectrum you have highly responsive supply chain. So that

spectrum you have various intermediate locations and these intermediate locations will have variety of combinations of responsiveness and efficiency.

So the number of facilities will decide what type of combination you want to achieve of efficiency and responsiveness. Normally for a General type of decision, for without going much into the strategic aspect, we want somewhere responsive, somewhat efficient type of supply chain, we want to keep our self at the centre of that supply chain strategy spectrum from be responsive site to the efficiency side we want to keep our self at the centre.

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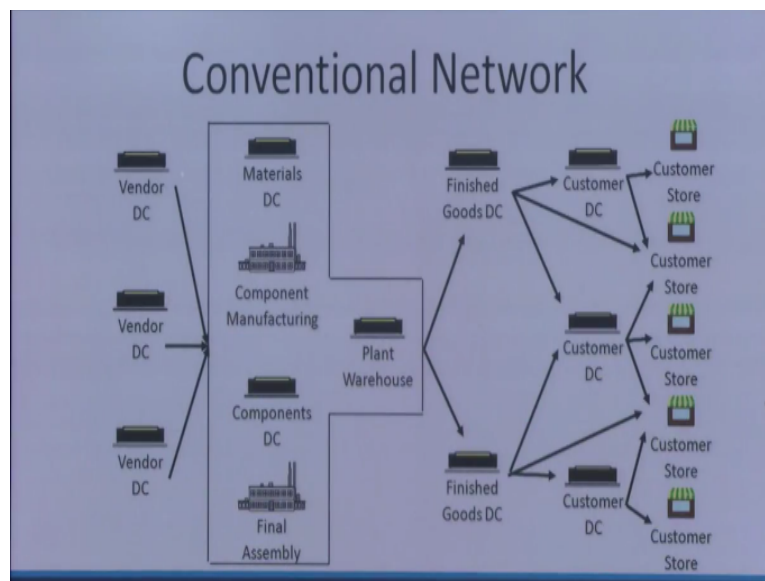
Now if we want to keep ourself at the centre where we get a particular level of responsiveness with minimum number of facilities, so if I see in that light the conventional networks available to the conventional supply chain network or where you have various raw material suppliers these are the when does distribution center and this raw material suppliers suppliers of different types of components which we required in making our products.

Some of the vendor distributions are supplying simply the raw material, some of them are supplying the semi finished or half finished type of products of the various components, so different vendor and different center will supply the different types of products which are required in making (()) (04:45) product. You take an example of a car and nay automobile product.

In that case I get products like hot rolled Steel, then cool rolled steel, or making the body of my car or bike, then I get tires from some of the tire manufacturer, I get various components

of the engines, various components of the air conditioner, various components of my other electrical systems of my vehicle from other vendor. So different vendors will provide me different types of product.

Now these products will come to this manufacturing area where you have this manufacturing facility from where you can see the flow of manufacturing this is known as work in process, so from material distribution Center to component manufacturing component manufacturing to custom component distribution Center and final assembly. So this is the system we have at the manufacturers' level. So these are the different types of vendors and then you have the assembly system of those components, those semi finished at the manufacturing level.

Now final assembly the final product is ready then we finished product or stored in a warehouse within the plant. Normally those who have some kind of exposure of manufacturing activities may be aware that in each of the manufacturing facilities you have a local warehouse, local warehouse within the plant remises. So this final assembly product weekly product go to this plant warehouse.

Now from plant warehouse you send to the your finished goods distribution centre, now company owns a conventional systems if my plant is located in let say Gurgaon area. So I will have some finished goods distribution center, one may be near Mumbai country to collect the demand of Gujarat, Maharashtra, Madhya Pradesh, those area and may be one near Chennai or Bangalore to take care of the demand on 7 area of the country.

And from my own warehouse because I am located in Gurgaon, so I will take care from that the entire more than region of the country. So this is the conventional system that my finished goods will go to my distribution center. The company owned distribution center. Now from my finished goods distribution center these products will go the different customer distribution centers.

Now I will give normally my company, my agency to some customer site and from these points my customer finished goods will go to the distribution centres of the customer end. So these are the customer distribution centers. So depending upon like if my finished goods distribution centre is in Chennai, so I may have customer distribution centers in Bangalore, in Hyderabad, in Trivandrum and those places to take care of entire southern part of country.

If one of my finish good centers is in Mumbai, the customer distribution center can be in Ahmadabad another can be in Nagpur, another can be in Pune. So that I can take care of the western part of the country and this is how you come to the customer distribution center and then you come to the retail outlets, customers retail outlet from where finally customer will purchase the individual customer will purchase the product.

So some bigger customer stores a direct procures material from the finished goods distribution center and the smaller customers will purchase from the customer distribution center. So both these type of network are possible from this point to this point. You can use direct distribution or you can use over level of distribution, we have already discussed in our earlier sessions one of the system of distribution where you have different types of distribution systems.

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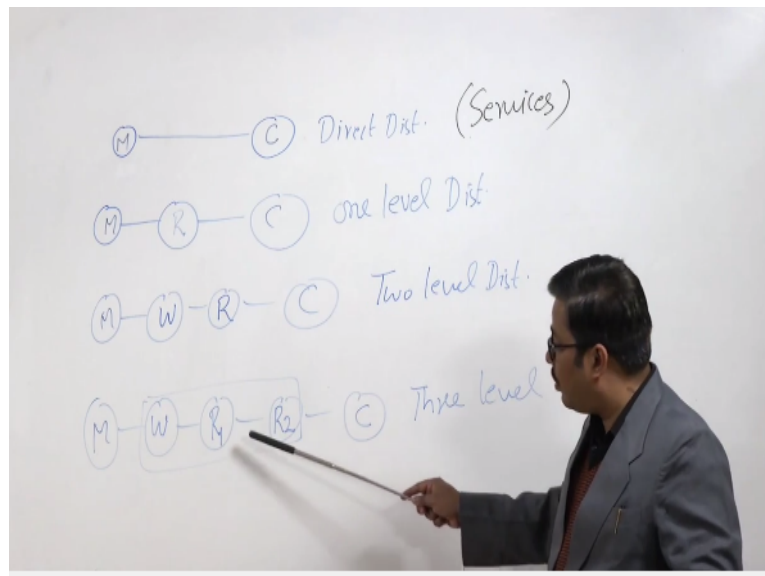
Where depending upon how many intermediaries you use to you reach the final customer that depend up on variety of factors and some of them we can discuss here again like this is a manufacturer, so you can put from here to here this entire set up as manufacturer area, so this is manufacturer and this is customer, so from manufacturer to customer we have various intermediaries. In this case the first case manufacturer is directly communicating with the customer.

There is no intermediary between manufacturing and customer, so this is known as direct distribution, this is direct district. No middle values involve, no intermediary is there. In the

second case you have one retailer between manufacturing and customer. Now manufacture will supply products to retailer and retailer will finally give to the customer. This one intermediary is involved, this is known as one level of distribution this is one level distribution.

So in this case if you see if finished goods distribution centre, if supplies to the customer store with the help of this customer distribution centre, this is an example of one level distribution, but in our case when fitness distribution centre is directly supplying to customer store, this is the direct distribution. So both these type of distributions we have shown in this conventional network.

Then you have other type of distribution network also, where you have 2 intermediaries, 1 wholesaler and another retail. You have 2 intermediaries here, from manufacturer to customer, so this becomes 2 level distributions and in some cases you have a bigger wholesaler, a bigger retailer one and smaller retailer 2. That is also possible this is 3 level description.

Because you have three intermediaries involved here from manufacturer to customer. No one in 0 level direct distribution, one level, 2 level, 3 level, what is the relevance of this for our network design decisions, it is very important to understand that in which type of distribution network is to be used. Now we all can understand that direct distribution where no intermediary is involved between manufacturers to customer.

So can we recall can we think of any product which we purchase directly from the manufacturer, probably it is very difficult for us to think of such products which as a individual customer we are purchasing directly from the manufacturer, but think of some of the products which I can name like Uttarakhand Jal Vidyut Nigam Limited, Tere hydro, NTPC and Pc all these are the power companies.

They require derbies to develop a power project. Now they purchase derbies directly from BHEL, so BHEL is manufacturer and NTPC, NHPC, THDC, Uttarakhand (()) (13:42) all these are the customers. So there is no intermediary all these customers directly purchase product from the manufacturer. And in this particular case it is direct distribution.

Now the very simple reason that there is no retailer involved in this types of project because the cost of the product is so high that it is almost impossible to have any intermediary here, because these intermediaries, this retailer, wholesaler, retailer to, all these intermediaries they will also take some of the part of the profit. They are only working because they are interested to take some kind of profit share.

Now when the unit value of product is very high in this case the cost of the product will further increase because of the involvement of the intermediary here and that extra burden of cost will come to the pocket of the end customer, so it is not advisable or it is not possible to incorporate any kind of middle man in these types of very unit products.

High unit value products are normally directly distributed, as an individual customer we do not purchase those high unit value products. For us the high unit value product maybe a car, maybe a house, these are the high unit value products which as an individual we purchase and probably in a car when you purchase a car you have this one level of distribution Maruti than the distributor of Maruti and you are the customer.

So it is a relatively high unit for us, but not so I unit value product that you directly go to Maruti and purchase it. So therefore 1 level of distribution is required, but in case of house when you purchase a property you will find both these type of distribution system, sometime developer himself will contact the customer and you will go and purchase the product, but sometime you will see developer will also have some kind of agents.

And now days lot of agents are available through e-portal and that is one level of distribution, that developer is directly distributing the sale product and developer is using a retailer also for distributing the product. Because house is a sufficiently unit value product. In high unit value products we can use direct distribution as well as well develop distribution and now you come to these type of distribution systems when you have a wholesaler and retailer and in some cases you have more than 2 distribution intermediaries.

Now these type of distribution systems are normally seen when the unit value of product is very less and you have the examples of fast moving consumer goods FMCG where you find this type of distribution network is very prevalent, you take the products like cosmetics, you take the food items, you take the other type of FMCG. In that you find that wholesaler is

there, a big retailer maybe there and a retailer in the rural area purchasing products from the retailer available in the urban area and supply products to the rural consumer.

So you find many intermediaries when the unit value of the product decrease. Because burden because the cost which customer is going to say is not going to increase substantially. So as the unit value decreases you can offer more number of intermediaries to reach to large number of customers in your market. Another important thing which is there in selection of a particular type of distribution network that is the nature of the product.

Nature with respect to perishability, but the perishability we all know that how long a product can survive, how long you can derive the used values from the product. Now each product there are where issue of perishability does not come but there are large number of products where issue of perishability is also a very important phenomena in designing distribution network for them.

And as a supply chain manager we should be aware that what are those perishability issues, which are important in designing with distribution network. Now for an example whenever we talk of perishability the first few examples which come to our mind these are related to food products, the dairy products, the milk products, but these are products where the degree of perishability is relatively higher.

And if you talk of chairs, you talk of tables, you talk of computers, you talk of camera, here the degree of perishability is relative very low. Now when the degree of perishability is relatively low you can without any difficulty have a long distribution network. Because the value of the product is not going to decrease, but when you have a product like curd, you have a product like ice cream, you have product like vegetables.

In that case as the time will pass the value of the product will decrease, so you want a smaller distribution network in case of these products where the degree of perishability is high and therefore you can see that in case of food products, milk products, sweets, all these products where degree of perishability is relatively very high, you can store some products may be for 2 days, for 3 days, for 4 days.

Some products you need to consume within 24 hours. So in all those types of products where perishability is a very important issue you need to have either direct distribution or 1 level of distribution. You can see in your area of wherever you leave the milkman is the manufacturer, responsible for getting milk from cows and buffaloes and he is directly distributing products to the customer, maybe within few hours of taking milk from those cows and buffaloes.

So because degree of perishability is very very high, if you do not treat that milk within few hours then lose its value and therefore it has to be distributed directly in most of the cases. Though we have examples of Amul, Parag, Mother Dairy etc. where we have long distribution network but that long distribution network, please remember is only possible as you have increased the shelf life of the product.

And now you have when you are increasing the shelf life of the product you are decreasing the degree of perishability and therefore the product can survive for long durations and you can therefore choose a longer distribution network. Now coming back to perishability issue there are these are the normal examples vegetables, fruits, milk products, sweets etc. where degree of perishability is relatively very high.

But there are products where you can think of the degree of perishability is even higher and if you put slight stress on you, you can realise that degree of perishability is extremely high in case of services. Services are those products which are intangible, services normally we discuss these things in a class of marketing management but because we are discussing this issue of distribution network.

So services are those products with degree perishability is extremely high and these are intangible, you cannot stop them, you need to consume services as soon as your producing them and therefore in case of services you can only have the direct distribution, you cannot have any other level of distribution. This is only suitable for services type of products. You are living a lecture to the class when you have now this type of arrangement where you are getting my lectures on online board.

But if I teach class with students are having one to one contact, in that case if you are slightly out of the class your mind is out of the class that portion of the lecture is gone away. A doctor can only write a prescription when a patient is there, without a patient doctor cannot write a

prescription, you can get a haircut only when a customer is there, without a customer haircut is not possible and therefore all the services products can only be possible when a customer is there.

And therefore because you cannot do inventory of services, mind it you cannot do inventory of services and when you cannot do inventory of services you can only directly distribute them, customer has to come to manufacturer to avail this success, not manufacturers in that case the service provider, in case of because the discussion of supply chain management is equally applicable to the services organisation.

Services organisation like a bank, like a hotel, like restaurant, like a gym. All these are like a hospital, all these are the examples of services organisation. So it is very important to discuss the supply chain analytics for the services organisation also and particularly in the case of India it is even more important because you all may be aware 60 to 65% of contribution of GDP is coming from our service sector, the contribution of manufacturing is stagnant is around 16 to 17%.

So the major share of economy is being controlled by the service centre, so we need to see that how services supply chain network is developed and therefore it is very very important that you should understand that for case of services organisation you need to develop the direct distribution. Now the only issue in case of services distribution network you need to see a particular case that whether you are going to customer to provide a service or customer is coming to you to available service.

In one case a service provider is going to a customer for giving the services. In another case a customer is coming to service provider to avail the services like we go to a Petrol Pump that is the kind of example we are going to a service station to avail the services, petrol pump is not exactly the example of service station rather you say we go to hospital to take the services of the doctors.

But in some cases it is also possible that doctor may visit a patient, doctor may go to a call. So in that case service provider is coming to customer and now days because of end number of issues you will mostly see that customers are going to the service provider, but in some

exclusive services you will see that service provider is coming to customers, you have a system of private tuitions.

In that case service provider is coming to the customer but when you join classes of FIdji, when you join classes of Vidya, when you join Akash. These are the examples when customer is going to service provider, so you need to design what type of arrangement you want to have and that will again come from your supply chain strategy that what type of study you want to have.

And accordingly you will see what type of distribution system of services will be are there, weather manufacturer is going to services going to customer or customer is coming to manufacturing. And in rest of the system because you have a system of store, you have a system of inventory and therefore you can use these intermediaries. These intermediaries can only be used when you have inventory system, otherwise you cannot.

Now with respect to the Spanish ability there is one more type of product that is very common all of us use that, that is newspaper. Now newspaper is another example very typical example where you will find a very long distribution network, degree of perishability is even higher with respect to newspaper and you talk of food products. So degree of perishability of newspaper is more than degree perishability of food.

But in case of newspaper you have a very long distribution network. But the distribution network is designed in such a manner that ownership transfer from one state to other from this stage to this in a very fast and therefore within few hours the newspaper is printed here at about 12 midnight and at the morning 6 o'clock or 7 o'clock news paper is in the hands on the customer and you have various intermediaries, you have the press.

Then you have the logistics service provider, the vehicles then you have the local agency, news Agency where the newspapers come from the manufacturer the press and then you have the local hawkers taking papers from that agency and distributed to the customers house. So this is a long distribution network but because you are able to deliver it on a very fast basis, you can deliver it in a quick time.

So these are the two important issues, one is perishability and another is the unit value of the product on the basis of which we take decision whether to use one level, 2 level, 3 level or direct distribution. But nowadays we do not use a single type of distribution network rather we use more than one type of distribution network simultaneously. As we have discussed in this particular case that we are using one level and indirect distribution.

And so on you will see that now days even all these four type of distribution networks are used simultaneously and that is known as dual distribution. So most of the companies are going for this type of dual distribution where you are directly distributing to the customer through e-portal and then you have your exclusive showrooms and then you can go for this wholesaler retailer type of system also.

So because we want to read too large number of customers, we want to achieve very high level of responsiveness, so we want to use all types of distribution network parallelly. So we stop here in this class and in our next class we will discuss some of the models to optimise the location of these intermediaries in our distribution network. Thank you very much.