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Lecture – 30 Global Logistics and Distribution – Part I

Welcome to this course on global marketing management and we will continue talking about the other Ps now. Now, today in this module we will be talking about Global Logistics and distribution that is module 30. And we will talk about Global Logistics and distribution again in module 31. Now this is you can correlate this Global Logistics and distribution with the place with the place that is another P in the marketing mix. But when we are talking of in the Global context this logistics and distribution they become they become more integrated.

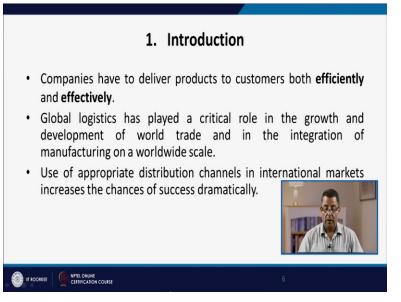
They are integrated in the in the domestic marketing also but in international global scenario they become more integrations becomes all the more important because lots of things are moving across different countries.

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So, in this module we will talk about the definition of global logistics and then how to go about go about managing physical distribution and also how to go about doing the Sourcing strategy in the international context. So, companies have to deliver products to customers both efficiently and effectively.

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And global logistics has played a crucial role, crucial and critical role in the growth and development of the world trade and in the integration of manufacturing on a worldwide scale. So, without developments in global logistics these things would not have been possible. Especially at the pace they have happened. So, use of appropriate distribution channels in international markets increase the success, the chances of success dramatically.

So, look at this term appropriate so as soon as this appropriate turns into inappropriate then the chances of success decreases. So, it is important that we have an appropriate sourcing as well as distribution strategy. So, that will increase our chances of success.

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	Introduction continued	
Country	Logistics Cost as % of GDP in 2006	
US	10	
Europe	11	
India	13	I A
China	21 (an improvement from 25% in 1991)	1

Now this table shows country wise the Logistic cost as a percentage of GDP in 2006. So, in US this Logistic cost as a percentage of GDP is 10% while in Europe it is 11 in India it is 13 and in China it is 21 that is an improvement from 25 in 1991. So, you see that lower the logistic cost the lower will be the cost of the ultimate cost of the product and it also reflects the efficiency and effectiveness that is there in their sourcing and distribution strategy.

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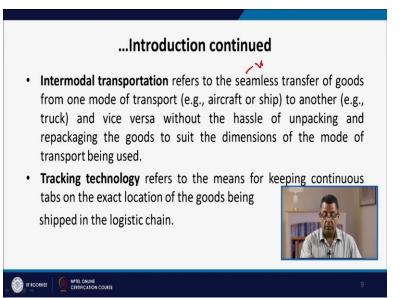


So, as firm start operating on a global basis logistic managers, they come under pressure and their and that creates lots of problem for them. So they need to manage shipping of raw material, components and supplies from various manufacturing sites and these manufacturing sites can be from anywhere in the world. So, now their job is to ship raw material, components and supplies from various manufacturing sites across the world at the most economical and reliable rates.

The development of international transportation and electronic technology a tracking technology has resulted in a quantum jump in the efficiency of the logistic methods employed by the firms worldwide. So, that has led to the development of intermodal transportation, one. Second is electronic tracking technology. So, now with intermodal transportation the importance of electronic tracking technology increases because now we have multiple modes of transportation.

So, it becomes all the more and all the different modes have different speeds with which they deliver and also the reliability and security. So, it is important that the electronic tracking technology has developed along with intermodal transportation otherwise the loses along the along the supply chain would have been huge.

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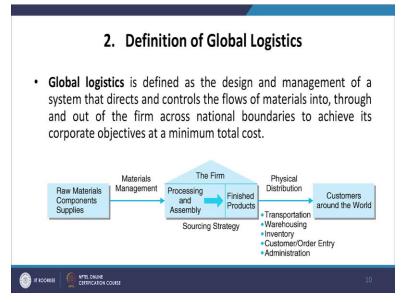


Now, this intermodal transportation refers to the seamless transfer that is without borders. Seamless transfer of goods from one mode of transport it may be air craft or ship to another mode of transport it can be truck or it can be train and vice versa without the hassle of unpacking and repackaging the goods to suit the dimensions of the mode of transport being used. Now you see this is this is a very important concept because now we are using number of different types of modes so sometimes it is air sometimes it is water and sometimes it is the surface.

So, and they keep on changing one, second because they have different sizes and different requirement so if we keep on unpacking and repacking them all the time then that will lead to huge cost. So, this intermodal transportation refers to the, seamless transfer of goods from one mode to another mode and also without the hassle of unpacking and repacking the goods to suit the dimensions of mode of transport being used.

So, there are two things that needs to be done here. One is the seamless transfer and another is their size so you should be so that it fits every kind of transport being used. Another that another thing that is important that is another important development along with intermodal transportation is that of the tracking technology and it refers to the means for keeping continuous tabs on the exact location of the goods being shipped in the logistic chain.

So, as the goods are shift from one location to another location or sent from one location to another location, various different types of modes of transportation are being used. So, now it is important that everyone should know how and where the goods are at any particular point in time.



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Therefore, now we will look at the definition of global logistics. So, global logistic is defined as the design and management of a system that directs and control the flow of material into, through and out of the firm across national boundaries to achieve its corporate objectives at the minimum total cost. So, now you see that there are several important components of this definition. The first is the design and management of a system that is the first important thing.

And what this system does? It directs and controls, second. Directs and controls, what? The flow of material into, through and out of the firm and also across national borders. So, that is the third think and the fourth is to meet the objectives at the minimum total cost. So, this global logistics are supposed to is supposed to be doing these 4 things, the design and management of system, directing and controlling the flow of material into, through and out of the firm across national borders. And to achieve the corporate objectives that are based on these based on these 3 activities at a minimum total cost.

And this is how a global logistics can be a can be pictorally seen. So, here on the left hand side we have raw material, components and supplies. So, there can be 5 different type of raw material 15 different types of components and there can be 15 different types of supplies. So, this is taking care of by this material management and it the flow of material into. So, now this material goes into the firm and here these two activities are carried out processing and assembling and then after assembling, they takes the form of a finished product and that becomes the sourcing.

After that the next component is transportation, warehousing, inventory and all those things about related to this finished product which is called as physical distribution and then they can be sent to customers around the world. So, these finished products are now being sent to customers across the world. Customers who have who lives in different countries in the world one and they may be their order size may be different and their delivery period may be different. So, this is what this global logistic is supposed to be doing.

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Now what is this material management that we have talked about here. So, it refers to the inflow of raw material, parts and supplies through the firm. The next is this physical distribution and now let us look at what is physical distribution. It refers to the movement of firm's finished goods finished products to the customers consisting of transportation, warehousing, inventory, customer service order entry and administration. So, these two combined they form the global sourcing strategy.

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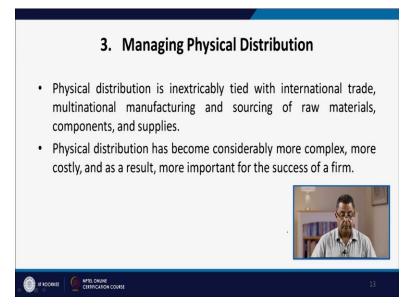


So, this sourcing strategy refers to an operational link. So this sourcing strategy it links physical distribution and materials management. It is referred to the operational link between material management and physical distribution and deals with how company manages. So, that is a link

between these two between the left and the right of that figure and and it also deals with how companys manage R and D that is product development and engineering, operations that is manufacturing and marketing activity. So, now we are looking at the integration of these 3 things that we have talked about earlier also. So, this sourcing strategy will integrate those 3 things R and D, manufacturing and marketing. So, here we have manufacturing and here we have marketing.

So, these are the 3 vertices of this triangle. It is not important which one comes where because they are equally important.

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Physical distribution is inextricably tied with international trade, multinational manufacturing and sourcing of raw material, components and supplies. So, physical distribution has become considerably more complex, more costly and as a result more important for the success of the firm. So, now this physical distribution can determine the success of the firm because it has now become more important and also more complex and complex means that it now involves more time and more money goes into managing it.

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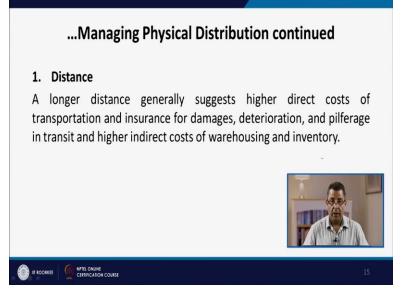


A variety of factors contribute to the increased complexity and cost of global logistics as compared to domestic logistics. So, therefore the Global logistics can affect the success of the firm. So, it is it is so important it is important in the domestic country also but in global globally it becomes all the more important because of the complexities and the cost that goes into it. And the factors that contribute to this increased complexity and cost are one the distance, distance from origin to and the distance distance between origin and destination, and then exchange rate fluctuations.

So, there can be exchange rates of fluctuations on both the side so there can be exchange rate fluctuations from in raw material, in component and in supplies and then it will also affect your transportation and warehousing and inventory. Then there are foreign intermediaries. So there can be foreign intermediaries on both the sides, on the material management side and on the physical distribution side. So, there can be foreign intermediaries, these foreign intermediaries can be form several different countries in this world.

And then obviously the issue of security, how secure is the whole system and what is the percentage of pilferage and it will also depend upon the kind of kind of shelf life that the various components, supplies and the end product has.

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Now let us look at each one of them. So, a longer distance generally suggests higher direct cost of transportation and insurance. So in in in global logistics we also have to include insurance and that insurance will be different in different countries, one and because of exchange rate fluctuations the price and the cost of transportation and insurance can can change drastically over a period of time. So, all the longer distance generally suggests high direct cost of transportation and insurance for damages, deterioration, pilferage in transit and higher indirect cost of warehousing and inventory.

So, the larger the distance, there is more need to have warehouses and inventory. So as a rule of thumb the larger the distance, the more will be the cost.

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... Managing Physical Distribution continued

2. Exchange rate fluctuations

The corporation must adjust its planning to incorporate the existence of currencies and changes in exchange rates.

For example, in the mid-1990s when the Japanese yen appreciated faster than the U.S. dollars against key European currencies, Honda found it much more economical to ship its Accord models to Europe

from its U.S. plant in Marysville, Ohio, rather than from its plants in Japan.



The next factor that affects this, exchange rate fluctuations. So corporations must adjust their planning to incorporate the existence of currencies and change in exchange rates. For example, in the mid 1990s when the Japanese yen appreciated faster than the US dollar against key European companies, Honda found it much more economical to ship its Accord models to Europe from its US plant in Ohio rather than from its plant in Japan.

So, now this can this can change whole of your sourcing strategy. So instead of exporting them from US now they were exporting it; so they change their whole exporting strategy because of because of this exchange rate fluctuation.

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Another set of factors are related to foreign intermediaries. Additional intermediaries participate in the global logistic process because of the need to negotiate border regulations of countries and deal with local government officials and distributors. So, therefore there is a need to have foreign distributors because of these issues and the more countries a company shifts to, the more foreign intermediaries get into this chain.

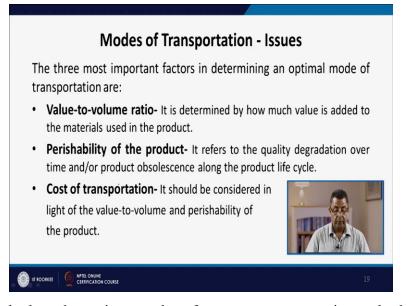
In Asian countries such as Japan, Korea and China personal connection of who knows whom frequently seems to outweigh the western economic principle of profit maximization or cost minimization in conducting business. Now there are certain other complexities also that get into this. For example, in these and some more countries personal connections are more important rather than the rule of the land.

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Managing Physical Distribution continued			
 Security Transportation costs for exporters have increased because of textra security measures that shipping lines and terminal operatiface. 			
 However, if the government-imposed user fees or carr surcharges are too high or come without sufficient advance noti some exporters could even lose their overseas markets due to increased shipping costs and insurance premiums. 			
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The fourth factor is security. Now when the goods are move are moved across the world and through different modes of transportation, security becomes a major concern. So, transportation cost for exporters have increased because of extra security measures that shipping lines and terminal operators face. However, if the government imposed user fees or carrier surcharges are too high or come without sufficient advance notice some exporters could even lose their overseas market due to increased shipping cost and insurance premium.

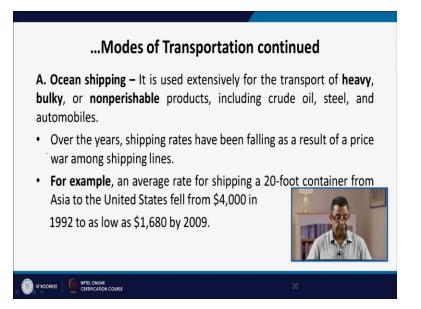
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Now let us let us look at the various modes of transport transportation and what are the issues involved when you have to decide on which mode of transport transportation to use. So, the three most important factors in determining an optimal mode of transportation are; the first is value to volume ratio. It is determined by how much value is added to the material used in the product. And another factor is the perishability of the product or the life of the product. It refers to the quality degradation over time and/or product obsolescence along the product life cycle. So if the perishability, the time to perish for this product is less, then the transportation cost will increase because it has to be shipped or transported across the world quickly. And then therefore, the third is the cost of transportation. It should be considered in light of the value to volume ratio that is the first one and perishability of the product.

So, the cost of the total cost for transportation has to be seen on the basis of value to volume ratio and the perishability. The lower the product life cycle the more perishable they are and that will require more cost to transport them in quickly.

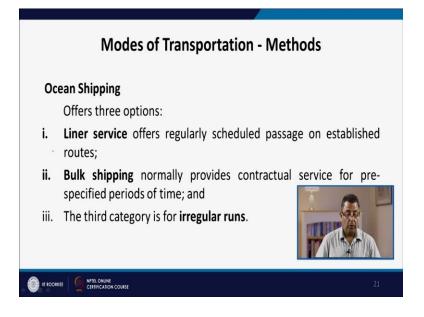
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There are various modes of transportation. The first is Ocean shipping. It is used extensively for the transport of heavy, bulky and non-perishable products. Because the speed of transportation is less, therefore this type of mode is used when there when you are transporting heavy, bulky or non-perishable product and that includes crude oil, steel and automobiles. Over the years shipping rates have been falling as a result of a price war among shipping lines.

For example, an average rate of shipping a 20 foot container from Asia to United States fell from from 4000 US dollars in 1992 to as low as dollar 1680 in 2009 and it has been further falling.

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Now this offers 3 options. The first is liner service, they offer regularly scheduled passage on established routes. Another option is bulk shipping normally provides contractual service for pre-specified periods of time and the third category is for irregular runs.

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Now you look at the Hong Kong container port. Hong Kong is the busiest container port in the world and a hub of global distribution. These you see now there are so many of these containers and then managing all these containers, putting them on the right kind of ship and then shipping it across the world, so that becomes a huge huge task.

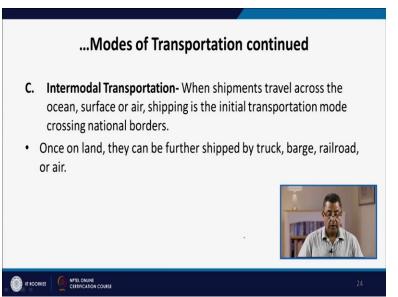
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Another is, another mode of transportation is Air freight. Shipping goods by air has rapidly grown over the last 30 years as the aircraft or the air travel has become easier. Similarly transporting of goods through air has also increased over the last 30 years. Total volume of international trade using air shipping is 2% and in value terms it is 20%. High value goods are more likely to be shipped by air while bulky goods and bulky, heavy and non-perishable goods they are more likely to be shipped by Ocean.

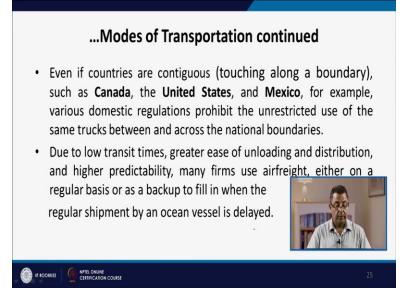
But high value goods are more likely to be shipped by air. Especially if they have a high value to volume ratio. So, a small thing that comes for a huge cost or a large thing that comes for a small cost. So, you see that the cement bags and steel. So there the value to volume ratio is low while in diamonds it is high. So, semiconductor chips, LCD screens and Diamonds are some examples of this. Perishable products such as produce and produce and flowers also tend to be air lifted because there they are more perishable.

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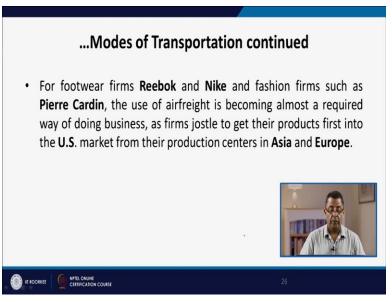
And the third is the intermodal transportation. So, when shipment travels across ocean, surface or air, shipping is the initial transportation mode crossing national borders. Once on land they can be further shipped by truck, barge, railroad or air.

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Even if countries are contiguous that is touching along a boundary such as Canada and the United States and Mexico so these three countries they touch along the boundary. Various domestic regulations prohibit the unrestricted use of the same truck between and across the national borders. So, the trucks have to be changed although the boundaries are the same. Due to low transit times, greater ease of unloading and distribution and higher predictability, many firms use air freight either on regular basis or as a backup to fill in when the regular shipment by the ocean vessel is delayed.

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For footwear, for example, for footwear firms Reebok and Nike and fashion firm such as Pierre Cardin the use of air freight is becoming almost a required way of doing business as firms jostle to get their products first into the US market from their production centers in Asia and Europe and to cut down the time they are using air to transport their goods to these markets.

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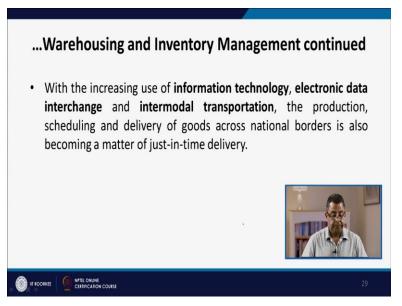
The next topic that we will talk about in this module is warehousing and inventory management. A firm's international strategy for logistic management depends on the government policy and the infrastructure and logistics service environment. The traditional logistics strategy involves anticipated demand management based on forecasting and inventory speculations. So, in logistics strategy we will also have to forecast the demand and that will that will determine our inventory what kind of inventory we will have and at which paces across the world.

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With this strategy, a firm estimates the requirement for supplies as well as the demand from its customer and then attempts to manage the flow of raw material and components in its worldwide manufacturing system and the flow of finished goods to its customers in such a manner as to minimize holding inventory without jeopardizing manufacturing runs and without losing sales due to stock outs. So, in both these cases, the firm will be at a loss so they attempt to manage flow so that these two things are taken care of.

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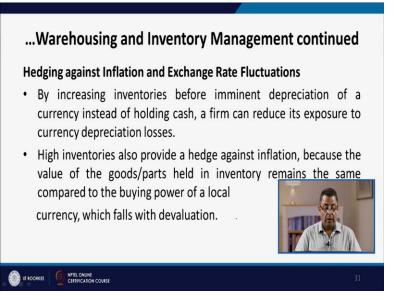
With the increasing use of Information Technology, electronic data interchange and intermodal transportation, the production scheduling and delivery of goods across national borders is also becoming a matter of just in time delivery. So, now you see the just in time delivery. When we are talking of n number of of raw materials and components and supplies which are which may be getting manufactured at five different places and then transported to 15 different places, we are talking of just in time delivery in that kind of scenario.

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For example, Sony assembly plant in Mexico just across the Texas border imports components from its US sister plants in the United States while cross border transportation across the US Mexico International border bridges experience traffic congestion and occasionally caused delays in shipment. Sony has been able to manage just in time inventory management with a minimum of safety stock in its warehouses.

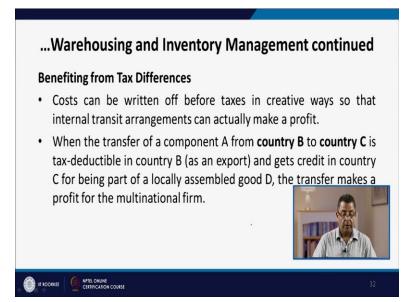
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Next is need to hedge against inflation and exchange rate fluctuations. By increasing inventories before eminent depreciation of a currency instead of holding cash, a firm can reduce its exposure to currency depreciation losses and high inventories also produce a hedge against inflation because then you do not have to keep on buying you already have high inventories because the

value of a goods or parts held in inventory remain the same compared to the buying power of a local currency which falls with devaluation.

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Then the companies can also benefit from the tax differences across borders and across various countries. So, cost can be written off before taxes in creative ways so that internal transit arrangements can actually make a profit. When the transfer of a component from country B to country C is tax deductible in country B as an export and gets credit in country C for being part of a locally assembled goods D the transfer takes a profit the transfer makes a profit for the multinational firms.

So, now you see that without even selling something just on the basis of the supply chain and where the goods are moving from one country to another and still the company can make lots of profit.

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Then there is another issue of logistic integration and rationalization. Logistical integration refers to coordinating production and distribution across geographic boundaries and the rationalisation refers to reducing resources to achieve more efficient and cost-effective operations. Although they are conceptually separate, most companies' strategies include both aspects of the logistics strategy.

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This international logistics covers both the movement of raw material component into a manufacturing plant and the movement of finished goods from the plant to the firm's customer around the world and then that is called as international logistics. It has become imperative for

many firms to develop an efficient international sourcing strategy as they attempt to exploit their capabilities in R and D, operations and marketing globally.

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Now, this design of international sourcing strategy is based on the interplay between the company's competitive advantage and the comparative advantage of various countries. So, now you see that this designing of international sourcing strategy is not only internal to the company but it is based on the interplay of the company's competitive advantage and country's competitive advantage so that will decide the country's competitive advantage will decide what components or parts will be sourced from which country.

And that will ultimately lead to the company's competitive advantage. So, the design of this international sourcing strategy has to be based on the company's competitive advantage and the country's comparative advantage. Competitive advantage influence the decision regarding what activities and technology a company should concentrate its investments and managerial resources in relative to its competitors in the industry.

While comparative advantage affects the company's decision to on where to source and market based on the lower cost of labour and other resources in one country relative to another. (Refer Slide Time: 29:08)

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The companies adopts adopt international sourcing for the following reasons. First is intense international competition and because of this there are pressures to reduce the cost. The need for manufacturing flexibility, shorter product development cycles because of intense competition. So, newer products have to be launched very soon, stringent quality standards and continually changing technology. So, continuing change in technology along with quality standards and having stringent quality standards and on top of that there because of this changing technologies, the product life cycles are becoming shorter.

And therefore there is a need to have a manufacturing flexibility with reduced cost because of intense competition.

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Let us talk of procurement which is which is one type of sourcing strategy. Sourcing decision making is multifaceted and entails both contractual and locational implications. From a contractual point of view the sourcing of major components and products by multinational companies take place into in two ways. One, from the parents or their foreign subsidiaries on an intra-firm basis that is intra-firm sourcing and from independent supplier on a contractual basis that is outsourcing.

So, now this procurement comes in 2 forms intra-firm sourcing, from within the firm and outsourcing from outside the firm.

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From a locational point of view multinational companies can procure components and products either domestically or from abroad or from outside the country. So, the first one is called as domestic sourcing and when they source it, they get, they procure the component from abroad it is called as offshore sourcing.

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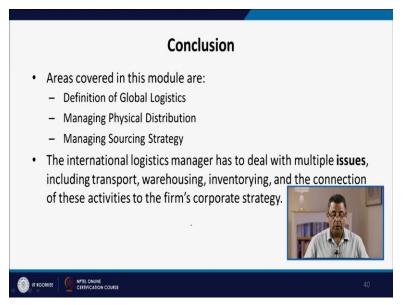


And this is what we are looking at. It is sourcing. Then we have how to source, where to source and what this type of sourcing is called as. So, sourcing can be from within the firm or it can be from outside the firm where it is called as outsourcing. Now from within the firm also, that is, intra-firm sourcing, it can be from the domestic country or it can be from some other country. While outsourcing can be within the country or it can be outside the country.

So, when we are moving in this direction it is called as domestic in-house sourcing. So, a company procure major components in house by producing them domestically. Then we move from here to the second. So this was the first one. Now we move on to the second. So, this is called as offshore subsidiary sourcing. Here a company procures major components from its foreign subsidiary. Then we move on to another kind of sourcing strategy which is called as outsourcing and this outsourcing can be from within the country or from outside the country.

So, let us see what happens when the outsourcing happens within the country. So that is called as domestic purchasing arrangement. A company buys major components from independent suppliers at home and when this outsourcing happens abroad, that is the fourth that comes at the fourth place which is called as offshore Outsourcing or it is also called as offshore sourcing. So, company buy major components from independent suppliers overseas.

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To conclude, in this module we have first talked about the global logistics and the definition of global logistics. Then we have talked about the various issues and how to go about managing physical distribution and then we have talked about the sourcing strategy. And the task of international logistic manager is to deal with multiple issues including transportation warehousing, inventorying and the connection of all these activities to the firm's corporate strategy.

So, his task is much has become much more complex because now his task include transporting across different countries and transporting of various kinds of raw material, components and parts, then warehousing, warehousing is again happening at different places in the world and the companies warehousing the raw material, supplies and the components and then inventorying and so the all these activities are to be integrated one and they should be in line with the company's corporate strategy.

So, this international logistic manager's task has become has become much more complex than it was in the domestic country.

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And we have used these references the two books for this module. So you can go through these books for further understanding of this module. Thank you.