Business Development from Start to Scale
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Week - 10
Business Development Competencies
Lecture - 46
Value Chain Competencies

Hi friends, welcome to the NPTEL course, Business Development from Start to Scale. We are in week 10 with the theme of Business Development Competencies. In this lecture, the 46th in the series we discussed the topic of Value Chain Competencies.

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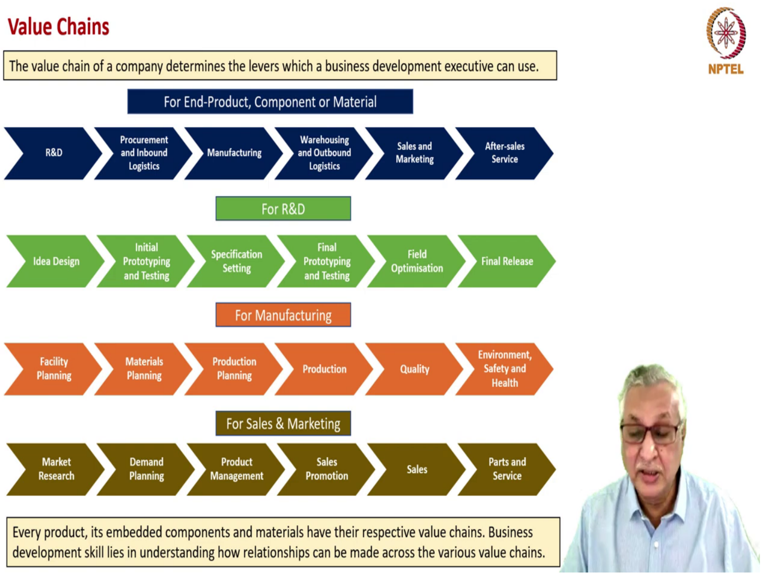

What is a value chain? Every company will have a value chain and this value chain determines the levers which a business development executive can use. And the value chain becomes applicable for an end product, a component or even a material. The typical value chain comprises the following elements R and D, procurement and inbound logistics, manufacturing, warehouse and outbound logistics, sales and marketing and finally, after sales service.

You may ask why this would be applicable for all companies and for all industries as well as businesses. Let us look at the typical example of an automobile or an electronics device or even a white goods device. It is pretty patent that all of these are applicable. You need to design a product, you need to get the materials and components inverted, you got to manufacture them. You would need to send them to the warehouse and then further distribution you have to use outbound logistics.

The sales and marketing division has to make sure that the products are sold and even after the sale, maintenance of the relationship with the customer through spare parts and services is inevitable. But will this be applicable for a minor that is a company which undertakes mining? Yes, it is available and it is also applicable, because if you do not understand, the characteristics of the materials in relation to the product in which those materials go, you will not be able to have the right identification of the appropriate mine.

You would also not understand how to do this melting and refining operations in the live manner. It is therefore, applicable in terms of the value chain, these kinds of R and D to after sales service concepts. I suppose it is clear for you in terms of the applicability of the primary value chain from R and D to after sales service for end product component or materials.

But each of these elements have further cascaded value chains. In respect of R and D, we start with idea design. We do initial prototyping and testing. At that point of time, we understand whether the idea is workable or not workable. Once this is understood with reference to the target product we have in mind and based on the experience we have had in prototype testing and other parameters including understanding of the look field we set these specifications.

Later on, based on the final prototyping and testing, we do the field optimization and we do the final R and D release. For manufacturing, we have facility planning, materials planning, production planning, production quality, environment safety and health as the cascaded elements of the manufacturing value chain.

For sales and marketing, we need to have market research which will move to demand planning and once the demand is understood and the product which caters to the market demand is also understood; we do product management, we do sales promotion, we do sales, we do parts and service.

And to be able to do these kinds of activities, we also need distribution which is an integral part of this activity. And the value chains are important for every company and the emphasis each company places on the elements of the value chain differs based on the resources the company has and the business strategy it pursues.

But as a business development executive, you must understand the value chain in primary as well as sub-elements, so that you need to project this product in the right manner for the customers. It is important for you to understand where the company is strong, so that the product can be well positioned in the customer's mind. You also can position the company in terms of rendering certain elements of the value chain as services for the customers and that could be a business model by itself.

Every product, it is embedded components and materials have their value chains which must be clearly understood by the business development executive. Business development skill lies in understanding how business relationships can be made across the various value chains between the company and the customers.

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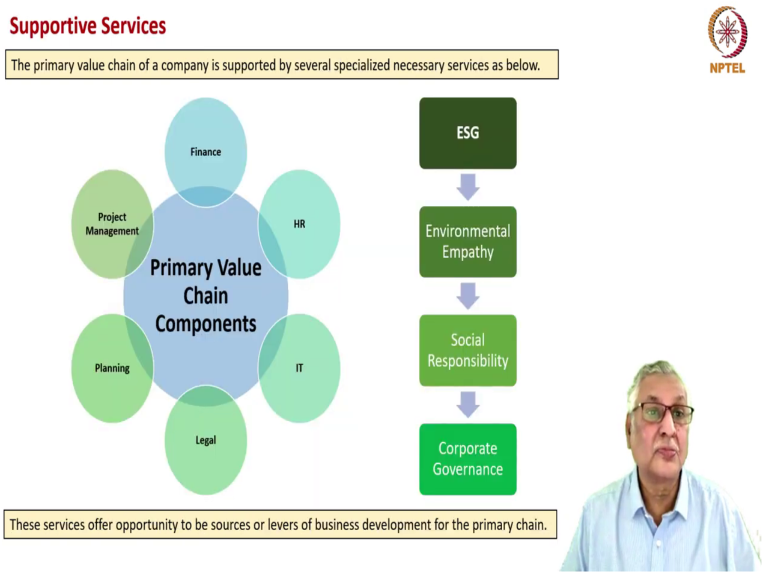

Apart from the primary value chain of the company, we have several specialized corporate services or supportive services as below finance, human resources, information technology, legal, planning and project management. But it is not the functional specialization or just the elemental nature of the value chain that is of relevance today.

If you want to position the company as a distinctive company, the company also needs to do something beyond what is normally done in terms of specializations and that comes through sustainability or environmental, social and governance aspects of the company ESG, environmental empathy, social responsibility and corporate governance.

If a company follows these standards apart from doing whatever is required for the efficiency and effectiveness of the business, then that company can be uniquely positioned by the business development teams. These services and the ESG standards offer opportunity to be sources or levers of business development for the primary chain.

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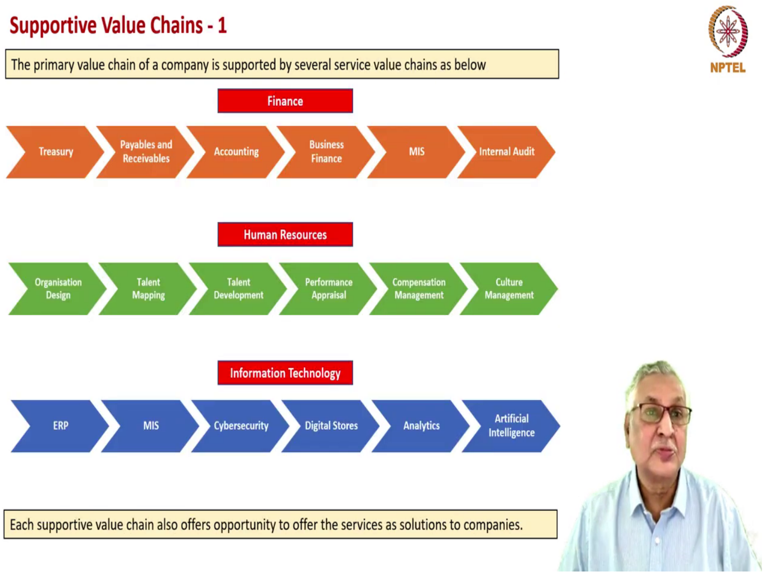

Let us look at the supportive value chains and well deeper. The primary value chain of company as I said is supported by service value chains as below. When you look at finance, it has got other elements within the finance ambit, treasury, payables and receivables, accounting, business finance, MIS and internal audit. Human resources has organization design, talent mapping, talent development, performance appraisal, compensation management and culture management.

Information technology will have enterprise resource planning, MIS, cyber security, digital stores, analytics and artificial intelligence. We have spoken in the earlier slide about some of the elements of value chain becoming business models and businesses themselves. But here you can have opportunity of outsourcing some of these things as part of your business model being asset light or people light and conducting the business.

So, for business development as well as for business strategy, we need to understand the total value chain of the company in an horizontal fashion or in a vertical fashion and both. So, these services when you have specialization can also be offered as solutions to companies. For example, you are very great in cyber security.

Then cyber security vertical can offer such services to other companies, in the Tata group in the early years of development of the information technology divisions. Some of the divisions offered their specialized services to other companies and that enhanced and enlarged the competencies of those divisions and they individually and independently got spun off as specialized subsidiaries.

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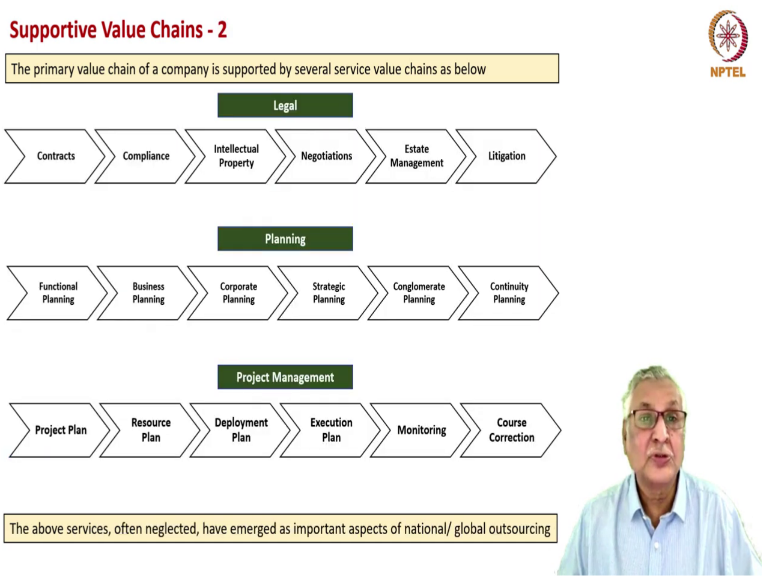

Again, we will look at some other supportive value chains. Legal has got contracts, compliance, intellectual property, negotiations, estate management and litigation. Planning has got functional planning, business planning, corporate planning, strategic planning, conglomerate planning, continuity planning. Project management has project plan, resource plan, deployment plan, execution plan, monitoring and course corrections. Many companies resort to use of consultants to undertake some of these activities which is perfectly fine.

Some companies believe that these are proprietary and very confidential activities which must stay within the company. Even if the co-competence of the company is in terms of strategic planning, the company would not offer that as a business to any other third party. However, Tata group deferred in that it has got lot of capabilities in strategic planning and it constituted even several decades ago.

Tata strategic management group as a company which specializes in strategic planning and strategic management; not only for the Tata group but for several entities which are external to the Tata group. These services are important and they have been neglected in the past.

Legal did not get the due recognition neither did planning get the due recognition. Project management by and large has been absent in the Indian industrial system. However, off-light all of these things are getting the due recognition and these are parts of national and global outsourcing.

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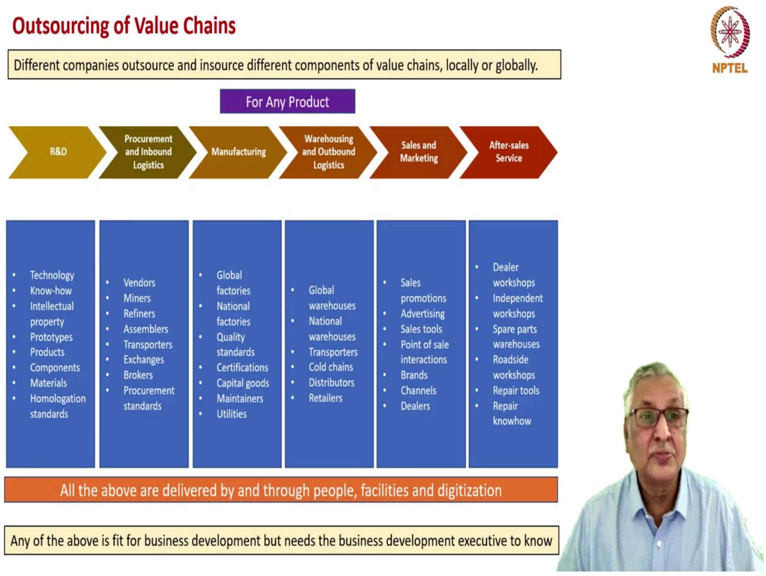

When you look at outsourcing of value chains as I said there is a primarily value chain and there are several secondary value chains and also the sub elements. But from a point of view of a particular element of the value chain you will have several aspects which are essential ingredients of that elemental value chain.

For example, in respect of R and D, technology, know-how, intellectual property, prototypes, products, components, materials and homologation standards are the ones with which R and D value chain is very much involved with and these are the cumulative assets of R and D which get built up over a period of time and they can be leveraged for continuous product development in the company.

When you look at procurement and in-bound logistics you have vendors, miners, refiners, assemblers, transporters, exchanges, brokers and procurement standards. These again typically are company specific and constitute eco-competence for that company. In respect of manufacturing, your factory network either nationally or even globally. The quality standards which the company follows, the certifications which the company has in terms of ISO and several other regulatory certifications.

The capital goods it deploys in the network, the maintenance capabilities that the company has and the utilities that are run are important constituents. In many organizations, utility management is one of the most important aspects. There were times when utilities were considered as items which will be just essential requirements for production. But today, utilities are being seen as items which will lead to environmental impact.

So, you need to produce that level of steam which is required for the company. You need not keep the team operating all the time. Similarly, if you conserve your losses, your environmental treatment load will be less. So, the capability of the equipment to minimize process loss is a proprietary capability of the manufacturing division of the company. Let us go to the warehousing and outbound logistics, global warehouses as well as national warehouses.

The transport system you have, again the transport system need not be owned by the company. It could be a cooperative endure with another company. The cold chains, the distributors and retailers are important constituents of the warehousing and outbound logistics. It is important for a company to have experience in some of these specialized areas.

Warehouse management is no longer just a godown management or a source management. It is much more sophisticated and much more technologically driven and within that the coal chains are extremely important. Particularly in certain industrial domains such as vaccines, food processing industries and several others which require temperature controlled conditions.

Not only that, good transportation practice involving cold chains across the borders and across this is an important aspect of logistics management. When you come to sales and marketing, you have sales promotions, advertising, sales tools, point of sale, interactions, brands, channel, and dealers as well as distribution to make the products move.

In the after sale service, you have dealer workshops, independent workshops, spare parts warehouses, roadside workshops, repair tools and repair, know how. And how are these elements made available for any customer? They are delivered by and through people, facilities and digitization.

Any of the above is fit for business development, but requires that the business development executive knows the importance of these elements and also the company's core competence in terms of those elements. And that would give a perspective for a business development executive to position the company and it is products and services appropriately with the customers.

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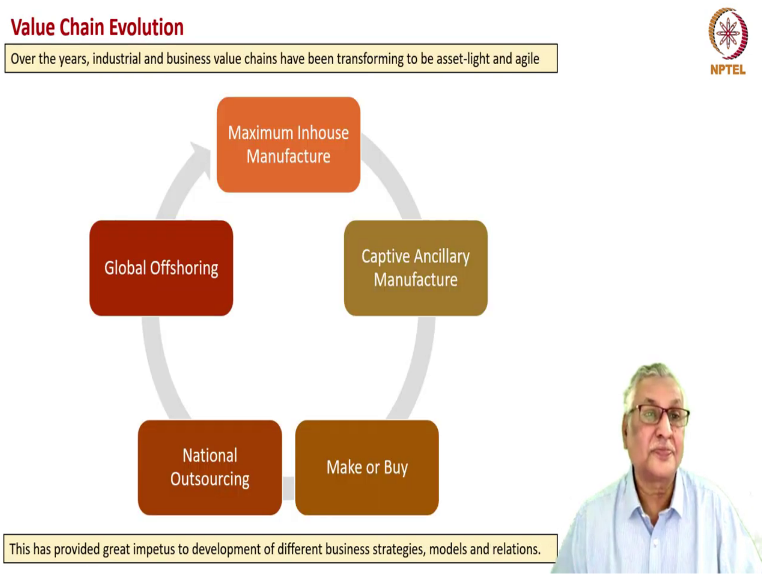

How does the value chain get evolved? Over the years, industrial and business value chains have been transforming to be asset light and agile. There was a time when everybody wanted to do everything to a maximum level possible in house. So, maximum in house manufacture was the mantra decades ago. Later on, it moved to captive ancillary manufacture.

I am willing to provide a scope for ancillary infrastructure to come into support my manufacturing and reduce by manufacturing load. But at that point of time, the interest was to keep the ancillary manufacture captive. Later on, the paradigm moved to make or buy decisions to understand whether you can get the same component done outside, not necessarily by the ancillary company, but any other company in a cheaper and more quality component manner.

So, make or buy became an important aspect of value chain evolution. Then came national outsourcing, that is the thought that there could be many players who would like to specialize in the component or material industry and their capability will be somewhat better and somewhat more agile than the capability of the company to manufacture all of these things in house or through captive networks.

So, the concept of national outsourcing has come about. Finally, today the mantra is about global offshoring. Offshoring is doing something outside the country and again that offshoring can be through in house manufacture of the company's facility or it could be through outsourcing. So, offshoring does not necessarily mean complete outsourcing.

Offshoring could also mean that your own facilities are offshored to an external country. The movement or the evolution of the value chain from maximum in house manufacture to global offshoring level has provided great impetus to the development of different business strategies, models and relations.

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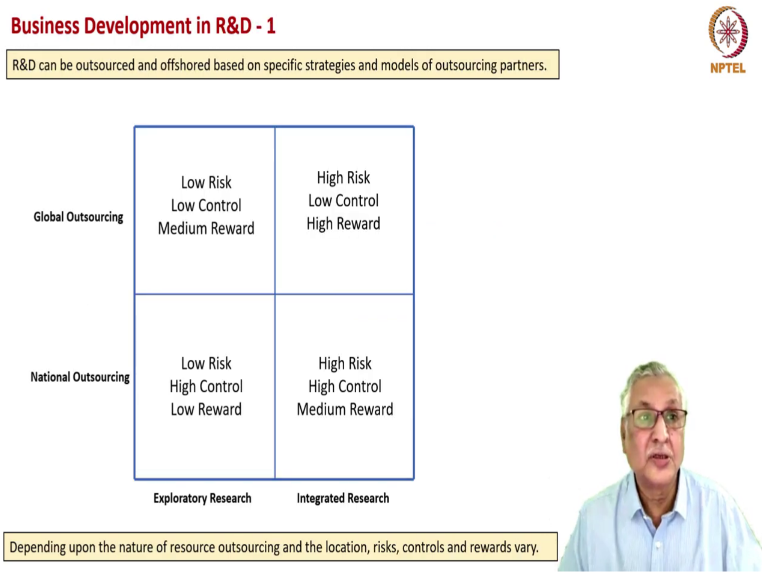

Let us look at this happening in terms of R and D. R and D as we know comprises several activities from development first idea to delivery of the final product through all the studio work, laboratory work and field work.

R and D can be outsourced and offshored also based on specific strategies and models of outsourcing partners. Let us look at 2 types of research. An exploratory research where you try to understand how to do a few things better. So, this is the foundation for improved product that you would like to do or the next generation product.

On the other hand, you might be doing integrated research that is fundamental research on the component to final development of the product from your own stable and you can look at national outsourcing as well as global outsourcing. If you are conducting exploratory research in terms of national outsourcing, the risk R and D has is low.

The company would have high control over the outsourced R and D activity, but the reward will be low. Why are we saying risk is low? Because there is always a risk that if you give an R and D project to someone else, either it could take long time, it could be very cost prohibitive or simply it could mean transfer of what could be your information to someone else.

So, there are risk in R and D outsourcing. But if you have controlled R and D outsourcing in the area of exploratory research, you are likely to have high control with low risk and unfortunately low reward. Let us say you have decided to nationally outsource integrated research that is you want to develop a new food product. So, you outsources to CFTRA that is the CSIR laboratory engaged in the food technology.

You want to develop a new molecule. So, you would like to outsource it to the Indian Institute of Chemical Technology. You want to develop a new molecule in biologics field. You want to outsource it to CMRP. All of these things are national expert bodies. When you do that, you have high risk because your strategy is not the same as the agency's strategy. You can try to align, but they have multiple clients like you and therefore, they may have their own timelines in terms of delivery.

One of the reasons why the CSIR labs have not been as successful as they should have been in proportion to their intrinsic competencies is related to the time taken to develop a product or develop a relationship based on the deliveries. So, it could entail high risk. There will certainly be high control because you can make your periodic visits, see how the project is progressing. The reward would certainly be better than low. It would be a medium reward.

Let us say you wanted to do exploratory research through global outsourcing. The risk will be low primarily, because it is exploratory research and also because global outsourcing companies follow certain standards in terms of proprietary information and client confidentiality. The control of course would be lower, but then the control being lower does not lead to high risk unnecessarily.

The reward would be medium because we are able to bring to your product assorted capabilities that the global outsourcing company has and also the cross pollination effect of someone being specialist in that particular R and D area. Let us say you want to do integrated research through global outsourcing. It will mean high reward because you would be able to generate new product line through this.

You can develop new generation products incorporating the best of global technologies. You would have low control because once the contract is defined and stage gates and metrics are specified, there is little else you can do as part of the control. And there could be high risk because the global outsources always undergo certain ownership transformations. There are changes in the global CDMO business from time to time. So, it could be high risk business.

But nevertheless, it is important to note that R and D can be outsourced and also offshored and there could be specific strategies and context when these kinds of on shoring and outsourcing strategies would be applicable and relevant. And depending upon the nature of resource outsourcing and the location risk controls and rewards vary. Now, let us look at a different paradigm in R and D.

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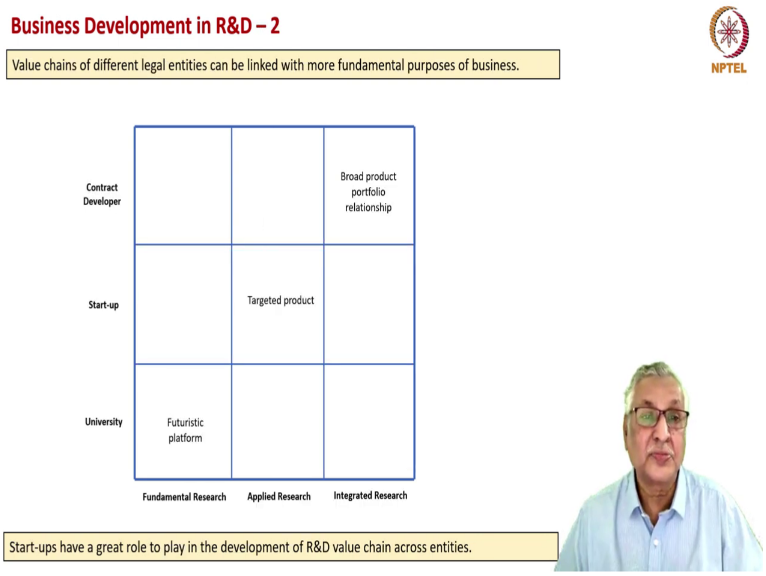

Value chains of different legal entities in this case can be linked to more fundamental purpose of business that is external agencies which are committed to a particular type of R and D have certain deliverables that are intrinsic their strategies.

So, when you look at 3 aspects of research, fundamental research that is the basic foundational research, applied research which is the use of the research findings from fundamental research into product development and integrated research doing everything under one roof of R and D laboratory.

And just suppose these with reference to the developers of the R and D intellectual property namely university startup and contract developer. You have several combinations that are possible while the 9 combinations are possible. I would like to state only 3 at this stage.

When you conduct fundamental research in association with university, you have the ability or the appropriateness to develop a futuristic platform, because universities by definition are conducting advanced cutting edge research. Many of the noble laureates and many of the noble prized developments came through university research that its service speaks highly of the futuristic research that is done in university.

So, if you want to combine fundamental research with university drive to get futuristic platform that is the way to go. If you have a targeted product in mind and that comes through applied research, then you have to look at a startup. An example could be to have a camphor which does not generate that much of smoke as a camphor does and we know that burning of camphor is one of the important aspects of daily [FL] in homes, but the smoke that comes from that is an issue.

Therefore, if you are able to have a camphor which does not result, result in the kind of smoke and suit that is a fundamental development in the thing, but it uses applied research and who will do those kinds of research projects, startups who are always looking for a problem which has not been easily discovered so far and a solution that can be brought in through technology.

Similarly, there could be chemical free shampoos, chemical free toiletries which could be a targeted product for a company which is in the FMCG industry, Bead, Procter and Gamble or Hindustan Lever or anyone else who wants to get into that business. Now, you can think of integrated research being developed and done by a contract developer, a contract development organization whose job is to develop research products for someone else and that results in product portfolio relationship.

There are many pharmaceutical companies in India which have established manufacturing facilities, but have depended themselves on external R and D contract developers. Orbicular is one company which has specialized in developing a range of products for companies such as alembic, Dr. Ready's and various other companies.

So, without investing in R and D capabilities of their own in newer product lines, the companies have been able to secure broad product portfolio and those companies decided that when the R and D competencies available. Elsewhere, why should I invest in that? Rather, I would invest in having manufacturing competencies in house and develop those products and market them in the advanced countries.

When you look at all of these things startups have a great role to play in the development of R and D value chain across entities and their role is going to be as good as the interest shown by the mainstream industry to encourage startups and also take up startup products for mainstream development once the product has done the proof of concept. Generally, there are 3 types of concepts which are required in taking up a startup product for mainstream transfer.

One, proof of concept, then the proof of product and third, the proof of business; Proof of concept must be entirely that of the startup. Proof of product could be a joint endeavor of the startup and a mainstream company which wants to invest in that company or take that product. But proof of business has essentially to be in the nature of the mainstream company's strategy. There would be startups which are interested in doing all the proofs by themselves and become a mainstream company by themselves. That is possible.

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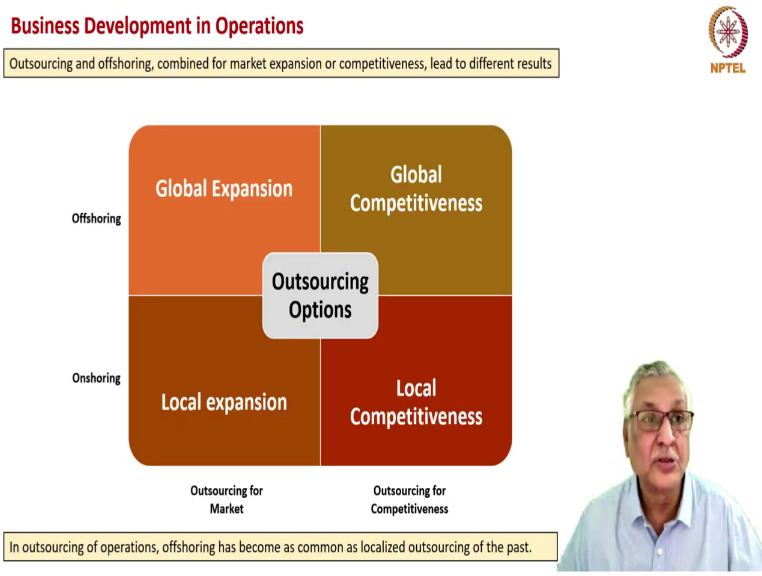

Now, when you look at business development in operations, the shades vary. Outsourcing and off-shoring when combined for market expansion or competitiveness will lead to different results. You can outsource for marketing; you can outsource for competitiveness.

You can do that outsourcing within the country or outside the country which is on-shoring and off-shoring respectively. If you outsource for market based on national facilities that are available for outsourcing, then you achieve only local expansion. If you outsource for competitiveness because someone else does better than you do and that company is within the shores of the country, then it will result in local competitiveness for you.

You will be able to substitute, for example, one bulk drug by another bulk drug and achieve greater competence and competitiveness at the formulation level. Suppose you are outsourcing for market and you do it with companies which are outside your shores, that is you do off-shoring, then you are able to do global expansion. And if you outsource for competitiveness and you do that with elements which are outside your shores, then you achieve global competitiveness.

Basically therefore, there are four outsourcing options that are available to you. You can do it locally for either market expansion or competitiveness. You can do it globally again either for global expansion or global competitiveness. In outsourcing of operations, off-shoring has become as common as localized outsourcing used to be in the past that we need to keep in mind.

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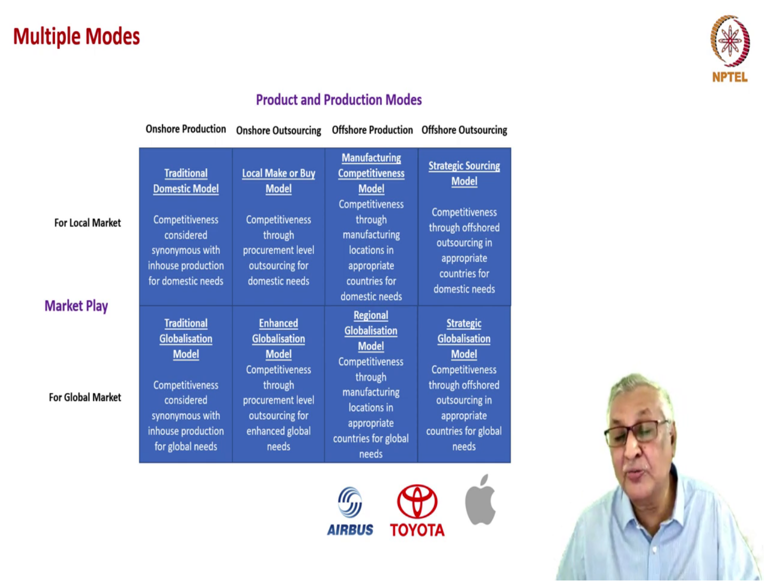

Therefore, there are multiple modes of on-shoring and off-shoring. Let us look at a grid which has product and production modes as one axis and market play as another axis. Let us look at in the product and production modes four combinations, one on-shore production that is you do everything within the company, within the nation or you do on-shore outsourcing. It does not mean that on-shore outsourcing will not have any on-shore production at all.

But in terms of illustration of a model, let us look at these as distinct elements. Similarly, you can have offshore production that is you have to take your production in countries other than yours. You do outsourcing in countries other than yours. And you do these things for either local market or for global market. When you combine this product and production mode dimension with the market play dimension, you will have 8 different models.

When you have on-shore production working for local market, it would be the traditional domestic model that is how the business evolved to satisfy market needs. In this model, competitiveness is considered to be synonymous with in-house production for domestic needs. If you look at the evolution of the Indian industry, that was the starting model for all companies and all industries.

Then came the local make or buy model. This is considered to provide competitiveness through procurement level outsourcing for domestic needs. Still, it has not gone out of the local market ambit nor did it go out of the outsourcing within the country orbit. Now, let us say we move to offshore production model.

That is, you establish your facilities in various countries. Suppose you are an exporter of apparel to Bangladesh. You might export through Tripur or you may say that I will set up a facility in Bangladesh because Bangladesh is also a low-cost country. Therefore, you can establish your facilities there and then meet the local market needs or even bring the products from there to your own market.

When you bring those products for your market needs, but not to satisfy that market; that means, that you are becoming a manufacturer competitiveness model player where you are achieving competitiveness through manufacturing locations in appropriate countries for domestic needs.

When a multinational company sets up 100 percent export-orient unit in India to manufacture products in a competitive manner for use in the United States, which is the home country of the parent that is this manufacturing competitiveness model. When hospital set up its facilities in India, it took all of the production to the United States for completeness. It did not sell anything for its own needs.

So, it was in a manner of speaking a project that was established elsewhere for fulfilling the needs of the local market. The same thing can be done by an Indian company. It can, if it believes that competitiveness is achieved through establishment of the facility in other countries and brought back as products to the parent country, it can well do so.

It can do so appropriately and effectively. Then the other one is strategic sourcing model that is you do this and you offshore the outsourcing that is you do not want any facility. You use the facilities available that are in those kinds of cost-competitive countries and make your product more competitive within your own domestic market.

You can repeat these four aspects with reference to a global play. So, if you do your production onshore; that is within your own country and export, then it is globalization or the fundamental or the early vintage model. It is the traditional globalization model. Competitiveness in this model is considered to be synonymous with in-house protection for global needs.

All the companies which you see as export oriented companies have started their life with this traditional globalization model. Within that you start understanding that it does not make sense to make this product here, it may be better to get this outsourced. Therefore, within whatever was being made, you (Refer Time: 31:41) something which could be outsourced, so that the globally exported product will be more cost-competitive.

Again, it is a mirror image of the local make or buy model, but with reference to the global model. What does it do? It only improves the scale capability of the globalization model that you have adopted and also probably provides, but also provides broader availability of components to be able to supply greater need. Therefore, I would call this as an enhanced globalization model.

Then you could have a regional globalization model whereby you achieve competitiveness through manufacturing locations in appropriate countries for global needs. The automobile industry typically follows this model. Toyota for example, has got manufacturing plants in several locations which are used to supplement their efforts to have market access in those countries.

If Toyota has Toyota, Kirloskar in India, it is to sell its products in Indian market. So, it is a regional globalization model. Then you can also have a strategic globalization model where you achieve competitiveness through offshored outsourcing in appropriate countries for global needs. And Apple is a great example of strategic globalization model where it offshores and also outsources all of its production to various countries and various companies to be able to get the best supply chain augmentation for it is needs.

Toyota follows regional globalization model, as you would see Airbus also follows a regional globalization model. So, as a company evolves eventually it must come to a regional globalization model or a strategic globalization model, if the idea is to become a globalized company. So, these multiple modalities must be understood by business strategies as well as by business development executives.

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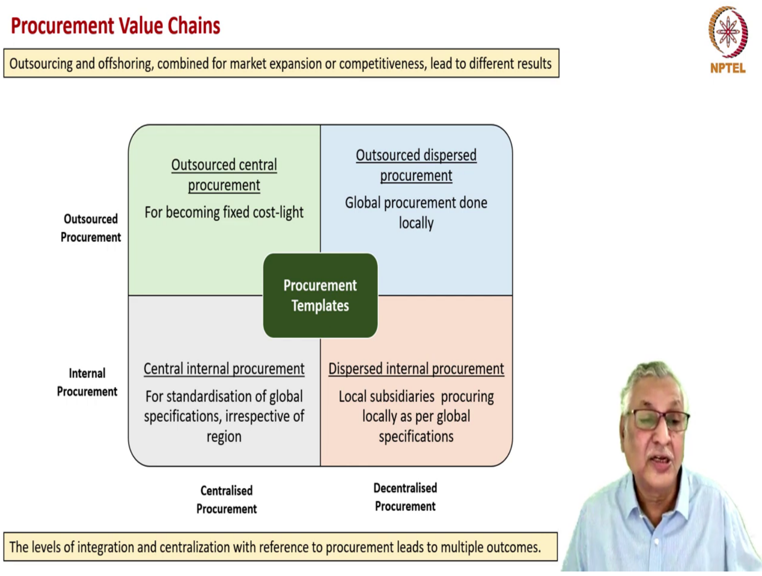

Let us look at procurement value chains because all of this will happen when the procurement value chain is very strong. Outsourcing and offshoring are not done directly by the manufacturing executives or R and D executives. They are done through the procurement division. Therefore, they must have their own templates which are relevant for development of these value chains and the models.

Basically, there are 2 types of procurement that can happen in any industry or in any company Centralized procurement or decentralized procurement. What is centralized procurement? Even if you have multiple product lines, even if you have multiple sites and multiple R and D laboratories, only one department centrally located say in a corporate office or in the largest manufacturing site would undertake procurement for all the sites, product lines etcetera.

By decentralized procurement we mean that some of the sites which are evolved some of the product lines which are evolved will have the independence to their own procurement models and that independence helps those companies and those procurement divisions to achieve a locally responsive procurement capability.

And this procurement could be internal procurement or it could be outsourced procurement. Procurement itself as a function as a value chain element can be outsourced or it can be carried within the company. So, when you have centralized procurement and internal procurement, you have central internal procurement and this helps in the standardization of global specifications irrespective of region.

So, if you want to use a bolt, you just have to see the overall bolt portfolio that is available in the company and develop your RFQ request for quotation and provide it to the procurement division to be able to do that. And there will be a rich database of the components there specifications in this model which can be referred to by developers, production people and various other shared services people to be able to place their orders on the central internal procurement division.

Let us say you have decentralized procurement and internal procurement approach. This is called dispersed internal procurement. Local subsidiaries procure locally as per global specifications. These specifications are set globally, but the procurement is done locally because A that provides greater agility leaves better cost economics for the company and enables better relationships at a local level.

At times when the procurement is done centrally, the distance that separates the procurement division and the local supplier would be so, vast that there could be either misspecification, misunderstanding of the capabilities or even padded pricing because they know that everything is looked at in a dollar term. Suppose you have centralized procurement and outsourced procurement that is you trust one company to do the procurement for all of your requirements, but that company is only one company which is tied to you.

Then you have outsource central procurement and that enables the company become fixed cost light. And if you have decentralized procurement and that also you have outsourced, then you are having the ultimate lightness in procurement which is outsourced dispersed procurement where global procurement is done locally under your control, but actually it is not a part of your company. The levels of integration and centralization with reference to procurement lead to multiple outcomes as we have seen here.

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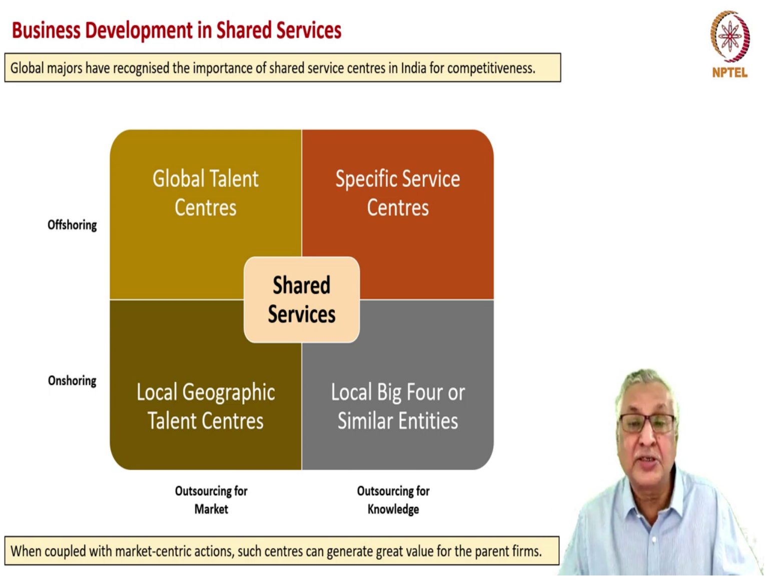

Then we look at Business Development and Shared Services. We looked at R and D, we looked at operations, we looked at procurement. Now, we are looking at shared services. What are shared services? Shared services are those which are common to any function, finance is common to any function.

If you want to assess your profitability, you need support of the finance division. If you want to understand the productivity of people in rupee terms, you want the support from the finance. If the company needs to manage it working capital in any product line or across sites, it needs the finance division.

So, it is a shared service and when companies are so global and so large in terms of the overall capability, it does not make sense for companies to have shared services as an internal high people intensive and high cost activity.

Therefore, they spin off shared services as an outsourced and offshored activity. So, let us look at 4 combinations here. You outsource for the market requirement; you outsource for the knowledge. These are the 2 options that are available in terms of outsourcing and that outsourcing can be within the nation on shoring or it could be outside the nation offshoring.

So, when you outsource for market within the nation, you get local geographic talent centers. That is your based in Chennai and you do not want to have anything done within yourself in respect of all the supportive value chains that we have seen earlier from HR to finance to legal to anything. And you decide to give these jobs to various companies which are in various parts of the country. It is local geographic talent centers.

You can outsource your entire human resource recruitment to CRIS corporation or hit or any other company. You can give away your entire compensation management to a company such as Meritor in the past or companies which specialize in those kinds of activities that is local geographic talent center.

You are outsourcing for market and at the same time you are off shoring, then you generate global talent centers. That is you require it for your benefit in those markets and you have given it to somebody else. That is you want to develop a product for United States of America and you want to use the development agency in clinical trials for proving your product and helping you to submit the dossier with the clinical trials to the FDA.

And in such case, you approach a global talent center to do the task for you. Similarly, if someone else wants to do a product exclusively for India, the company will use Indian clinical research talent center. Then there would be companies which are based within the country with some kind of global pedigree, but they essentially serve the Indian clientele.

You can take the example of Big 4 Price Waterhouse Cooper, KPMG, Deloitte and Stendian. These are called the Big 4 of accounting and management consulting offlet. And those entities undertake outsourcing of knowledge within the nation for meeting the needs of the company and this is a viable outsourcing on-shoring strategy.

But there could be global talent centers which also have specific ideas in terms of serving the needs of the multinationals. So, in this case you outsource for knowledge and you also offshore for knowledge and that becomes the proprietary competence of the global company. So, when coupled with market-centric actions such centers can generate great value of for the parent firms.

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Here are some of the cases which reflect shared services and knowledge domains that are established by global corporations in India. Many companies have recognize the importance of shared service centers in India for competitiveness. In fact, India and Indian companies themselves have not recognized this talent that is inherent in India.

This capability that is inherent in Indian people as much as the global majors have recognized. Mercedes Benz has 1000 of people undertaking design research and support services for its product lines. Now, what is has a shared services center in Hyderabad which does lot of document related and clinical research related exploratory research related activities.

Pfizer has established as similar setup, but in a greater research framework there is undertaking lots of research in various APA and dosage forms activity along with regulatory affairs and medical analysis in Chennai. Intel has it is design centers supporting R and D. Amazon has its customer service center based in India. Companies such as Macancy and World Bank have their service centers established in India.

So, top class global majors have established their global centers in India with thousands of employees. What are Indian companies which are large waiting for? That is the question and that is something which business development people can undertake by having relationships with capable entities and making it possible for the large companies to become asset light, less people intensive and focus their attention on some things which they are good at in terms of product conceptualization, product development and core manufacturing.

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I talked about Airbus being in the regional globalization mode. Similarly, I talked about Apple. Let us look at the example. Airbus is a collaborative pan-European effort. When you look at Airbus and it is system component manufacturing locations, you have this important piece of information.

I have taken 14 items and their manufacturing locations. You can see that countries such as USA, Sweden, Canada, UK, Japan, China, France, Australia and Korea participate in the manufacturing of this important component of Airbus. But when you trace the movement of a particular product in terms of the assembly of the product as well as reassembly of the product or distinct of the product.

The components as well as the semi assembled or fully assembled aircraft move across the nations and in some cases, there would be back and forth cross-border movements as well. And that is the beauty of Airbus manufacture in Europe along with several other developed countries helping it. Airbus thus maybe see as a truly multinational development and manufacturing enterprise.

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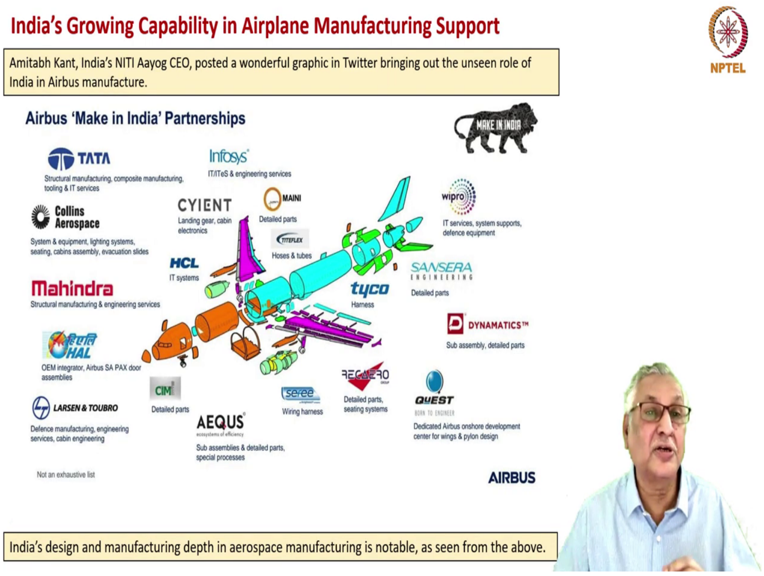

There is something which is very unique about Airbus and India too. India's growing capability in airplane manufacturing is illustrated by the several make in India partnerships that Airbus has. Amitabh Kant, India's NITI Aayog CEO, wonderful graphic in Twitter bringing out the unseen role of India in Airbus manufacture. This is a blown up view of the typical aircraft and you can see that many Indian companies are participating in the manufacturing as well as design services related to the aircraft.

Tata does structural manufacturing, composite manufacturing, tooling and IT services. Collins Aerospace does system and equipment lighting systems, seating, cabin assembly and evacuation slides. Mahindra does structural manufacturing and engineering services. Hindustan Aeronautics Limited HAL military aircraft manufacturer this is the OEM integrator and Airbus SA PAX door assembly provider.

Larsen and Toubro our diversified capital goods infrastructure company does defense manufacturing, engineering services and cabin engineering. CIM does detailed parts, Aequs does sub-assemblies and detailed parts, Sefee does wiring harness. RECARO does detailed parts and seating systems. Quest provides dedicated Airbus onshore development center for wings and pylon design.

Dynamatics carries out subassembly and detailed parts. Sansera Engineering provides detailed parts, Tyco provides the harness. Wipro provides IT services, system supports, defense equipment. Titeflex has horses and tubes in its supply portfolio. Many has detailed parts. HCL provides IT systems. Cyient provides landing air cabin electronics and Infosys India's leading IT company, provides IT, ITES and engineering services.

So, what Airbus does in India is alignment with making India theme of a government and also is helpful to the company itself in terms of it is onshoring and offshoring. So, India's design and manufacturing depth in aerospace manufacturing is notable as seen from the above.

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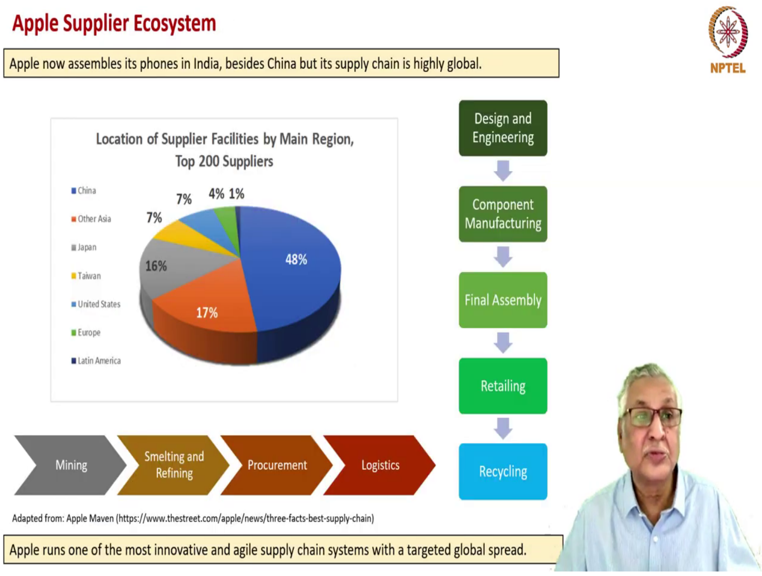

You look at Apple. I said that that is one of the best strategic offshoring and outsourcing model that you can look at. Apple now assemblies it is phones in India, besides China, but it is supply chain is highly global. This is a graphic showing the location of supplier facilities by main region covering top 200 suppliers. 48 percent of the suppliers come from China, 17 percent from other Asian countries and 16 percent from Japan.

So, sitting in the Cupertino headquarters, the company has diversified its production to so many countries which are so far off and that is the capability of the Apple supply chain system. And what does it cover? It starts from design and engineering in the headquarters. Then most to component manufacturing, final assembly, retailing and recycling as well. Apple has now taken upon itself recycling as one of it is important goals as extended producer responsibility.

It is also interested in mining, smelting and refining, procurement and logistics. Therefore, Apple runs one of the most innovative and agile supply chain systems with a targeted global spread. Global diffusion of its supply chain capabilities is a part of the business strategy of Apple.

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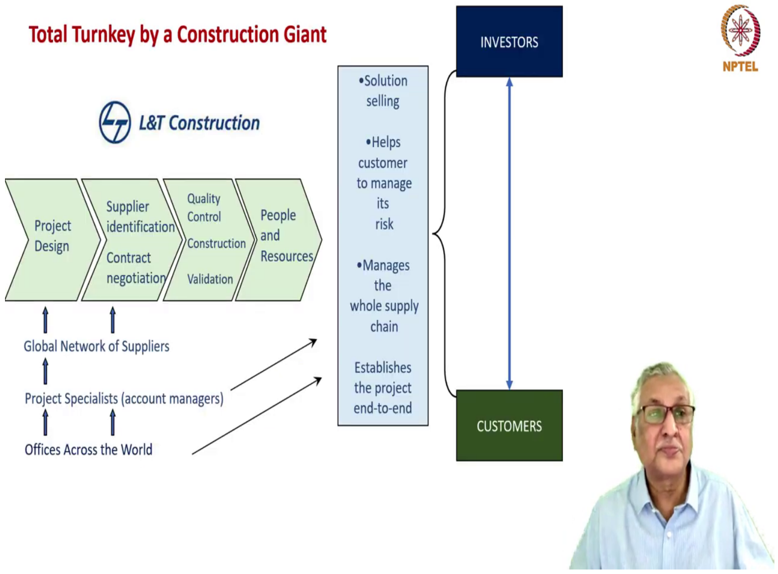

We talked about procurement being a turnkey item that is completely given to another company. But the entire project can also be a turnkey project. Let us take the example of L and T Construction as a construction giant taking responsibility for a project entirely end to end. There could be project design, then there could be supplier identification, then there would be contract negotiation, quality control, construction, validation, people and resources.

These are the essential elements of any project. Typically, companies used to do all of these things in-house and later on began giving it away to various vendors specialized each of the activities one by one. But still, there would be procurement departments dealing with those vendors.

There would be RFQs, there would be bid processes, there would be selection processes, there would be contracts which are developed by the company. And L and T construction in such a scenario could be the major civil engineer and constructor.

But it would not be doing any of those activities. But in this model, which is being suggested as a turnkey, the L and T construction can be given a total responsibility saying that I wish to invest 1000 crores in building of a pharmaceutical facility. You undertake this end to end.

So, in which case, L and T construction dips into its global network of suppliers, creates a team of project specialists who also will serve as relationship managers and dip into the capabilities of offices across the world to develop the entire concept of pharmaceutical factory discusses with the company, gets its inputs, gets the final designs drawing, approved by the company, but does everything by itself.

And that will include solution selling, helping the customer to manage its risk, managing the whole supply chain and finally establishing the project end to end. When you have this kind of business model, companies such as L and T construction will have customers at one end and investors who appreciate the business model as at as investors at the other end. So, this is a total turnkey outsourcing and could be offshoring by construction giant.

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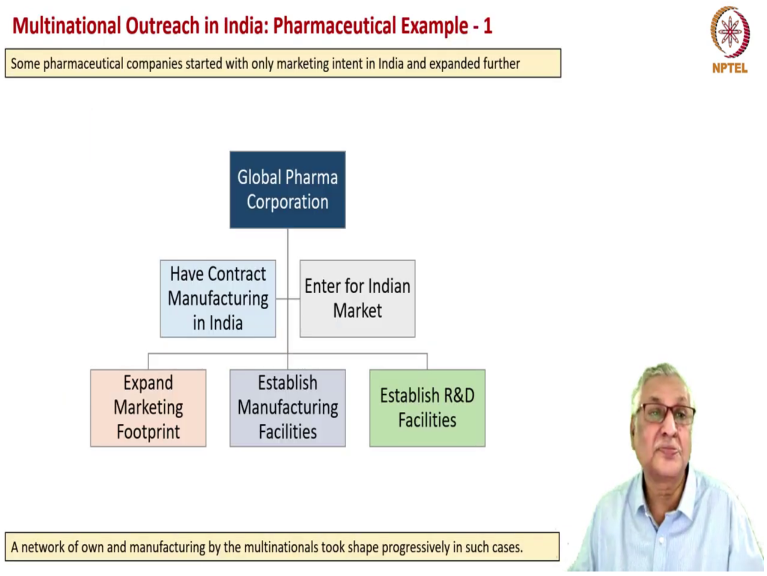

Let us look at the multinational outreach in India. This itself is a very interesting topic. I take the example of pharmaceutical industry to illustrate. Many pharmaceutical companies, particularly global manufacturing companies started their life not with manufacturing, but with marketing. And the intent was simple to sell their products in India, but through outsourcing within India.

So, a typically a global pharm corporation sets its base in India, develops a contract manufacturing relationship in India that is outsourcing as far as the MNC is concerned locally for the local market. Then enters Indian market and the contract manufacturing is essentially for the Indian market. Then establish manufacturing facilities after only the expansion of marketing footprint takes place and then establish R and D facilities as the third phase.

This way the company is able to manage its risk, manage its cautionary approach towards an emerging market. So, start with marketing as an intent, have contract manufacturing to support, expand your marketing capability, establish manufacturing facilities. So, that you could have better control of more important products and finally, establish R and D facility. A network of own and manufacturing by the multinationals took shape progressively in such cases.

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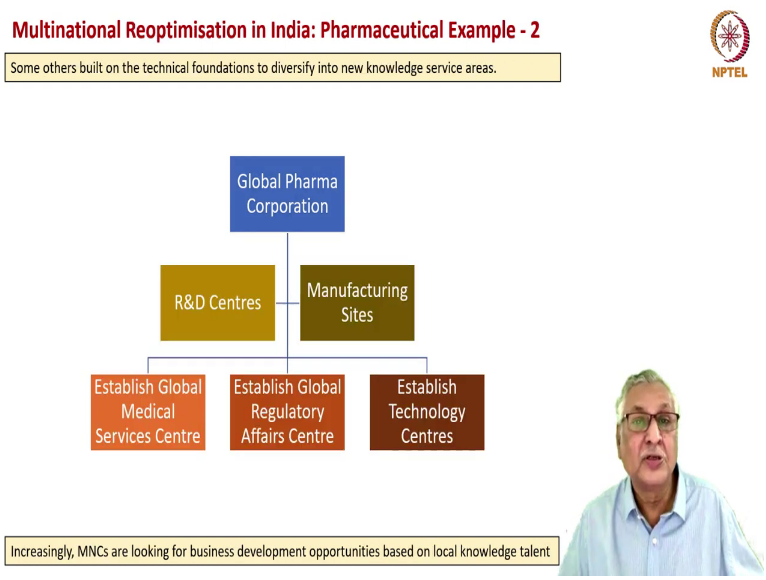

There is also possibility of a re-optimization that could happen in India. Some other MNCs built on technical foundations to diversify into new knowledge service areas. So, a global-pharma corporation enters India, it sets up its R and D center. Then it also sets up its manufacturing sites. This is the perfect example of Hospira which set up it is manufacturing sites and R and D centers in India.

And then go on to establish a global medical services center, establish global regulatory of a center and establish technology centers. Together this has become the working model of Hospira in India and also Pfizer which has taken over Hospira India in India. So, increasingly MNCs are looking for business development opportunities based on local knowledge talent and this model helps them in that process.

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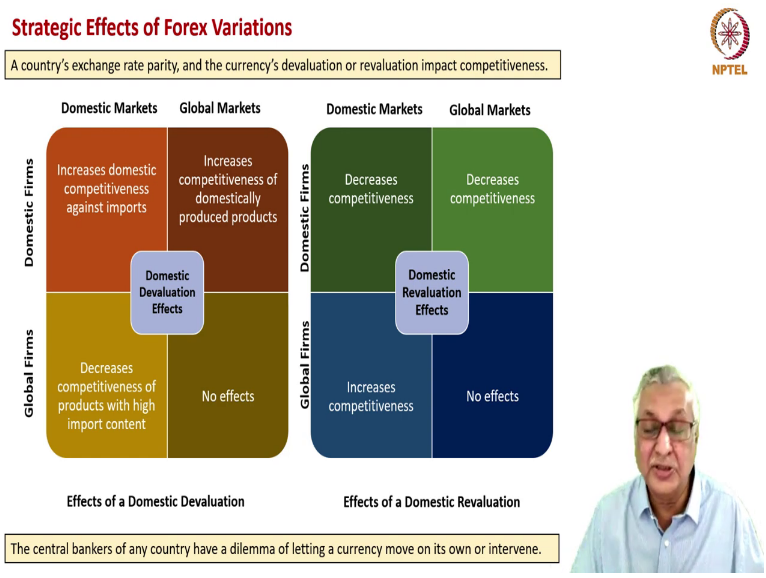

When you do this kind of onshore offshore activities, in-house manufacturing activities, offshore manufacturing activities, you got to recognize the importance of exchange rate parity, because every country has its own currency and that currency has foreign exchange rate parity. And that depends upon the strength of the company and also the strength of the global currency which is the US dollars.

A country’s exchange rate parity and the country's devaluation or revaluation impact competitiveness; what does devaluation mean? If the value of your currency becomes lower relative to the US dollars, then it becomes devalued currency. On the other hand, if your currency becomes stronger relative to the US dollar, it becomes a devalued currency. Once upon a time India had rupees 45 to 1 US dollar as it is exchange rate parity, 4 years ago it was 65 rupees to 1 US dollar and today 82 rupees to 1 US dollars.

Does it mean that Indian economy has become worse know over these years Indian economy has only grown stronger, but the US also grew stronger and therefore some of these things have happened in favor of strengthening the US dollars. Not only that, there have been several other international developers that have taken place, the geopolitical tensions in Russia, Ukraine, the volatility in crude prices and raising bond yields and interest rates in the United States.

They have resulted in a flight of capital from emerging markets to the western world and that has made the US dollars stronger and harder vis-a-vis the other emerging economies. Even so, any devaluation that you see in Indian rupees far less than what you see in respect of other currencies with reference to dollar. Now, let us look at the effects of domestic devaluation vis-a-vis domestic market activity and global market activity.

Now, let us say there are domestic firms which are operating in domestic markets. That increases the domestic competitiveness against imports right. When you are operating in a domestic market, there is a company is operating in India to sell it is washer dryer, which does not have any import content.

Let us imagine all the components are made in India and it generally faces import competition. But when you have devaluation of the Indian rupee against US dollar, any product that is imported would automatically be costlier because 1 dollar will be 82 rupees, the same dollar 4 years ago or 5 years ago was only 65 rupees.

So, a product which was on par with an imported product, let us say at 65 rupees now becomes cheaper. That is the effect of domestic devaluation as far as domestic firms and domestic markets are concerned. Then you have domestic firms operating in global markets. That is you have your products manufactured in India, but are exported.

When that is the situation, your domestic devaluation improves the competitiveness of your product. Let us say a product takes 82 rupees to produce, 5 years ago the same 82 rupees would have been 1.2 dollars when the product is exported. Today, that same product is at 1 dollar, because the exchange rate parity being in favor of the dollar and devaluation as far as India is concerned.

So, the competitiveness of Indian exports becomes more in this case. Let us look at a case where global firms operate in domestic markets. Let us think of a Samsung which is selling it is most sophisticated consumer electronics item or smart device in India completely based on imported kits or mostly based on imported kits. You can think of an automobile which is in the luxury segment, a Lexus automobile or a Mercedes Benz, high-end automobile which is sold based on the completely built unit or almost semi-built units.

That decreases the competitiveness of products because of the high import content and therefore, high import and also, they have higher tariff impact, because of the high import content which is translated in higher rupee terms. So, the products will become uncompetitive. If there is a global firm which is operating in the global market, there would be obviously no effect.

Now, let us look at the effects of domestic evaluation on the same combinations, global firms, domestic firms, domestic markets and global markets. As far as the domestic firm market combination is concerned, it decreases the competitiveness as far as the global markets are concerned, decreases the competitiveness because your products are between that much more costlier.

And as far as the global firms and domestic markets are concerned, increases the competitiveness because the dollar has become cheaper relativity your think. Therefore, you can have a flood of cheap imports coming in and if you are a global firm, global market combination, there are no effects.

This is a simplistic and simplified presentation of the effects of foreign expatriations and the Forex movements as I have outlined or dependent on number of macroeconomic factors and the flow of funds into an economy in terms of the primary markets through foreign direct investments in industrial activity and into the secondary markets through foreign portfolio investments in the stock markets.

Together determine along with the import export trade balance, the foreign exchange results which a company has and the higher the foreign exchange results the company has, the higher will be its capability as a strong currency. The central bankers of any country have a dilemma of letting a currency find it is own place against a portfolio basket of foreign currencies or in particular against US dollar are intervened when it is required to stabilize industrial situation.

Because a exchange at parity which is continuously volatile will make it difficult for industries and companies to plan their operations. So, the importance of Forex variations in the outsourcing and offshoring models is very much a factor that needs to be considered.

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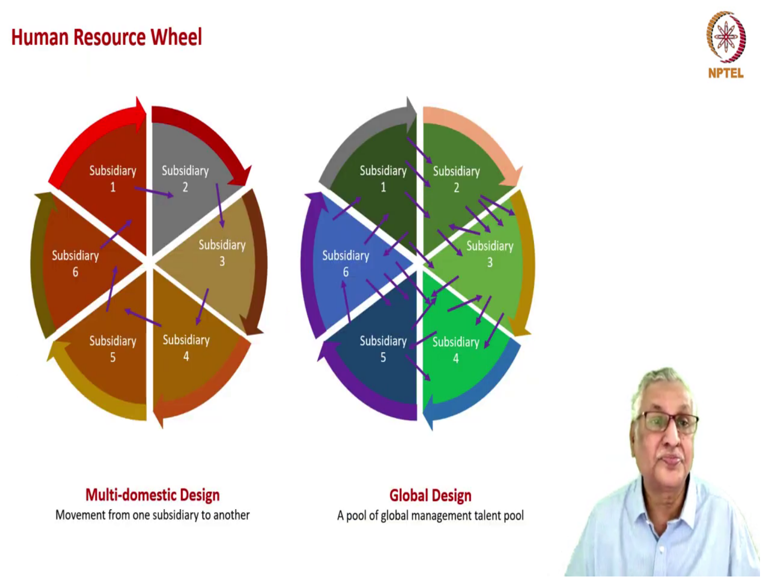

Then let us look at also the talent pool which drives the industry both in terms of onshoring and offshoring. If you are looking at an onshoring and offshoring model or if you are looking at an offshoring model that caters to different markets through multiple subsidiaries, you need to have a human resource wheel that supports such activity on a business model.

Theoretically and again based on historical practice we have what we call multi domestic design, that is there is a career path that is laid out in the parent company and it says that for you to become a top executive in the parent company you got to go through several subsidiaries. And at the end of your movement across the subsidiaries you become eligible for a very senior position in the hierarchy of the parent company.

And that is what you could see with several expatriate leaders who have been computed from the foreign corporations to India, Thailand, Malaysia, Indonesia and various other countries.

So, you start with subsidiary one, you undertake a particular type of activity then you get move to another subsidiary generally with some elevation and then after a string there you get to another subsidiary.

And finally, after this subsidiary 6 you probably move to again subsidiary one at a bigger position or even go to the parent headquarter. Today increasing the multinational companies are recognizing that you need to have a global talent pool. It is not that you have to have a career development and human resource movement set up as a linked paradigm.

In this case a pool of well recognized well talented people are enabled to move across any subsidiary and in any manner with any frequency and opportunities are posted across the global network and people can bid for those opportunities and move. And as this kind of global people movement takes place the multinational corporation can generate a pool of talented global managers who can undertake any type of task in any type of global setting.

And this is the ideal human resource will which will power globalization of companies and this is the model of global design of global management talent pool that would be increasingly important in the globalization. Indian companies which are having strong globalization interest must also adopt a model of this kind. So, with this we come to the end of this lecture. I hope you enjoyed it. I hope to see you in the next lecture.