Business Development from Start to Scale
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Week - 10
Business Development Competencies
Lecture - 47
Functional 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 47th in the series, we discuss the topic of Functional Competencies.

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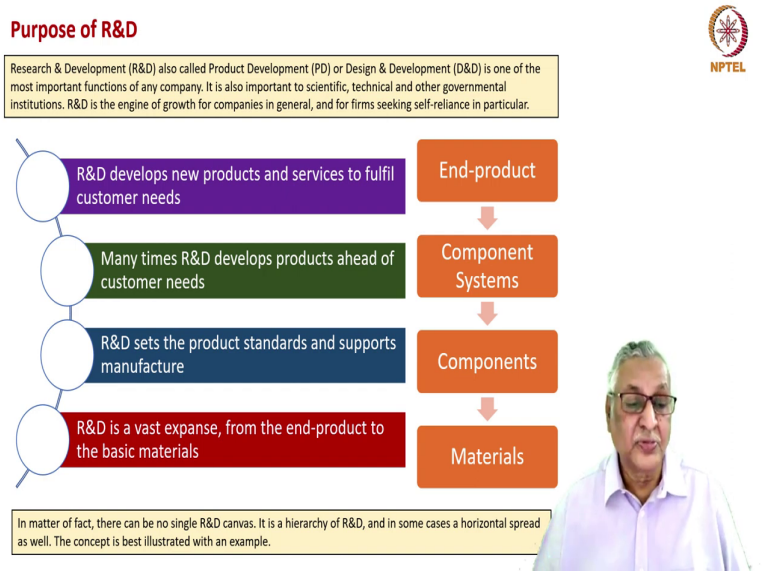

We have seen the importance of value chain and the value chain comprising itself of several functional specializations or elements as I called it there. Let us look at five functional

specializations that are important for any organization. It is equally important for a business development leader to understand the important functionalities of the organization and how they can serve as core competencies of the organization. That is an essential foundation for developing business for a company.

First, let us take R and D. Research and Development R and D also called Product Development PD or Design and Development D and D is one of the most important functions of any company. It is the engine of growth for a company. It is also important to specialized scientific, technical and other governmental institutions.

As I said, R and D which is the driver of growth for companies in general and for firms seeking self-reliance in particular. Because with R and D, you can have new products and new services which will fulfill customer needs in a unique fashion. R and D is important for any company. Many times, R and D is required to develop products ahead of customer needs.

R and D sets the product standards and supports manufacture. R and D is a vast expanse from the end product to the basic materials. It is not enough for an R and D leader to think of only the product. The R and D leader has to think of the components that go into a product and the materials that make the component because all of these things will have an important impact on the way the product is developed and manufactured.

So, from end product to component systems to individual components and ingrained materials, R and D is indeed a universe of technology and a mix of various sciences. In factor of fact, therefore, there can be no single R and D converse. It is a hierarchy of R and D and in some cases, a horizontal spread as well. The concept is best illustrated with an example.

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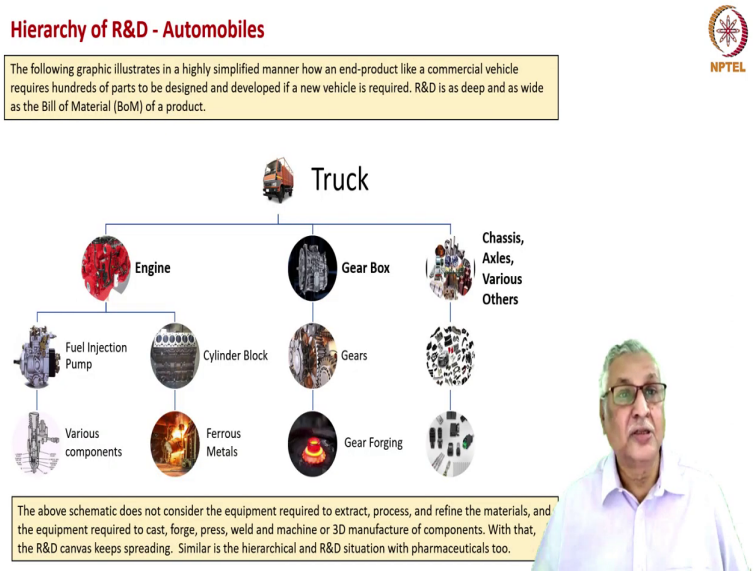

Let us look at an automobile. This illustrates in a highly simplified manner how an end product like a commercial vehicle requires hundreds of parts to be designed and developed if a new vehicle is required. R and D is as deep and as wide as the bill of material of a product. Bill of material is nothing, but a listing in a hierarchical manner, all the components that are required to manufacture a product.

In a very simplified manner, let us take the example of a truck. It requires an engine, a gearbox and various other components such as chassis, axles and internal accessories as well as external accessories including tires. Engine itself comprises the cylinder block, the cylinder head and the fuel injection pump, the crankshaft, connecting rod and several things such as the ones I have mentioned. And fuel injection pump itself requires various components including the electronics.

Cylinder block requires ferrous metals for the cylinder block to be made. When you look at a gearbox, you request number of gears and a transmission casing. The gears themselves have to be manufactured through the forging process. Items in chassis such as the side members, the cross members, the front axles, the rear axles, the propeller shafts, the spring brackets, the springs themselves, the tires and several others in your global to mention in this lecture, all require their own technologies.

The above schematic does not consider the equipment required to extract, process and refine the materials and the equipment required to cast, forge, press, weld and machine or even 3D manufacture the components. With that the R and D canvas keeps spreading. Similarly, is the hierarchical and R and D situation with pharmaceuticals too.

Why does with 3D manufacturing the impact will change? 3D manufacturing or additive manufacturing is a novel way of reducing material consumption in a manufacturing floor by manufacturing a part direct from the computer aided design and that requires special materials which are bonded together as part of the 3D printing process.

While it will have very complicated profiles and very seamless development as a part, its strength is still a question of enigma. So, if you want to use a 3D printed part in a particular assembly, you need to understand this weight strength characteristics, the usage characteristics and the ability of the 3D part to stay durable and reliable and that requires R and D.

Therefore, any change in any material, in any component, in any manufacturing facility or in any manufacturing process will require R and D to focus on that particular change and understand its relationship with the overall R and D. That is why R and D is highly complex. It is not repeatable. It is always experimental. It is always in an validatory model for hypothesis.

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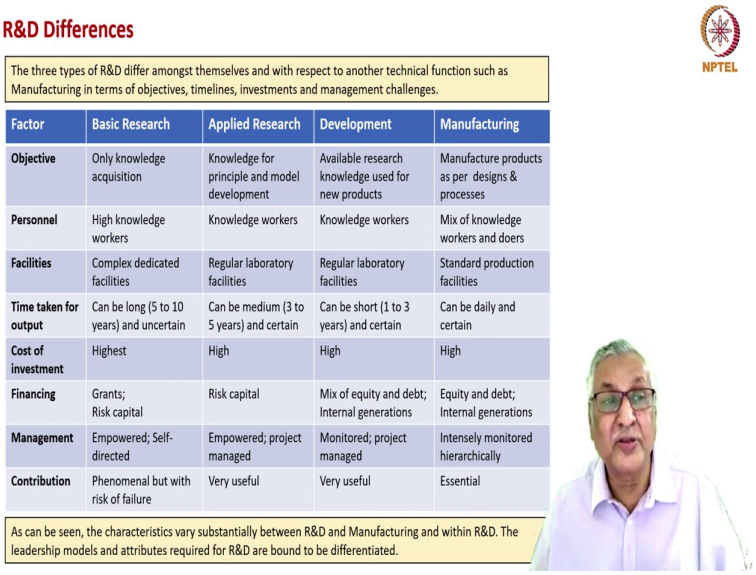

There are basically 3 types of R and D. The first type of R and D is basic research that is fundamental research. The second is applied research and the third is developmental research. I have compared these 3 types of research along with manufacturing. Objectives, timelines, investments and management challenges are enumerated in the table below.

What is the objective? Basic research objective is only knowledge acquisition. Is there a material that is superior to cobalt for batteries? Is there a material which is superior to graphene in the materials area? Is there something which can be done by nanotechnology in a field which is not engineering? So, those are the kinds of questions which basic research has. Is there a kind of molecule that can be discovered for a disease pathway which is proving intractable? These are the questions.

In applied research, the knowledge that is available is taken for further development of the principle and the research model. For example, nanotechnology can be utilized in pharmaceutical development for targeted delivery of medicines. Gene editing technology which is basic research can be applied to remove certain of the disease causing syndromes in the DNA of a person or genetic technology which is again a foundational science can be used for personalized medicine.

So, development of basic research for applied requirements is applied research. Development is nothing, but incorporation of the applied research into development of new products. Manufacturing is nothing, but manufacture of products as per designs and process. Given the three different types of objectives that the three types of research have and the manufacturer compares and you can also appreciate now various factors of importance for R and D.

For basic research, you require highly knowledgeable knowledge workers. They need to have the capability to innovate and protect the intellectual property. Applied research also requires knowledge workers, but not to the same degree of basic research. Development also requires knowledge workers whereas, manufacturing requires a mix of knowledge workers and doers.

The facilities for basic research are complex dedicated facilities. The facilities for applied research are regular laboratory facilities. What you require for development again are regular laboratory facilities? Whereas, for manufacturing, you require standard production facilities which ensures repeatability.

Whereas for applied research and development, you will have R and D facilities which are reasonably standard, but they will be capable of modifying themselves to various product development requirements. That is you may have a laboratory level life lyophilizer, but it can undertake lyophilization of different types of products.

Whereas in a manufacturing location, you will have a massive lyophilizer which can undertake only two or three types of products. The time taken for output that is signed off

output would be very long in terms of basic research. It could be 5 to 10 years or even more when you think of fundamental strides in science and technology.

In respect of applied research, the time required could be medium 3 to 5 years, but there would be some certainty with the reference to the applied research. In respect of development, the time can be short 1 to 3 years and certainty would be even higher. And in terms of manufacturing, it can be daily, it is repeatable and it is certain.

If you have set up your machinery for manufacturing of a particular type of product and you know fairly automated various requirements in terms of the tools, the cutting parameters, the coolant to be used and the time taken to do a certain type of machining. The whole process is repeatable and standardized and is designed to produce products of a certain quality.

Whereas that is not so, with any type of R and D. Facilities may be established, but the output based on the variables could be quite different. The time taken for development as I said is long 5 to 10 years and uncertain whereas, manufacturing is pretty certain. In respect of investment, basic research calls for the highest investment and that too with little knowledge of the final output.

Applied research requires high investment whereas, development also will require high investment. Manufacturing facilities require high investments, but are there of adifferent scale. Typically, you can set up an R and D center in an automobile company with an investment of 200 to 500 crore.

But a manufacturing facility which will have an output of 1 lakh units or 2 lakh units will require an investment of thousand crores or two thousand crores of rupees that is the order of difference between an R and D facility and a manufacturing facility. Typically, basic research is financed by grants and also by risk capital.

If you want to establish a basic research facility, it is not possible for you to go to public equity market and seek funds for that. You need to go into equity investments or governmental grants which provide long term research support. Whereas for applied research,

you can do without grants, but with risk capital, reasonable risk capital. Whereas development will require a combination of equity and debt as a running organization and needs to be supported by internal generations.

Generally, every company should be able to dedicate 3 to 5 percent of its sales turnover on regular R and D and that should be able to give the company new generations of products on a continuous basis along with some improvements for products which are already operating in the marketplace. Manufacturing also requires equity and debt and internal generations.

Typically, every product lifecycle will require an investment cycle. Whereas in respect of manufacturing, if you have done an investment cycle, that investment cycle will last till the equipment are depreciated or when then there are new frontier technologies in terms of digitization that may require to be invested for to upgrade the manufacturing capabilities to the next level.

In respect of management, basic research is empowered, self-starting and self-directed. People who are working in basic research have a passion to discover the unknown and keep extending the boundaries of human knowledge. Whereas people who are in the management of applied research are also empowered, but they focus towards specific projects.

How do I use nanotechnology to take the previous example for formulation development and also for formulation delivery? People who are managing development will be project managers of good capability and they also try to understand and execute linkages with manufacturing and the marketplace. They develop products not just for their passion, but they develop products with a keen common social sense.

First time right to the market and fastest to market will be some of the goals of good development managers for R and D. Whereas manufacturing is intensely monitored for its repeatability and quality compliance hierarchically and regularly. It is a bureaucratic, but hierarchy driven organization with lot of ownership in terms of production and quality parameters.

In terms of the contribution, the contribution of basic research for a company can be phenomenal, but with risk of failure. Let say you have a product such as atorvastatin which was the first ever statin to be discovered and commercialized for reducing the cholesterol level. It has made a phenomenal change to the fortunes of Pfizer and that could be the impact the basic research could have.

Similarly, the mRNA vaccine platform made tremendous transformation to the fortunes of biontech as well as Pfizer which co-partnered and of course, it made an enormous difference to the entire human race in terms of preventing and reducing the COVID impact.

Also, the various vaccines which have been under development in the early years and have been horizontally deployed for COVID are also examples of basic research of the past times proving themselves as applied research projects and developmental projects for a new crisis that has enveloped the human race.

So, the contribution of applied research will be very useful. So, in the contribution of developmental research also. Manufacturing of course, is essential even if you develop a great product in the R and D laboratory unless it is manufactured, the human race or the marketplace will not see the benefit of that. Therefore, manufacturing is essential to take the R and D developments to the marketplace to the customers' portals.

As can be seen the characteristics vary substantially between R and D and manufacturing and even within R and D. The leadership models and attributes required for R and D are bound to be differentiated. When you are a business development leader and when you are positioning your company with reference to the association with another partner the kind of capability which the company has is going to be one of the important foundations and plans of developing a business model.

Because someone who has everything else, but also has a unique competence in R and D will score over anybody else because that provides long term sustenance not only for this company, but also for the partnership.

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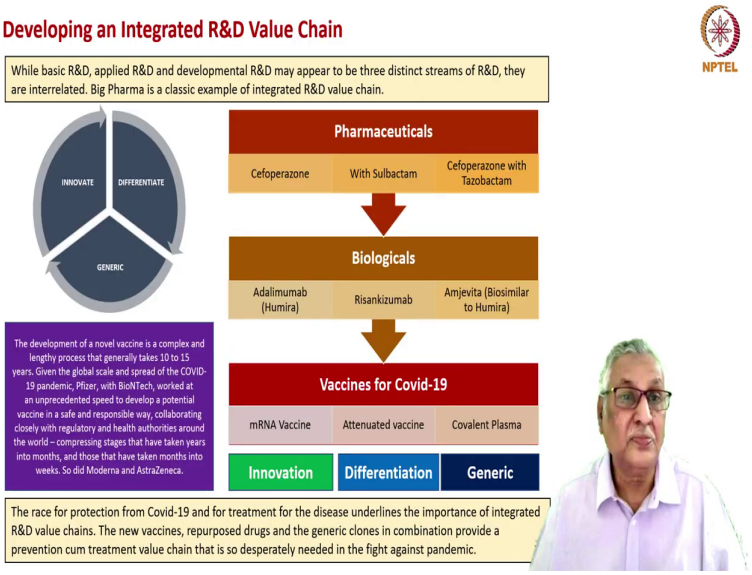

How do you develop an integrated R and D value chain? Ideally if you are able to do from the basic research to the developmental research you will be having an integrated R and D value chain. While basic R and D, applied R and D and developmental R and D may appear to be three distinct streams of R and D they are. In fact, interrelated. Big Pharma is a classic example of integrated R and D value chain.

What they try to do? They innovate through basic research; they differentiate through applied research and they have developmental research providing generic followers. You can take several examples in pharmaceuticals. There is a product antibiotic called cefoperazone. It was initially innovated and produced with sulbactam as a potentiator.

But now, that is being adopted with tazobactam and a new beta lactamase inhibitor has been discovered and developed by Ocad Pharma and that is going to potentiate several other antibiotics. That is the power of applied research coupled with the basic research.

Then there are several biologicals or monoclonal antibodies Humira, Risankizumab, Zevita which are biosimilars, biologics and they are being used for different purposes and also they are being cloned as biosimilars with their own clinical trials and also being taken as the foundations for the next generation of biologics.

Then we have vaccines for COVID-19. mRNA vaccine has been a breakthrough vaccine, but we also have attenuated vaccine and covalent plasma. So, all of these three represent innovation, differentiation and generic. Cefoperazone represents innovation with sulbactam it represents differentiation.

When it has just combination of another type of potential it is generic. Again, if that potentiator is an innovative medicine it becomes again differentiation. So, it is possible to have this integrated R and D value chain operating in your company continuously. The development of a novel vaccine is a complex and lengthy process that generally takes 10-15 years.

Given the global scale and spread of the COVID-19 pandemic Pfizer with BioNTech worked at an unprecedented speed to develop a potential vaccine in a safe and responsible way, collaborating closely with regulatory and health authorities around the world. Compressing stages that have taken years into months and those that have taken months in to weeks. So, did Moderna and AstraZeneca which came up with their own versions of new vaccines.

The race for protection from COVID-19 and for treatment for the disease underlines the importance of integrated R and D value chains. Supported also by other manufacturing as well as corporate value chains including COVID chain, supply chain and distribution. The new vaccines, repurposed drugs and the generic clones in combination provide a prevention cum treatment value chain that is so, desperately needed in the fight against pandemic.

The recent first of COVID -19 in China indicates that pandemics do not go away easily. You require dedicated efforts and continuous innovation to be ahead of the curve in management of pandemics. Purpose of operations that is manufacturing operations or operations in general.

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Operations is an all-inclusive term that includes manufacturing and supply chain. It is the key component of a business value chain. Supply chain includes purchasing and logistics as well as distribution. For service-based companies, operations predominantly comprises supply chain.

Operations is the bridge between R and D and marketing. Without operations, a product idea cannot be provided to marketing for them to sell and realize the money and which will

compensate for the investment that has been made in the entire primary value chain and supportive value chain of the company.

Operations allocates and utilizes its resources to create and manage its infrastructure, production and product delivery. Operations seeks to maximize the efficiency and effectiveness of production and product delivery. Operations leadership pursues the twin objectives of high quality and low cost without compromise to each other.

Ideally, every customer would like to have the highest quality product at the lowest cost possible. That is the challenge, but it is also important that you give quality that is fit for the purpose and a cost which can be affordable to the society. Operations is an important component of a firm's competitive advantage.

Companies could have grant strategies, grant product development capabilities, but unless operational execution is top class, the company will not be able to get the benefits of R and D ideas as well as R and D developments. Therefore, R and D operations, marketing and other functions constitute one integrated value chain of which operations is the value converter, it is the value generator at the factory level.

In an industry comprising firms with similar products, operations differentiates one firm from the other. This is more so, when firms have similar technological capabilities to, for example, the smartphone industry. Everybody understands how to design the best possible smartphone with features which are almost at par with each other.

The only difference in such a case could be manufacturing. You manufacture the smart device with zero defects, you ensure highest level of elegance in manufacture of the product and you ensure that the lowest level of cost is achieved in manufacturing. You also ensure that the breakeven point for your facilities are as low as possible relative to the competition which helps the company goes through the ups and downs of business cycles.

Therefore, operations would be the differentiator for companies which are endowed similarly on technological parameters.

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The operations strategy of a firm is just not one strategy. It comprises A, sub strategies and B, it itself is a part of the corporate strategy. Every company will have a business strategy and that comprises typically the product strategy, the technology strategy, the operations strategy, the sales and marketing strategy, the financial strategy and the human resource strategy to mention the most important ones. This operations strategy goes into several cascaded elements.

The operations strategy will comprise the facility strategy, the supply chain strategy, the manufacturing strategy, quality strategy, environment safety and health strategy and networking strategy. Example, you are a South based company and you want to have a

Pan-India marketing presence. You did not make better sense to expand your output in an northern location because the transportation will be cheaper from an north based location to the northern markets.

But along with that, you should also have a networking strategy. There is no point in setting up your facility in the northern parts of the country, but have all your component suppliers in the southern part of the country. They have their own transportation costs. So, if you are able to develop a network by which your suppliers of components are also continuously located in your new North India location, then you develop a strategic advantage in having the locational differentiation strategy.

So, operations strategy has that kind of inter linkage with various subcomponents of the operation strategy. Similarly, no operation strategy can be successful unless you are top class in terms of your environment safety and health strategy. It also requires quality strategy that is will I have quality ingrained as self-inspectral in the production system or I will have production responsible only for production and quality is considered as an independent function which has to inspect the quality.

Today Operations are expected to produce quality, not produce products, they have to produce quality and that is the embedment of quality in the operation strategy and there should be a manufacturing strategy. What is a manufacturing strategy? Should I have completely a flexible manufacturing lines to take care of different scales of output for different product lines or should I have an integrated line which will have multi product line and multi scale capability?

Should I have flexible manufacturing systems or should I have dedicated standardized systems? Should I have highly automated facility that is a digital factory or should I have conventional factory suitably digitized to meet the requirements of manufacturing flexibility and the supply chain strategy?

How do I make sure that my demand planning, my materials requirement planning and my supply planning to the marketplace are all coordinated? So, the combination of all the

movements within the total value chain system is the supply chain strategy and operation strategy integrates all of these things and of course, where to locate the kind of facilities to be built, the nature of the equipment to be put, the nature of the recoveries that you need to target all decisions which have strategy input.

If you have let us say a very modern 5 sprinkler system which is integrated as part of your facility, it is not only an ESH parameter, but also is a parameter to position your company differently when multinational companies are going to come to your company and audit for taking as part of the overall global network of theirs.

Similarly, when you are establishing a pharmaceutical facility, for example, a sterile pharmaceutical facility, should I have different blocks for aseptic manufacture and terminal sterilization or should I have one block for both and the implications are quite different. You may save money by having one single block, but you may be putting yourself at risk if something were to go wrong in terms of the quality standards or regulatory complies in one of the blocks.

Therefore, there are strategic imports that arise out of your facility strategy and manufacturing strategy. Amongst all functions of an organization, operations tends to be organized based on established principles of organization design and this brings certain bureaucracy and inflexibility; obviously, along with the standardization into the operations, but this is not something that needs to be disparaged about.

It is essential for making sure that operations produces repeatability and high quality as part of its processes.

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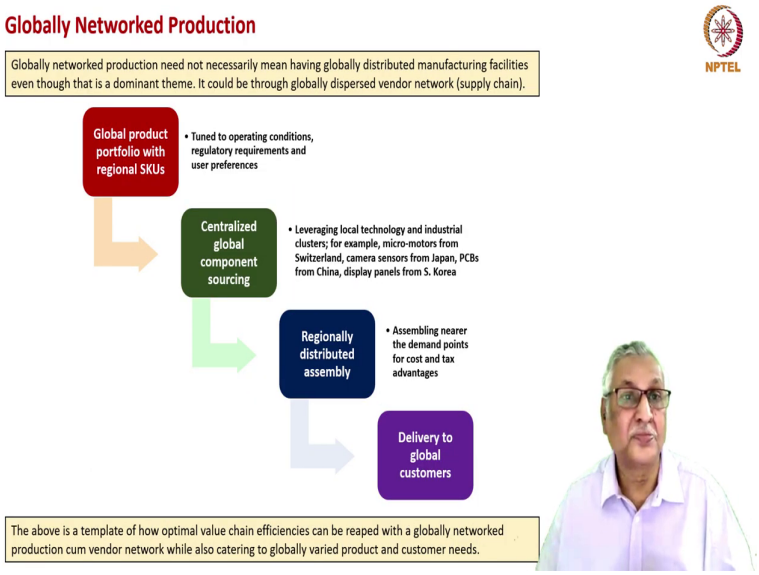

Globally network production is the author of the day. We have seen in the previous lecture the kind of onshoring offshoring models, inhouse production, outsourced production models that are available. I also talked about the strategic globalization model in terms of onshoring and offshoring.

Globally network production need not necessarily mean having globally distributed manufacturing facilities even though that is a dominant thing. It could be through globally dispersed vendor network that is supply chain as I have illustrated in that lecture. If you have global product portfolio with regional SKUs which are tuned to operating conditions regulatory requirements and user preferences you need to have a globally networked production operation.

If you have centralized global component sourcing, but also the ability to integrate products from various geographies to develop your final product then you can leverage centralized global component sourcing pretty well. In the case of let us say a watch you can leverage local technology and industrial clusters.

You can bring the micro motors from Switzerland, camera sensors from Japan, PCBs from China, display panels from South Korea and create a new generation of smartwatch which can even take photographs. You can have regionally distributed assembly as part of your globally networked production. You can assemble near the demand points for constant tax advantages and finally, you can deliver to global customers based on a globally networked production system.

The above is a template that is a template which starts with the global product portfolio with regional SKUs which runs efficiently through a centralized global component sourcing is effectively producing in terms of the network in several regions through assembly operations and delivering to global customers in various regions and nations.

This template is an example of how optimal value chain differences can be reaped with a globally networked production cum vendor network while also catering to globally varied product and customer needs.

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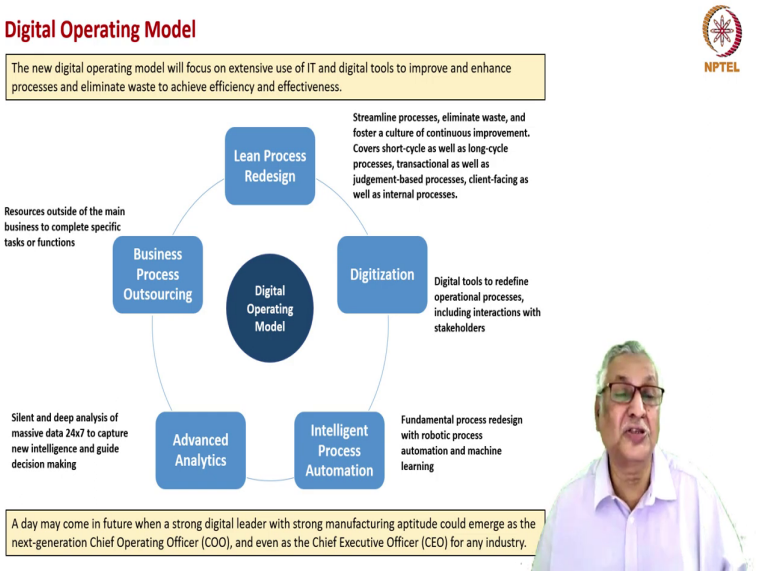

There is also going to be a digital operating model. This digital operating model or a digitized factory will focus on extensive use of IT and digital tools to improve and enhance processes and eliminate waste to achieve efficiency and effectiveness. The starting point for that is going to be the lean process redesign. We have to streamline our process, eliminate waste and foster a culture of continuous improvement.

We have to cover in this endeavour short cycle as well as long cycle process, transactional as well as judgment based process, client facing as well as internal process. Lean process design has to cover all of these things. You have to undertake digitization, digital tools to redefine operational process including interactions with stakeholders.

For a machine tool, the stakeholders are the products and the people who are running the facility. So, we have to have which are error proof and which are also going to make the

entire production error proof (Refer Time: 31:00) and that is the purpose of the new generation digitization from mechanical error proofing to digital error proofing. Sensors are going to be the leading components of this digitization.

Then you should have intelligent process automation or RPA robotic process automation. Fundamental process redesign with robotic process automation and machine learning will be necessary. Then you also must have advanced analytics. Every second of a measuring activity and every second of an industrial activity generates trillions of data bytes and that has to be analyzed silently and deeply 24 by 7 to capture new intelligence and guide decision making.

When you have water flowing into a boiler and steam is getting generated through the complex boiler mechanics, the quality of the water will have an impact in terms of the steam generated in terms of per unit generation and also the various other operating parameters of the boiler.

In the normal course, if there is a clogging that happens through the boiler tubes that would be detected only when the steam output is brought down by the boiler. But in the data analytics model, the variation of steam generation to the water quality and imputation of water quality to clog generation will all be used in a real-time model to warn us that you need to control the incoming water quality and that is the level of advanced analytics that is possible.

Similarly, in terms of business process outsourcing, resources outside of the main business to complete specific talks or functions must be brought in into the industrial system and digital operating model therefore, is a comprehensive way of looking at how we conduct our operations in a product-based situation.

The day may come in future when a strong digital leader with strong manufacturing aptitude could emerge as the next generation chief operating officer and even as the chief executive officer for any industry. So, for generally operations leaders end up being chief operating officers and stay there or chief executive officers are generally taken from the finance stream or from the marketing stream.

But the level of digitization that is occurring is an indication that the future of chief digital officer who has strong R and D background or manufacturing expertise is going to be the future leader at the help for organizations which need to be digitally savvy as well as operationally efficient and effective.

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Let us come to the third functional specialization which is marketing. What is the purpose of marketing? We all know that the best of R and D and the best of manufacturing will be of little avail unless we are able to market our product to the customers who need the product and in several cases the customers do not even know that they need such a product.

So, marketing strategy or marketing management comprises a set of activities connecting the firm and the customer for mutual value creation and this is the reason why I spent lot of time

in this lecture on bringing out several functionalities and nuances of marketing as part of the integrative science that I am trying to bring to you as business development.

Some key functions of marketing management in creating an integrated customer based value chain or as follows. One researching identifying and meeting human and social needs. Identifying and defining products and services that meet such human and social needs. Determining the price at which the products and services will be accepted by the customers.

Positioning, promoting, distributing, selling and delivering the developed products and services in the marketplace. Providing after sales service to customers and maintaining continuous engagement. So, customer is the focus and fulcrum of all marketing activities. In fact, of all company activities, customer typically has a need. The firm is there to support.

We also talked about co-creating the experiences with the customers rather than treating customer interactions as transactions. Through product or service, we co-create the experience. Marketing management is far more than just selling products and services. It is also not one of creating perceptions about products and services through advertisement and communication. It is a science and an art which serves customers societies as they form based on aligned value propositions. An aligned experiential life.

Marketing is the face of the company for the society. When you look at the company, you first think of the products that are marketed by the company before you get to know anything else. So, marketing is an essential aspect of bringing the products to life in the marketplace.

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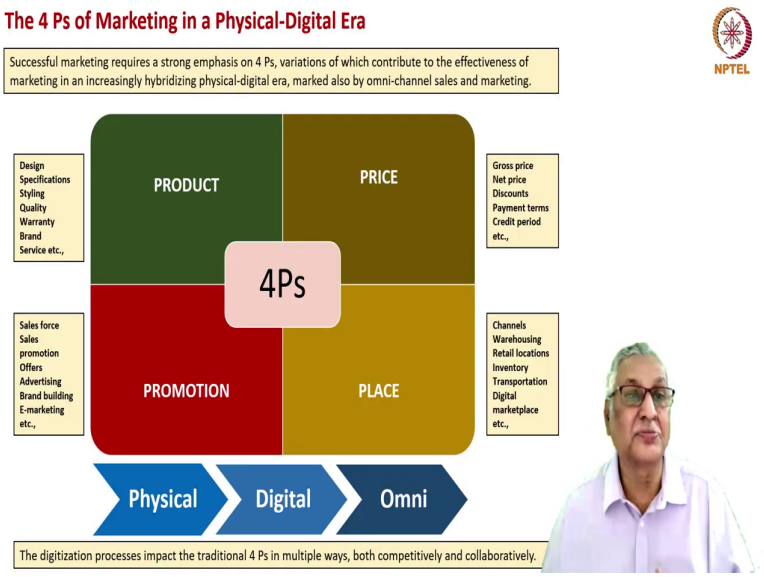

In the physical digital era, the four-piece of marketing are undergoing change. Successful marketing requires even today a strong emphasis on the four-piece. The variations of the four-piece contribute to the effectiveness of marketing because we are going to have hybridized physical digital era which is marked by Omni channel sales and marketing. So, what will happen to the product?

Design, specification, styling, quality, warranty, brand, service, etcetera are going to be digitally developed and digitally connected with the customer in fog-related ability. I have built at length in my course on strategy and technology. How? Development of apparel or readymade apparel can be made really customized using digital models and that is the way where apparel companies could have competitive advantage relative to the general industry practice.

So, in every product category, digitization is going to lead to competitive advantage. Then we have price parameters which are gross price, net price, discounts, payment terms, credit period, etcetera. But in the existing situation, everything is determined a priori. But by digitally modelling the service change for the customer and also digitally modelling the marketing structure.

In fact, creating a digital twin of the real-time marketplace, we may fine-tune our pricing as well as our schemes and other promotion elements in such a manner that we get the best kind of deals for the customer as well as for the company. Then you have promotion, sales force, sales promotion, offers, advertising, bank building, E-marketing, etcetera.

Having apps to cover the sales force, having digital iPads to help detail the products to the doctors, these are passive. In future promotion would include immersive experience for the channel partners in the distribution value chain and also for the customers. And that experience could transcend so-called retailer moderns to go into the homes and that taught merely because of the advertising. But because of the linkage that you can digitally establish through various social media applications that you can generate.

Then you have place, channels warehousing, retail locations, inventory transportation, digital marketplace, etcetera. These places are not going to be only physical places. They are going to be digitized operations which provide greater agility, greater flexibility.

You can have situations where the entire company can be digitally modelled along with the marketers to understand from which location you should receive the input products and from which location the output products should be sent to which customer location on a real-time basis so, that the cost of logistics is minimized and optimized.

Similarly, you will solve many problems related to supply of small lots to the marketplace. So, far, the tendency is to aggregate the small lot demand into big lots so, that the supply chain efficiency is ensured. But with digitization and with universal search for the right kind

of transportation model, you may be able to handle small lot deliveries at lower time periods required to provide the service to the consumer.

So, physical to digital to Omni is the way we go in terms of marketing in a physical digital era. These digitization processes impact the traditional focus in multiple ways both competitively and collaboratively. There is a possibility that a modern trade channel which comprises the likes of Reliance Jio, Metro, then Big Bazaar would take over big part of the general trade.

But in future, the digital marketplace can take a big part of both these channels. That is the general trade as well as modern trade. The movement of the place is going to be quite different in the times to come thanks to digitization.

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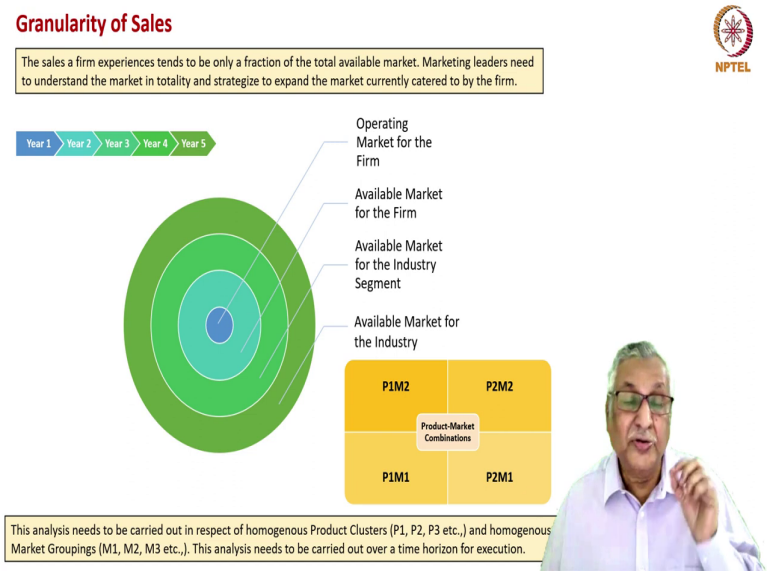

When you think of sales and marketing, you have to look at the concept of granularity of sales. The sales a firm experiences tends to be only a fraction of the total available market. Marketing leaders need to understand the market in totality and strategize to expand the market correctly, catered to by the firm.

Now, let us look at the market as I said. In the past, contract development and manufacturing operations are an important business segment. You will need not necessarily be a company which develops and manufactures and markets the product all by yourself. You can just do development or manufacturing of both.

In which case, what is the market for you? In some companies centered the country and you have relationships with them. You may think that is the available market. Now, the available market is the entire universe of the manufacturers who are looking for developmental and manufacturing services. That is the total available market for you as an industry person.

And within that the market available for the industry segment could be smaller because the industry may not like to operate in certain areas of the world and that could limit the available market for the industry segment. And within that the market that is available for the firm could be even smaller because you may have facilities to do certain types of developmental and manufacturing activities, but not everything.

In which case, to take again an example of pharmaceutical operations out of the 12 dosage firms that are available, you may be having the ability today to do only 3 or 4 types of dosage firms. Against the multiple levels of manufacturing capacity that could be required by firms. You may be able to cater to only certain levels of manufacturing capacity.

Therefore, there is an available market for the firm. But within that the actual market, you may be operating could be even smaller. So, the your objective as a business development executive is to start from the core and go towards the available market for the industry continuously.

Again, you cannot do things all by yourself. That is why I say that business development is an integrative practice and it is also a network practice with various other functions of the company. You can only market what you have as a capacity. But at the same time, the company should create capacity and capability to the extent the market can be discovered by business development.

It is a work which will happen in parallel and in perfect synchronization between business development as a function, the market environment and various internal stakeholders within the organization. And this has to be projected in terms of year 1, year 2, year 3, year 4 and year 5 possibilities as an example.

And you have to create combinations of products and markets that could help you fully utilize the opportunity moving from the core market to the total available market. So, you have grid such as P1M2, P2M2, P1M1, P2M1 and furthermore can be conceptualized.

This analysis needs to be carried out in respect of homogenous product clusters P1P2P3 and homogenous market groupings M1, M2, M3, etcetera. This analysis needs to be carried out over a time horizon for execution. Then only you will have complete granularity of sales.

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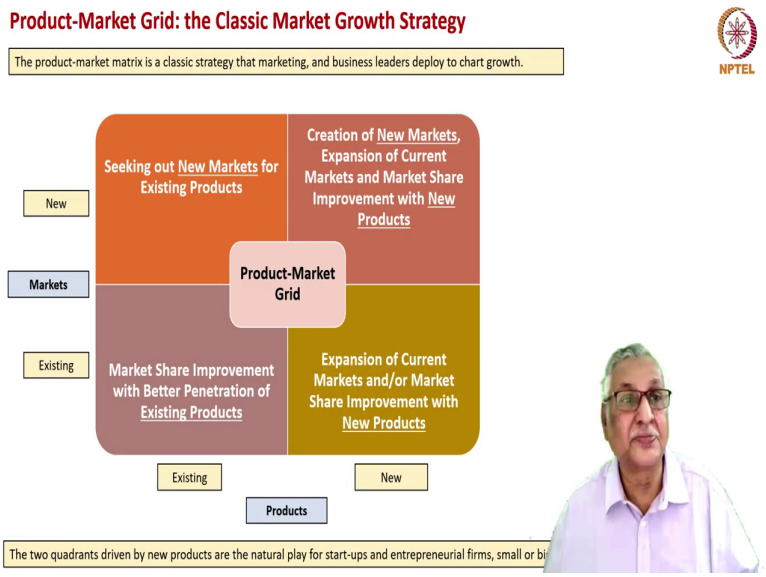

One of the important aspects of a marketing person and by inference a business development person is to understand the product market matrix which is a classic strategy for marketing and business development people also require this product market grid.

So, we have our products as a company existing and new, we have our markets existing and new. We can do with existing products and existing markets, two things. We can achieve market share improvement with better penetration of existing products. We improve your market share by making your products better known, more widely known or better appreciated. Then you can use your existing markets to create new products because there is potential.

If somebody is using a large consumer pack there is a potential to introduce a smaller consumer pack. If you are using a pre-wash hair oil, there is potential to manufacture

post-wash hair oil which can be used by the customers. So, you can create new customers and those markets can be very different or adjusted markets.

So, expansion of current markets under market share improvement with new products is possible by introducing new products in the overall product cluster. You can have existing products and go to new markets that is if you are very strong in southern part of India, go to the northern part of India as I have stated. Or if you are having products which are for health conscious people, you seek health conscious people as a segment and create a new market for your products.

And finally, you create new products for new markets and that is the ultimate potential area for start-ups and innovatively, entrepreneurially situated functions. The two contents that are driven by new products are the natural play for start-ups and entrepreneurial from small or big.

And every company whether it is a start up or not has to have entrepreneurial thinking which will have a fair dispersion of its product market and admission on using new products for expanding the existing markets, using the existing products to seek out new markets and creating new markets through new products that is important.

And along with that the co-business of improving the market share with the existing products in the existing markets must also be carried out. And different generic strategies will be required for each of these market grids which I will talk about in one of the forthcoming lectures. That is now turn to finance.

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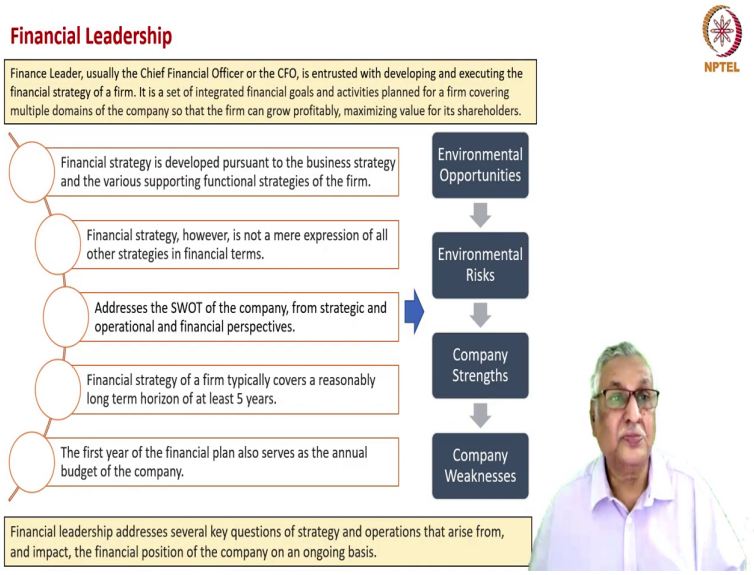

Finance as we know is a terminal indication of all our opportunities, all our challenges and all our operations. It is the biggest translator of our performance into effectiveness as can be appreciated by the company, its promoters, its executives and the general stock markets. Finance leader has a great responsibility in this aspect. Usually, the chief financial officer or the CFO, the finance leader is interested with developing and executing the financial strategy of a firm.

What is the financial strategy of a firm? It is a set of integrated financial goals and activities planned for a firm covering multiple domains of the company so, that the firm can go profitably maximizing value for its shareholders. A financial strategy is developed pursuant to the business strategy much like the operational strategy or the R and D strategy or the sales and marketing strategy. But it requires various supporting functional strategies of the firm.

Finance division does not manufacture within quotes, does not manufacture finance. Neither does it develop or discover products, nor conduct its sales and marketing. But financial strategy provides an expression, a commercial expression to all of these activities. But again, financial strategy is just not an expression of all the other strategies in financial terms. It addresses the strengths, weaknesses, opportunities and threats of the company from the strategic and operational as well as financial perspectives.

Financial strategy of a firm typically covers a reasonably long-term horizon of at least 5 years. The first part of the financial plan covering the immediate year also serves as the annual budget of the company. So, in addressing this what we have to look at environmental opportunities, environmental risk, company strengths and company weaknesses.

Financial leadership addresses several key questions of strategy and operations that arise from and impact the financial position of the company on an ongoing basis. If funding is going to be dried up for companies which are not environmentally progressive, if funding is going to be having higher interest costs for those companies which have higher risk profiles.

If the insurance policies are going to be high priced in case you have higher level of safety incidents in the company, all of these things must be expressed by the finance leader to the various other functions to ensure that the impact of whatever is being done rightly or not so, rightly is understood by all the stakeholders that is the networking challenge for the financial leadership in a company.

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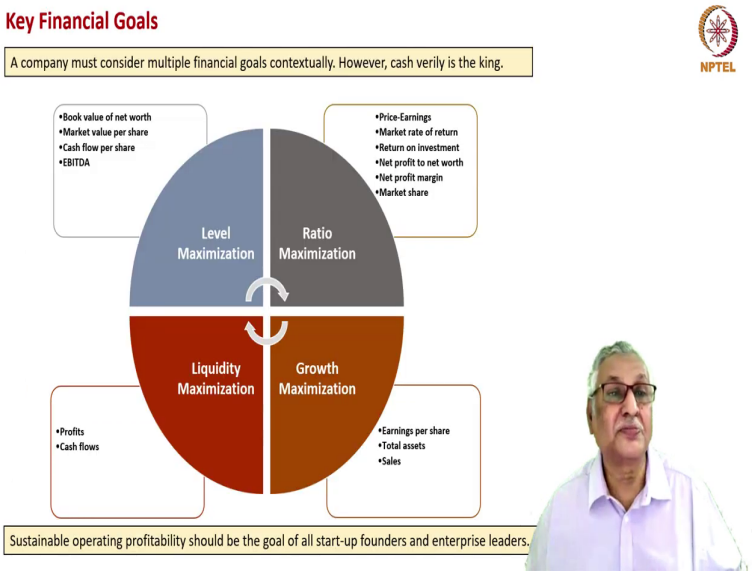

We all have financial goals as companies. There are multiple financial goals that a company must work on simultaneously. First is the level maximization at what level we should be operating. Book value of network, market value per share, cash flow per share, EBITDA, these are the level maximization objectives of a financial strategy.

We should also optimize our ratios, price earnings ratio, max market rate of return, return on investment, net profit to network, net profit margin, market share, these are all the ratios that need to be optimized. Then you have liquidity that needs to be maximized. We need to generate high levels of profits and high levels of cash flows. While it is said that there cannot be no bottom line with the top line, we should not take it to the extremes.

Top line for top line's sake is of no use. There is no need to be in a business if you are having a top line, but no bottom line. It is not also business sense to have only a bulging middle line

that is all the expenditure parameters, but without comments or a top line or the bottom line. So, It is important for the finance leader to focus on liquidity maximization.

And finally, you will have the requirement for growth maximization. Wherein you look at earnings per share, total assets, total sales to drive future growth. Sustainable operating profitability should be the goal of all start-up founders and enterprise leaders.

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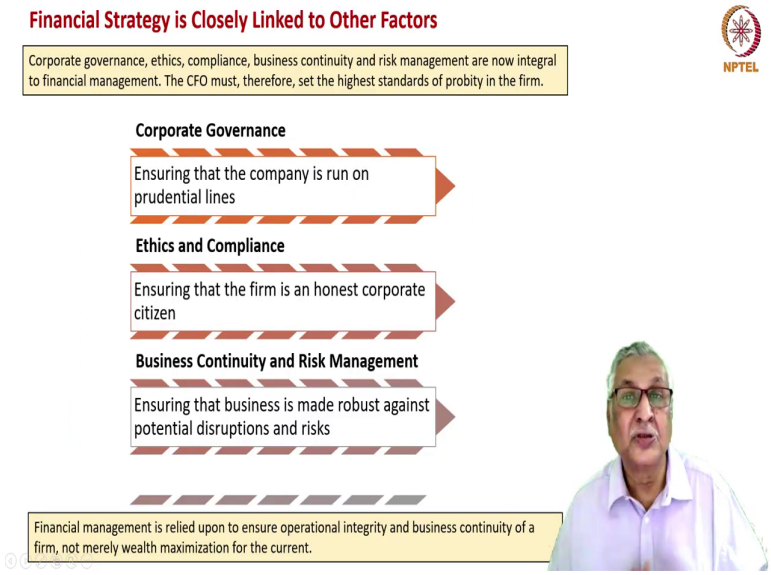

Financial strategy is closely linked to other factors which are non-financial. Corporate governance, ethics, compliance, business continuity and risk management are now integral for financial management. The CFO must therefore, set the highest standards of probity in the firm. Corporate governance ensures that the company is run on prudential lines.

Ethics and compliance ensures that the firm is an honest corporate citizen. Having business continuity and risk management as part of the finance function ensures that business is made robust against potential disruptions and risks. Financial management is relayed upon to ensure operational integrity and business continuity of a firm, not merely wealth maximization for the current state.

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Financial strategy should guide, but not dictate business strategy. We have seen that finance is an important expression with reference to the external and internal environment of what all we are doing and what we can do. But looking at finance, the cost and prices as the sole determinant of the direction which a company should do could be completely misleading for a company.

While financial analysis is very important, strategy cannot be determined solely through financial goals. A company cannot be governed only by profit maximization or stakeholder wealth maximization criteria. Financial priorities can dramatically change with volatility in economic and business environment. It does not mean for example, that when you have a recessionary environment you cut down on all investments that could be highly counterproductive.

Similarly, when the demand is booming it does not mean that you keep investing for growth without any understanding of what the future could entail. So, some of these issues are strategic and cannot be financially understood or expressed. A company's strategic enterprise value is determined not only by financial value, but way by various other tangibles and intangibles.

The quality of assets you have, the goodwill you have, the intellectual property that you possess, the patent estate that you have, all of these things will determine the strategic enterprise value. Financial strategy without relation to business realities could be draconian and destroy long-term investor wealth.

It may be a good idea to have joint responsibility defined in respect of key strategic and operations decisions for both financial and other domain leaders. That is they should be co-participants in strategic decisions. It is not that strategic decisions are taken, they are converted to operational decisions and finally, a financial stage gate arrives and the finance process is that you can afford, you cannot afford, that is not the way to do.

All strategic and operational decisions must be jointly developed with equal understanding of the financial aspects by the technical people and equal understanding of the technical and strategic aspects by the financial people.

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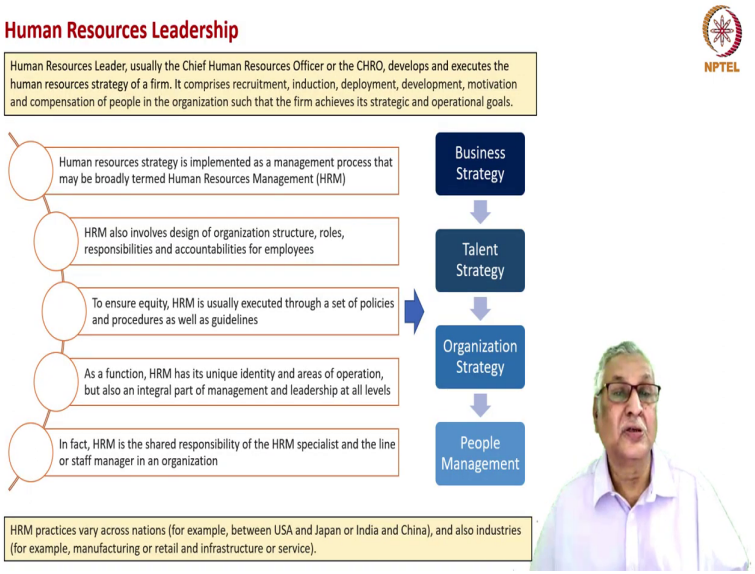

Now, let us come to the fifth part of our Leadership Competencies which is the Human Resources Leadership Competencies. Human resources leader usually the chief human resource officer or the CHR work develops and executes the human resources strategy of a firm.

This strategy comprises recruitment, induction, deployment, development, motivation and compensation of people in the organization such that the firm achieves its strategic and operational goals because everything has to be delivered as they pointed out in one of the earlier things by people along with facilities and digital network.

Human resources strategy is implemented as a management process that may be broadly termed HRM or Human Resources Management. HRM also involves design of organization

structure, goals, responsibilities and accountabilities for employees. To ensure equity, HRM is usually executed through a set of policies and procedures as well as guidelines.

As a function, HRM has its unique identity and areas of operation, but it also has an integral part of management and leadership responsibility in all levels. In fact, HRM is the shared responsibility of the HRM specialist and the line-all staff manager in an organization.

So, how does HRM ensure equity? By having a talent strategies that is the hotel to business strategy, having an organization strategy which can embed the talent strategy within itself and finally, leading to a virtuous people management paradigm in the company. HRM practices vary across nations. For example, between USA and Japan or between India and China.

Talent management practices may also vary across industries. For example, manufacturing or retail and infrastructure or service, but does not mean that the basic principles of HRM are widely different across industries or across nations they are all common at one level.

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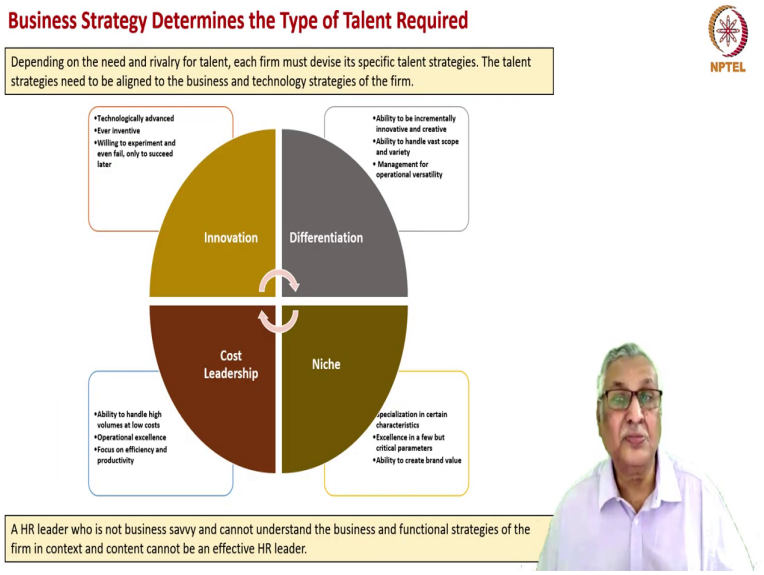

Business strategy determines the type of talent required. Depending upon the need and rivalry for talent, each firm has devised its specific talent strategies. The talent strategies need to be aligned to the business and technology strategies of the firm. If you are a company which is oriented towards innovation, you must have technologically advanced people, ever inventive people.

Employees who are willing to experiment and even fail only to succeed later and leadership must be able to encourage innovation as a DNA and accept failure as the stepping stone for the future for success. If an organization is oriented towards differentiation, the talent pool must have the ability to be incrementally innovative and creative. It should have the ability to handle a vast scope and variety and management should be oriented towards operational versatility, not operational rigidity.

If you are a company who is oriented towards niche, you need to have specialization in certain characteristics. There must be some areas of the company or its operations where nobody else in competition could do better than you in those areas. That could be marketing, that could be product design, that could be styling of a product, that could be low cost manufacturing, it could be anything, but that must be your specialty. Nativity itself could be a niche characteristic.

As I said, excellence in a few, but critical parameters and the ability to create brand value around your uniqueness, that is a characteristic of niche. Cost leadership is the ability to handle high volumes at low cost. Everybody must be understanding the challenge of doing things at high quality at low cost.

Operational excellence is the tool you have for that. Focus on efficiency and productivity would be paramount across the organization. A HR leader who is not business savvy and cannot understand the business and functional strategies of the firm in context and content cannot be an effective HR leader.

HR is a business partner first and foremost. A HR leader exists to bring people who can enable the company to achieve its business goals and at another level people who can idea for better business goals and for people who can participate in the journey through aligned vision strategy, self contributions, peer contributions and so, on. So, you require a HR leader who is savvy and dynamic in that context.

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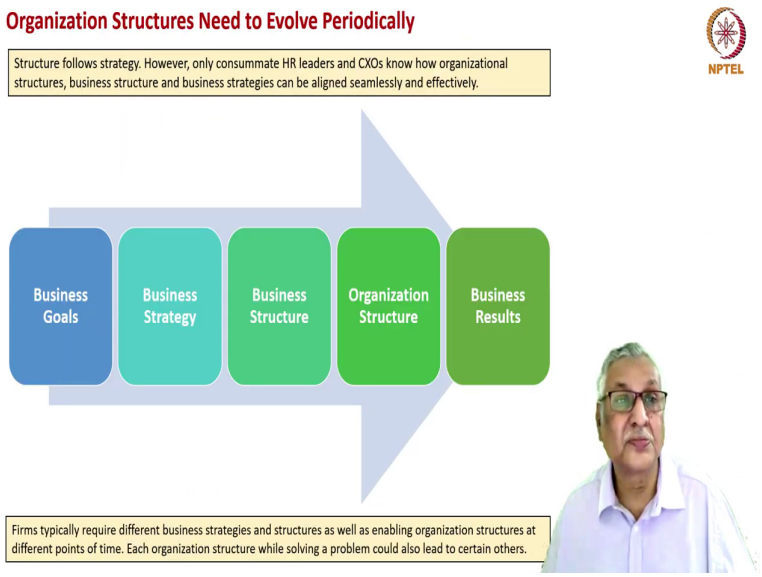

Organization structures cannot be static. There is this famous research by Alfred Chagler that structure follows strategy which is true. However, only consummate HR leaders and CXOs know how organizational structures, business structure and business strategies can be aligned seamlessly and effectively. Not every HR leader is able to do that. They get wedded to organizational structures.

Organization structures over a period of time become zones of comfort and become cellulose which are seen as their own proprietary spaces in the organization and that is will be the counterproductive aspect of organizational management and evaluation. So, from business goals we have business strategy. Business strategy determines the kind of business structure we should have and from that we have our organization structure and from that we get our business results.

Firms typically require different business strategies and structures as well as enabling organization structures at different points of time. As I said, if digitization is going to take place in a big way, creating a digital marketplace is an essential business strategy for the company that will require an information technology division or a chief digital officer role that transcends all other functions that includes supply chain to provide even the single product that is offered.

And on the digital store and taken by the customer on the digital store. It requires innovation in terms of supply chain as an example. So, every part of the company is impacted by the digitalization, but that digitalization helps us serve the market to the best possible extent. So, in doing so, we should also keep in mind that each organization structure while solving a problem could also lead to certain others.

We might decide as I said that everything will be digital, but that may lead to such small lot supply that we may not be able to cope with it. So, what is the right kind of balance we need to have and should we look at a balanced organizational structure that is agile and also flexible to certain extent while handling different kinds of requirements. So, organizational structures have to be evolved and re-evolved periodically

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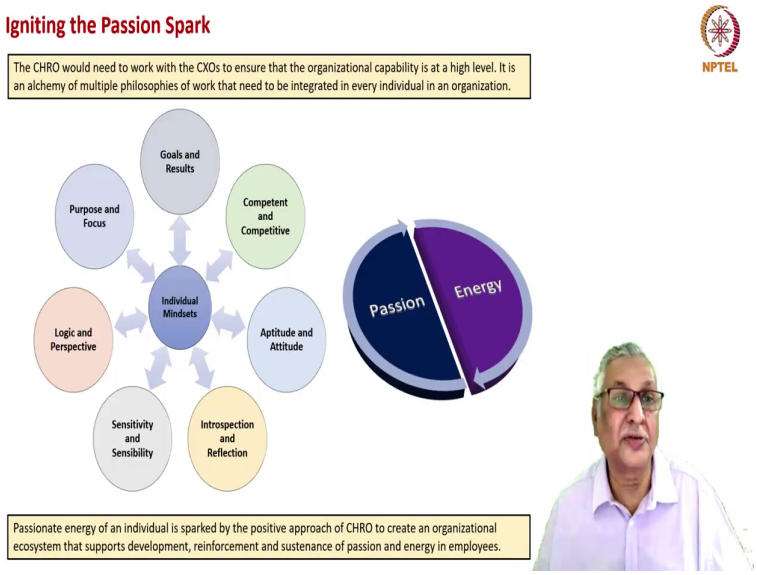

And the idea of any organization structure and the talent management framework that is related is to spark the passion in the organization. The passion of individuals and the energy exhibited by individual teams at the organization are interlinked passion and energy. There are the two sides of the same coin. Individual mindsets influence how passionate a company can be and how energetic the company can be.

Goals and results are important aspects of the individual mindsets. Individuals must be competent and also competitive. There is no point in having just competence within ourselves, but we should translate that competence in making our company competitive. It is not important that we have the right aptitude for technology, science or commercial matters. We should have the right attitude to deploy that effectively in the operational space or the market place.

It is not adequate that we just keep doing certain things because that is part of our SOP or part of our goal directed behavior. We should frequently trust, and reflect on the impact we are making in our operational spaces or in the market spaces or within ourselves and within our teams as part of our individual and team behaviours.

Then we should have sensitivity and sensibility. Respect for individuals, respect for customers, respect for organization culture must be the individual mindset that drives our organization. Why do we associate TATA group with certain parameters that it is ethical? It can be a group that should be trusted and that it does things in a proper and appropriate manner.

And If TATA Group does something, there are no controversies related to it in most of the times because the group behaves in a compliant and competent manner. Therefore, this sensitivity and sensibility is a part of the cultural mindset that can be developed by having respect for individuals, the society and the overall governance in the country. Then we should also be logical and we should have perspective. Logic is not fully perspective nor a perspective represented logic.

A perspective is a way of looking at things. Today we have a perspective that 2023 could be a tough year for industry because there is a looming recession in developed world. The interest rates which are at high level, there is no respite in the geopolitical tensions. The crude volatility could persist.

At the same time, most of the industries have to reorganize themselves towards your technological platforms, be it electrification, clean energy or low environment impact mining, decarbonization, all of these things are required. So, there is a logic which says that we are going to have tough times or type times.

But at the same time, the perspective is that India is a country, India, Inc as an industrial conglomerate of the country has the attitude, aptitude, the willpower and the facilities and the

people to make this happen in a seamless fashion and with as little pain and with as much profitability and advancement as possible, that is the perspective.

So, the logic and perspective have to be married through appropriate individual mindsets and that comes when we see a larger purpose and have a focus in delivering towards the purpose. Our purpose of being ESG compliant, our purpose being a responsible citizen, our purpose of developing products and providing them to the society at affordable price points, building value at all times could be our purposes and which could be delivered with focus and to make people have these kinds of positive mindsets human resources Division is one enabling the division in the company.

So, passionate energy of an individual is sparked by the positive approach of CHR work to create an organizational ecosystem that supports development, reinforcement and sustenance of passion and energy in employees. That is the broader framework, that is the broader purpose which a CHR work should have in a company then only an organization will become positive, passionate and energetic organization. With this, we come to the end of this lecture.

Thank you very much for your attention. We will meet in the next lecture.