Manufacturing Strategy
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Module No. #01
Lecture No. #04
Functional Strategy within context of a Firm

Welcome friends, to the fourth session of this course, on Manufacturing Strategy. In our last session, we discuss the traditional way of Operation Strategy, where we have a Business Level Strategy. Based on that Business Level Strategy, we decide the competitive priorities, for our organisation, which are known as, QCDF. Quality, Cost, Delivery, and Flexibility. And to achieve those competitive priorities, we decide our Operation Strategy, or we develop our Operational Level Strategy.

in the last of that session, we also discussed that, there are different types of functional level strategies. And, we need to have, a good cohesiveness, we need to have, proper sync between those functional level strategies. these are Marketing Strategies. these are Supply Chain Strategies. these are Human Resource Strategies. these are Operational Strategies. So, all these are the functional strategies. And, if you do not have, proper sync, earlier may be, in the middle of 20th century, we used to have these functional level strategies, working in different silos.

there was no connection, between the marketing strategy and the production strategy. and, at that time, probably competition was not so severe. so therefore, organisations survived, even if there was not proper connectivity, at the functional level, in the organisation. but, in the present circumstances, it is almost impossible, to survive without proper connectivity, at the operational level, or at the functional level.

So, in this session, we are going to focus, on this very aspect, that functional strategies within the context of a firm, that you need to have a very strong synchronisation, you need to have all these strategies, at the functional level, pointing towards same type of competitive priorities, then only, you can achieve, some kind of advantage, then only you can have, some kind of edge, over your competitors. Otherwise, it will become a very difficult proposition.

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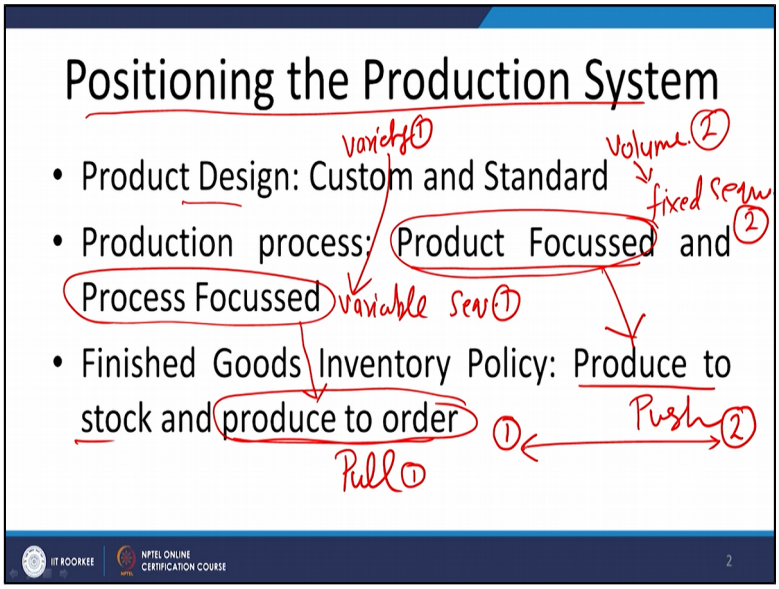

now, there are different types of elements, which are going to contribute, in the development of the functional strategy, in the context of a firm. So, the first important thing, which are going to be there, that is the positioning of the production system. this is the first important element, in the development of your functional strategy, in the context of a firm. Now, what are the different elements, of this positioning the production system?

the one important element is, the product design. the product design can be custom, or can be standard. there can be a custom product design, and there can be a standard product design. the custom product design is, when you want to offer, a customised product to your customer, that is the custom product design. And, when you are offering products, like a commodity, all customers are using almost similar kind of products, that is the standard type of product design.

So, standard type of product designs, are produced in masses. And, custom type of product designs, are produced in high variety. So, these are representing variety, and these are representing volume. So, one important thing, in the development of your functional level strategy is, whether you are offering variety, or you are offering volume. So, the standard names for variety are the custom, and the standard name for volume is standard.

Now, based on this, the other important element of this production system, is the production processes. there can be, different combinations. But, two primary type of production processes are, product focussed, and process focussed. the product focussed are, those type of

production systems, production processes, where you have designed a production system, to produce same type of product, again and again. that is the meaning of product focussed.

So, the example like, assembly line in our automobiles, that is a very classical example of product focussed production process. on the other side, you have process focussed production system. in a process focussed production system, you have a production system, where similar kind of processes are arranged, at a place, and based on the requirement of your product, which you are producing, the production system, or the sequence of operations, will change.

So, the sequence of operation will change. this is not the fixed sequence. Here, you have a fixed sequence. So, this is fixed sequence. And, this is variable sequence. And, if you combine, the discussion of product design and product process, you will see, that if you want to produce volume, you will go for fixed sequence. And, if you want to go for variety, you will go to variable sequence.

the process focussed production processes are, suitable for custom designed products. And, product focussed production processes are, suitable for the standard types of product designs. So, this is to be in sync, at the operational level, even. and then, another important element of the production system is, the finished goods inventory policy. what type of finished goods inventory policy, you want to have? Now, there are two standard type of finished goods inventory policy.

one is, produced to stock. And, another is, produced to order. Whether, you want to have finished goods inventory, available in the stock, and customer is coming and picking the inventory, picking the products. And, other is, once the customer comes, customer gives the order, and then you are producing the products. Obviously, when customer is giving order, and you are producing products, in response of that order, the waiting time for the customer is high.

And, when you are producing products, and keeping those products in stock, and whenever customer walks in, immediately purchases the product. So, the waiting time is low. And, in many cases, customer satisfaction is also going to be high. Now, it is again to be seen, that in

those cases, where the volume is high, when you are making a standard product, using the product focussed production processes, you go for produce to stock kind of policy.

And when, you are having a custom based product design, and you have a process focussed production process, you will normally like to go for, produce to order kind of inventory policy. Because, here you do not know, what type of design, customer is likely to have, customer is likely to order. So, you keep waiting, till customer gives you order. And, in response of that order, you are going for producing the products. So, this is a kind of full system of manufacturing.

it is a reactive system of manufacturing, where customer order comes, and in response of customer order, you design a product. You, custom design a product, and according to that design, you develop your production process. on the other hand, on the other extreme, you have a push based manufacturing system, where you anticipate, that customer will demand, these products regularly, like your large number of FMCG products.

large number of FMCG products like, chips, chocolate, soft drinks, and so many other toiletries. all these products, are standard products. And, you have a product focussed system of producing those products. Because, you are anticipating every time, that the demand of these products are going to be there. And, customer is going to purchase. and obviously, customer loves to have those products, readily available in the shelf.

And, customer walks in, and purchases the product. if that product is not available, customer may switch over to some other brands, customers may switch over to some other shop. So, to keep the satisfaction level high, you keep these products under the push business inventory system, where you are stocking the finished products, in your stock. So, this is first important thing, that your product design, your production process, and your finished good inventory policy, should be in sync.

So, we can put in this way, that one particular system is, you have variety, you have variable sequence, and you have your pull-based system. Then, other is No.2, where you have a push-based system, where you have standard product designs, and you follow a fixed sequence of production of these items. So, you have these two extremes. And, based on these two

extremes, you can have, some kind of intermediate locations also, of positioning the production system.

But, just to give you the example, that these are the two extreme, one to two. on one side, you have lot of flexibility. And, on other side, you have total standardisation. So, there are organisations, which work on total standardisation, where you have very low-cost products, where you have very commercialised products. And, on the other side, you have very luxury kind of products, where you give orders.

Or, even in case of, some B2B products, industrial products. if some company is making, Turbines. so obviously, you will have to follow, this Number-1 type of production system, which is a custom based product. according to that custom based design, you develop the production process. And, nobody liked to keep, the inventory of Turbine.

So, Turbine is only manufactured, when there is an order. So, these are two extremes. And, depending upon your products, your organisation's business strategy, you decide your functional level strategies. So, this is the first important element, of the functional level strategy, that what is the positioning of your production system.

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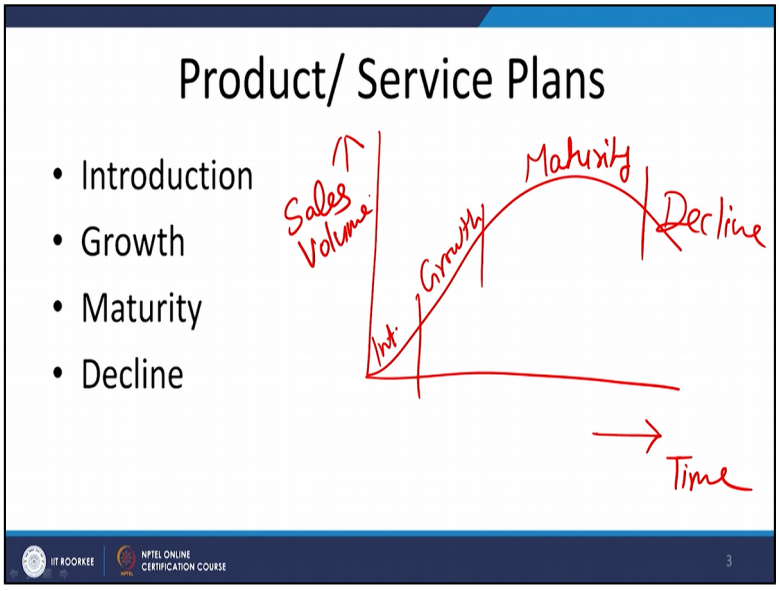

then, based on the positioning of your production system, the second important element of your functional level strategy is, the product service plans. for understanding the product service plans, we will like to go to the class of marketing, where we study the Product Life

Cycles. Now, in a Product Life Cycle, we know that, we have these four distinct stages, Introduction, Growth, Maturity, and Decline. So, these are four stages, in the life of a product.

you have introduction, you have growth, then you have maturity, and then finally, you have this decline. Now, this axis represents the time, and this axis represents the sales volume. you need to adjust, your all functional level strategies, according to this product life-cycle, according to plan of this product life-cycle. as your product or service, is moving from one phase to another phase, your entire functional level strategy, must support that particular phase.

For an example, if you are in the introduction stage. So, at that time, you need more flexibility, in the operational level activities, you need more R&D, you need a different type of marketing campaign, so that you can create, some interest in the customers, in the target customers, potential customers. And, the functional level strategy, with respect to finance, that you require more capital inputs. And, maybe during the introduction stage, you will not get profits.

it is more expensive in nature. Because, lot of trials are taking place, sales volume is also not very high, your capital investment is taking place. So, during the introduction stage, many a times, you will not be able to come into green. you remain in red. And, your Financial Strategy, your HR Strategy, must support the efforts of introduction stage. if your product become successful, then you reach to the growth stage.

Now, when you are in the growing stage, you need to ensure, that your supply chain is very consistent. it is providing the products, whenever it is required by the customer. because, this is very critical stage. your competitors are also trying to see, that why you are succeeding. So, they will try to interrupt your success. So, you need to have, a very good understanding at the functional level, during the growth stage, that I can sustain my growth.

during the maturity stage, now you want to develop efficient production system. your focus will go, how to achieve efficiency in the production system, how to identify new markets, how to identify new users of your product, so that, you can elongate the period of maturity. we all know, that in the current circumstances, the PLC’s are squeezing. the Product Life

Cycles, are continuously shrinking. and therefore, very quickly, that flexibility element, is very, very important, to understand in the context of Product Life Cycle also.

Because, Product Life Cycles are squeezing, reducing. we need to change our functional strategies, very fast. we do not have much time, between introduction to growth, to maturity, to decline. And, we see that, in our past, Black-and-White TV's were there, for four five decades. But, once, in India only, when colour television came, so after that, on a very fast basis, there are different types of innovations, different types of new products are coming, within the colour television domain.

the mobile phones, another very powerful example, that how new types of mobile phones are coming, within every two years. the mobiles. not only mobiles, but in case of your computers, in case of your laptops, in case of automobiles, everywhere you see, now the life of the products are squeezing. So, you need to have, a very responsive functional level strategy, to support your squeezing life of products.

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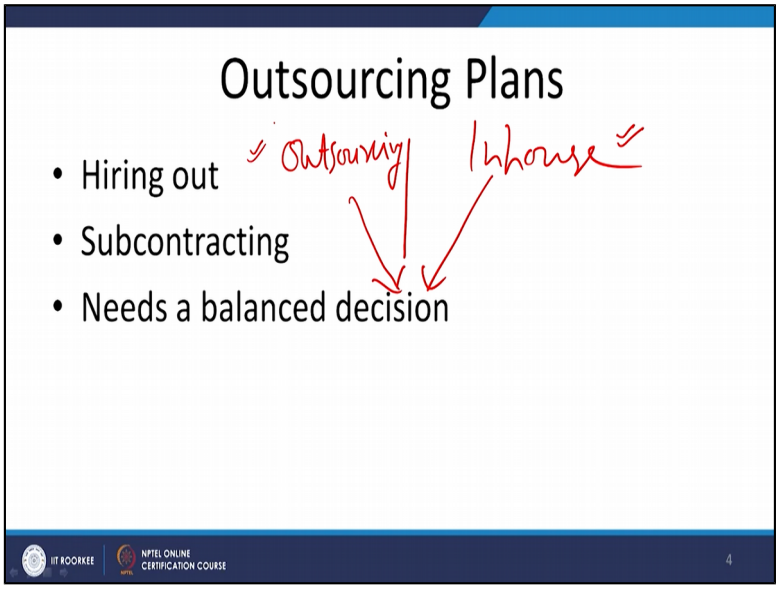

Then, another important element, at the functional level, that are outsourcing plans. outsourcing plans, are again an effort, so that, you can focus, you can concentrate, on your particular core competencies. all organisations cannot have, competencies in different functional areas. So, at the functional level, what are the things, you want to do on your own. And, for what are those things, for which, you are going for outsourcing. you are going for subcontracting. you are going for hiring out.

And, what are the things, you need to do, in-house. So, these are the outsourcing. and then, what are you doing to do, in-house. And, you need to have a, balance between your outsourcing, and in-house activities. Because, sometime, you may see, that organisations are doing everything, right from designing of the product, to the distribution of product, on their own. So, in this way, they have a very close monitoring of the production process, they have a very close monitoring of the quality of the product.

So, in some cases, this type of activity is happening. on the other hand, in some cases, you are only doing, the distribution or marketing of the product. designing, production, procurement, everything is being outsourced. So, in FMCG's, these things are also happening, where everything is being outsourced. And, some multinational company, is only doing the marketing of the product, or the distribution of the product.

So, that is one extreme, where everything is being outsourced. And, that is another extreme, where you are doing, right from the design, to the, you can say, after sale support, everything in-house. So, sometime, if you want to have, a very high level of monitoring, whether high-level of the customer satisfaction, going for, most of the in-house activities, is desirable. And, when you want to have, very little control over the quality. And, you see that, my competency lies, only in the distribution.

I am not competent, in the designing, or production, or sourcing, etcetera, in that case, you go for most of the outsourcing activities. But, as a balanced approach, it is always desirable, to identify your core competencies, and focus on those core competencies. do not outsource activities, related to core competencies. do those things, in-house. And, rest of the things, which are not providing you, that competitive advantage, those things, you are outsource.

So, we need to have, this kind of balance, between outsourcing and in-house activities. So, that is another important element to be handled, at the functional level. Sometime, you must have seen in many cases, the promotional campaign is being outsourced, to some media organisations. Because, I am not good, in designing my promotional campaigns.

I can give, my needs to the company. But, then that company designs a promotional campaign, for my needs. So, those things are acceptable. Because, designing a promotional

campaign, is not my competency. So, why should I keep my nose into that. and therefore, I will go to outsource, those things.

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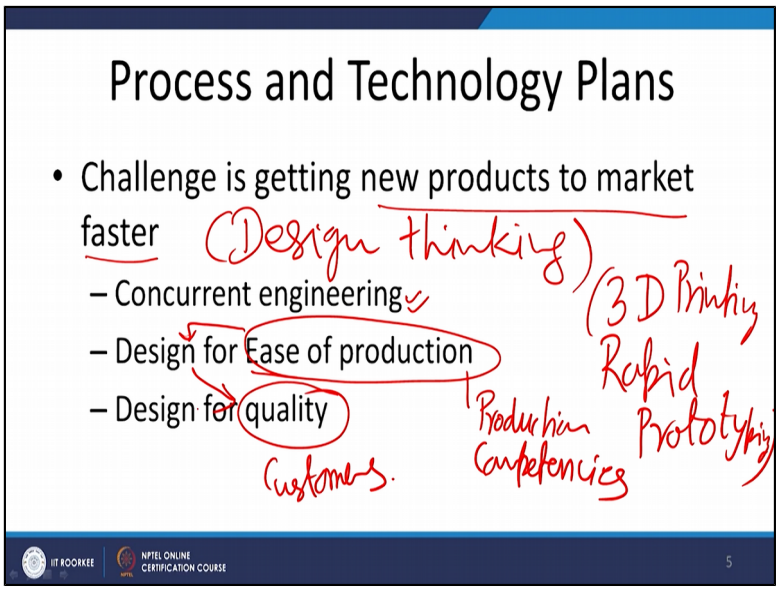

then, another important element, at the functional level strategy in the context of a firm, is Process and Technology Plans. Now, as we just discussed, that Product Life Cycles are continuously reducing. So, when Product Life Cycles are reducing, our challenge is getting new products to the market, at a faster rate. that is becoming a very critical challenge, for most of the organisations. That, how to reach to market, quickly. we do not have, much time for research and development.

and therefore, though it is not the part of this course, but the concepts like, design thinking are coming very fast, which help you, in taking your products to the market, at a faster rate. concepts like 3D Printing, rapid prototyping, all these things, are helping us, to take our products to the market, at a faster rate.

Now, when we are designing our campaign, for taking the products at a faster rate to the market, some of the things, which are the recent phenomena, and we will be discussing about them, in detail in our coming sessions. one of the thing is, concurrent engineering, which is helping to remove those barriers, between the functional level activities. Now, we are developing concurrent management, concurrent engineering teams, which are coming, which are from, across the functional areas.

one is, one expert may be from the manufacturing, one expert may be from the design. another expert from the human resource, another expert from the marketing. And, this way, we are developing, cross functional teams, in our organisation, so that, we can reduce the time of independent thinking. Now, we need to think, now we need to deliberate, on a common platform, common table.

And, the terms like concurrent engineering, and concurrent management, are helping us in achieving that. Then, things like, design for ease of production. we are talking of, ease of production. So, when ease of production, it is related to our production competencies. So, how to have, higher production competencies. And, that should be reflected, in the design of the product.

So, whatever competencies I have, my design should be developed, so that, the existing competencies can be used, for developing the products. the other thing is, design for quality. Now, when I am talking of design for quality, I am talking for customers. what is the fitness for use, of a product? and, when I have fitness for use, for the product, accordingly, I will design my product.

So, when I am taking the customer's voice into consideration, it means, my marketing department, is in sync with my design department, and design department is in sync with, the production department. So, the concurrent engineering is basically, sum total of these different things, that your production department, your design department, your marketing departments, are sitting together.

and then, developing the specifications, based on the customer requirement on one side, and based on the capabilities of the production department on the other side, so that, the iteration time can be reduced, and you are able to give products, to the market, at a faster rate. So, that is the process and technology related plan, at the functional level. Then, another important thing is the, strategic allocation of resources.

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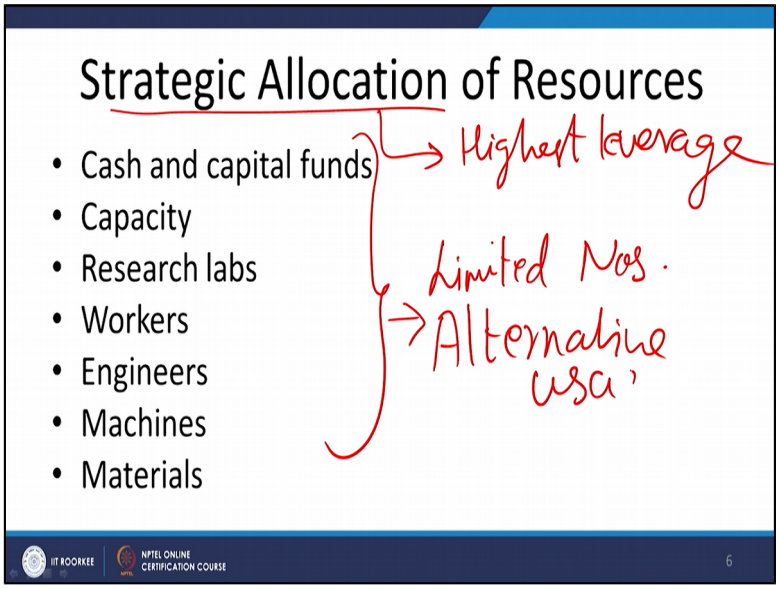

we all know, that all resources, all resources and to all organisations, are scarce in nature. and therefore, you need to have, a strategic allocation of resources, where you can get, maximum leverage out of those resources. that should be the important item, in this particular case. So, the meaning of strategic allocation is, highest leverage. we want to have, maximum output, from the same resources.

So, like resources of cash, capital, the capacity, the research labs, the personals, engineers, the machines, the materials, all these are the different types of resources, which are required at the functional level. Now, all these resources can have, you see, the two important characteristics, they all are available in limited numbers, and all of them have alternative uses.

So, when all these resources are having alternative uses, you need to ensure, that you put these resources, to that particular activity, from where you get the maximum output, you get the maximum leverage, from these resources. so, that becomes, another very important activity element, at the functional level in the organisation.

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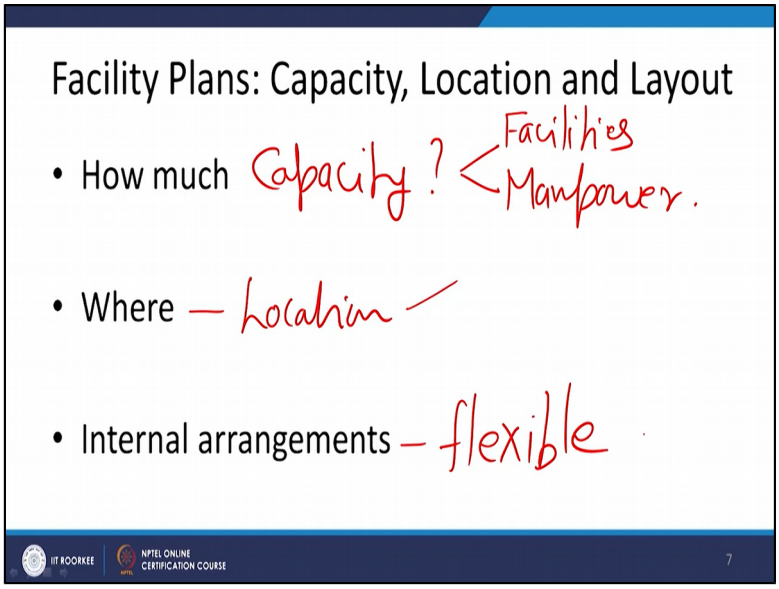

then, another important element, at the functional level, is related to your facility plans, capacity, location, layout. So, you need to decide, how much capacity is required? Now, how much capacity is, with respect to your facilities, with respect to your manpower. these are, two important things, that how many engineers, you require? how many chartered accountants, you require? how many marketing guys, you require?

Then, second important thing is, location. if I am developing a factory, if I am developing a warehouse, if I am developing a godown, what should be the location of those godowns, factories, etcetera, distribution centres. And, if I am having the marketing personals, if I am having my other information technologies, so where should I make them sit, where should they work. So, with respect to location, I also need to develop my plans.

So, I need to develop plan, with respect to capacity, that how much capacity, I want to have. and then, where to locate those capacities. that is the second important element, in this particular facility plan. Then, what should be the internal arrangement of these facilities? Whether, these are product focussed, or process focussed? So, whether you have assembly line system, or you want to have more flexible kind of system.

I just want to say, that nowadays, we are moving towards, more custom-made products. So, we need to have internal arrangements, which should provide, good amount of flexible. if you have good amount of flexibility, in your organisation, so as per the changing needs, you will

be able to change your internal arrangement. if you find, that your market is in western India. And, you have more marketing personals, in the eastern India.

And, if you have this kind of flexible arrangements, so you can transfer some of your marketing personnel, from eastern part to the western part. But, if you do not have this kind of flexible system, then probably, you will be under-utilising your resources, in the eastern part of the country. same thing, with respect to machines, with respect to other tools.

so that, whatever type of new custom-made products are required, your internal arrangement, should be capable enough, to provide that type of competencies. So, in this session, we discussed various elements of functional strategies, which are required within a firm. And, we discussed different elements, with respect to those points of the functional strategies. So, with this, we come to an end of the session. thank you, very much.