

Strategic Management – The Competitive Edge

Prof. R. Srinivasan

Department of Management Studies

Indian Institution of Science, Bangalore

Lecture No. # 33

Other Strategic Issues – 2

(Refer Slide Time: 00:22)



Welcome to this class, let us look at a few more points on technology management. So, as I have mentioned in the previous classes, you can look at technology driving the market, you can also look at market driving the technology, how is it?

So, advances in technology, help companies to put out new products into the market. So, when the consumer looks at these new products, he keeps on giving a constant feedback to the companies. This consumer communication or this consumer feedback results in technology improvements.

So, this technology improvements or technology changes work both ways. One, technology advances coming to the market, market provides a feedback and when market

provides a feedback, may be it asks something more. Then, again technology improvements start coming in. So, this is a very continuous process.

So, in other words, you can look at technology, initially to be a driver of the markets, **but market to come back to technology again to call for, to make improvements further improvements**. So, in that sense, it becomes a driver again to technology. So, initially technology is driving markets, but markets are also driving technology.

So, what does this mean? This means that you have to continuously monitor this technology. This calls for technology management and this is due to market changes. Suppose, you do not do it; that is, as a company you do not do it, it is very possible that your competitor will do it.

Then, when your competitor does it, you will lag behind; your market share gets affected. All those types of things will follow. So, in other words, technology management is becoming important in the present day context. So, this is what the present day markets are driving technology towards.

This chapter 14, in my book on strategic management, gives **you with respect** to technology management. It is given, in other strategic issues, some points it tries to tell you - I just read from this book - some ideas of this technology changes. This is from page number 218 and 219 of the book. Changes in technology which are rapidly **taking place** due to market changes or making it crucial, to manage technology better for corporate success.

Companies have to think of methodologies by which they can generate significant return on investment in R and D. This calls for innovative approaches from R and D personal and their, **and their**, ability to bring out new products.

It calls for risks on the part of management. Some of the well-known companies have included innovation in their mission statement.

3 M's policy is to generate at least 25 percent of its revenue from products, introduced in the preceding 3 years towards this end. The company spends 1 billion dollars on R and D. It is very important that the top management laid emphasis on technology and innovation and this is reinforced throughout the company. The top management should not only encourage new product development, but also ensure the technologies are developed using the customer interest in mind.

According to a study in the US, of the 11000 new products marketed by 77 manufacturing service and consumer product firms, only 56 percent were still sold; 5 years later only 1 in 13 new product ideas made it to test markets. However, this should not deter well-known companies from going in for **through** R and D and innovation.

Exhibit 14.1, here in this book on page number 219, gives some examples of innovation emphasis in mission statements. I read a few of them; one is A T and T. According, to their mission statement, we believe innovation is the engine that keeps us vital and growing. Our culture embraces creativity, six different perspectives and risks perceiving new opportunities. We create and rapidly convert technology into products and services, constantly searching for new ways, to make technology more useful for customer.

I read the mission statement of Intel - to succeed, we must maintain our innovative environment; we strive to embrace change, challenge the status quo, listen to all ideas and viewpoints, encourage and reward informed risk taking and learn from our successes and mistakes. I read another **form**, that is Hallmark - we believe that creativity and quality in our concept, products and services are essential to our success. The well-known blade manufacturing company Gillette - we invest in and master the key technologies, vital to category success.

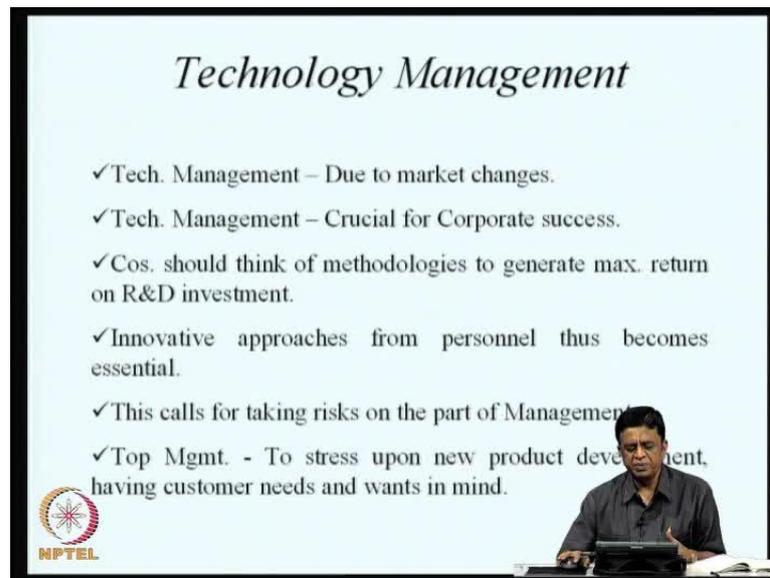
So, this is, in other words, what I was trying to say, till now **that** is initially you, your R and D makes changes in technology and those changes in technology are reflected in the changes in the attributes of the products. They are put into the market. The market calls for something, additional something, more. This is, **this is**, given back to the company, through what is called the customer feedback.

So, the consumer feedback or the customer feedback provides the company what does the consumer want further? So, initially it looks as though technology is driving the

market. But as soon as a new technology starts making forays into the market, the market always calls for something more and **then becomes the market driving the technology**.

So, your force to go into changes in technology. So, in other words, the technology management is a continuous process, which the company has to keep its eyes open towards **(O)**. So, the technology management essentially taking place due to market changes again crucial for the corporate success or the company success.

(Refer Slide Time: 10:09)



Technology Management

- ✓Tech. Management – Due to market changes.
- ✓Tech. Management – Crucial for Corporate success.
- ✓Cos. should think of methodologies to generate max. return on R&D investment.
- ✓Innovative approaches from personnel thus becomes essential.
- ✓This calls for taking risks on the part of Management
- ✓Top Mgmt. - To stress upon new product development, having customer needs and wants in mind.

NPTEL

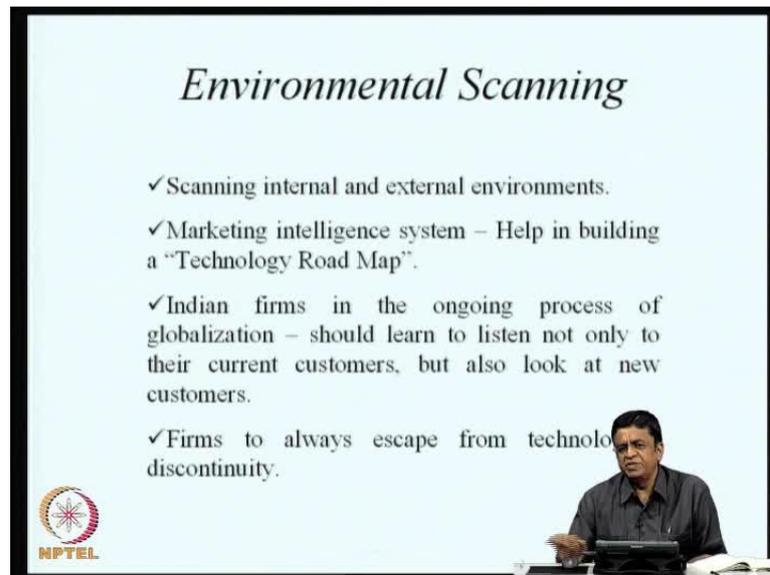
Now, why are we looking at all this? We are looking at all this, for technology changes or technology management, because you invest so much of money in R and D that R and D investment should generate a reasonable ROI.

So, that requires that the R and D personal and also the personal from other department, especially the marketing department, they provides innovative approaches or they come out with innovative approaches. So, **that becomes**, that is becoming, in fact, the order of the day.

So, when you are taking innovative approaches, what is required or what is called for from the management side? From the management side it must be willing to take risks. So, in other words, a certain entrepreneurial attitude is called for on the part of the management. The management should be willing to take risks.

So, what is this going to translate into, if you really start wondering the top management should stress upon new product development. It should have customer needs and wants in mind. So, the top management should be willing to take risks and they should be looking at new product development whole (()).

(Refer Slide Time: 11:58)



Environmental Scanning

- ✓ Scanning internal and external environments.
- ✓ Marketing intelligence system – Help in building a “Technology Road Map”.
- ✓ Indian firms in the ongoing process of globalization – should learn to listen not only to their current customers, but also look at new customers.
- ✓ Firms to always escape from technology discontinuity.

NPTEL

The slide features a light blue background with a black border. In the bottom right corner, there is a small inset image of a man in a dark shirt sitting at a desk with a laptop, looking towards the camera. The NPTEL logo is located in the bottom left corner of the slide area.

This calls for environmental scanning. This scanning requires, scanning both the internal and the external environment. Internal environment is within the organization. External environment outside that is a business landscape. So, internal, you are doing it for your strengths and weakness. External is for the opportunities and threats. Together, they constitute, what we call is this this is what.

Now, using this scanning, you should be able or company should be able to come up with, what is called a marketing intelligence system? This marketing intelligence system is where you try to understand, what is happening in the markets with respect to your products, product lines. What you are putting out in the market, vis-a-vis what the competitor is putting out in the market? So, all these constituting, what is called the marketing intelligence and perhaps what the competitor plans to put out further into the market.

Now, all this should help in building a technology road map. It should help in building a technology road map for you. And what is more important or crucial for the Indian firms is that in this ongoing process of globalization, our firms should learn to listen not only

to their current customers but also look at new costumers. This is especially true of the IT industry, because the IT industry should be willing to look at other countries apart from the United States.

So, because, the other economies are also growing, **the US economy is the**, whereas the US economy till very recently it was the main business opportunity for most of the IT majors in the country. The opportunities or the business opportunities coming from the US is now getting reduced. So, in order to keep up this market growth rate at which they have been growing, it is essential for these IT companies to look at other markets also.

So, most of the other companies, IT majors are looking at Europe. So, this is what is happening **for** firms to escape, to always escape, from technological discontinuity. So, a firm should always keep abreast of technological changes. So, suppose something happens and you are not able to keep in phase with the technology changes, it is very possible that the market will dump you.

It is also very possible that the firm will get caught in this dooms loop, which we have discussed earlier. So, **keeping in**, keeping all this in view, the company has to decide on the strategy formulation. This strategy formulation can take different forms.

(Refer Slide Time: 15:53)



Strategy Formulation

A Company has to decide –

- ✓ Whether it will go in for product/process R&D.
- ✓ The source technology and
- ✓ Whether it has the technological competence to make use of sourced technology and product portfolio.

 NPTEL



What are the forms it can take? It can say, the company has to decide whether it will go in for product R and D or process R and D. What type of R and D it wants to go through?

The source technology, whether it wants to source the technology from outside or develop it inside and whether it has the technological competence to make use of sourced technology and product portfolio.

Suppose, you source it from outside, do you have the technological capability to manage it? This is the question that comes in; so all this is brought out again in this figure, product and process R and D in my book on page number 220. So, this book has a diagram which is figure 14.1, where it lists the product and process R and D in the innovation life cycle. So, according to this figure, if you see the product and process R and D in the innovation life cycle, the proportion of this varies as the products moves along the life cycle.

Product innovations are most important in the interdictory stages, but later on process innovation such as product quality manufacturing facilities become important. So, this is one important lesson for the Indian firms. Initially, the product R and D is very important, in this competitive scenario, but later on when the product stabilizes in the market, so reaches this growth phase, it is very important the company moves or shift from product R and D, to process R and D. Because that is the one which enables you to improve the attributes or the product **quality and further, and so** that your life of the product in the market place can be enhanced. So, the objective of any company would be to prolong the life of its product in the market, to the extent that it is possible. No company, would like to see its products die out very soon in the market place.

So, in order to do that, R and D is now playing a role and initially it can be product R and D. Later on, when you move in the product life cycle, that is, the PLC the process R and D takes over and starts making improvement in the product quality with respect to its attributes.

So, as I mentioned, all this calls for a certain amount of risk from the management. So, the risk taking ability of the management, the top management comes out into the fore in this whole process. So, this is precisely the scenario in which the Indian firms are operating now.

What does it mean? The top management with respect to Indian firms should also be willing to take risks, which are not shy away from this risk. It is very possible that some of these risks may boomerang and for that you should again have backup options, so that,

even if it boomerangs, you would not **these sinks**; that is, the company would not sink. So, you have other fall back options. So, all that requires what is called a corporate entrepreneurship coming to the fore and more importantly so, with respect to Indian companies.

(Refer Slide Time: 20:28)



Corporate Entrepreneurship

Also known as Corporate Intrapreneurship.

Guth & Ginsberg: "The birth of new businesses within existing organizations, that is, internal innovation or venturing; and the transformation of organizations through renewal of the key ideas on which they are built, that is, strategic renewal."

Three measures of R&D success are –

- ✓ Improving technology transfer from research to business units.
- ✓ Accelerating time to market for new products or processes.
- ✓ Institutionalizing cross-functional participation.

The slide also features the NPTEL logo in the bottom left corner and a small inset image of a man speaking at a podium in the bottom right corner.

This corporate entrepreneurship is also known as this corporate entrepreneurship. Many definitions have been given; I quote one or two definitions; the one definition given by Guth and Ginsberg's is that: "The birth of new businesses within existing organizations, that is, internal innovation or venturing; and the transformation of organizations through renewal of the key ideas on which they are built, that is strategic renewal."

So, this is something which is internal you start doing, what is called churning in the organization. This internal churning in the organization, acts as a motivator for internal innovation or venturing. And this internal innovation or venturing helps in transforming organizations through renewal of key ideas. So, this is the strategic renewal which these people are talking about.

There are three measures of R and D success, which are listed here: one is improving technology transfer from research to business unit. This is what we call or what I have been emphasizing in the throughout this different sessions.

Now, the companies are looking at applied research. Pure research is fine, but for a company it wants to benefit from this pure research, it says pure research you did up to this point. Now, help me in coming out with a product through this pure research that is what the business units are looking at, so, the technology transfer from research to business units. So, business units are more keen or keened up on this applied R and D. So, they want this R and D to be applied to the market scenario.

Now, what is this getting translated to? They want this to get translated to accelerating the time to product for new products or process. In other words, the time to market that is the time to come out with the new product to enter the market, they want it to get **shrunk**. So, it should not to take a very long period to come out with new products; **it should be it** should get reduced. So, this is what is happening in the present day manufacturing industry.

Whether you take the **(())** with respect, whether you take the automotive industry or whether you take the electronic industry or whether you take the telecommunication industry, the way the models are getting changed, new models getting introduced in to the market place; so, new models always coming with newer attributes. So, consumer gets use to this newer model. So, by the time he gets, he masters this model, he finds that another new model has already been introduced by the company into the market. So all this contributing to what is called this applied R and D helping coming out with new products.

So, the third aspect of this R and D success is institutionalizing cross functional participation in R and D. So, what does this mean? It means that R and D should not keep itself aloof. So, it should be able to interact with other departments many times proactively.

So, the first thing it should be able to do is to interact with the marketing department. So, find out what is happening with respect to the R and D, that it has done in the market place, that can come through the market feedback.

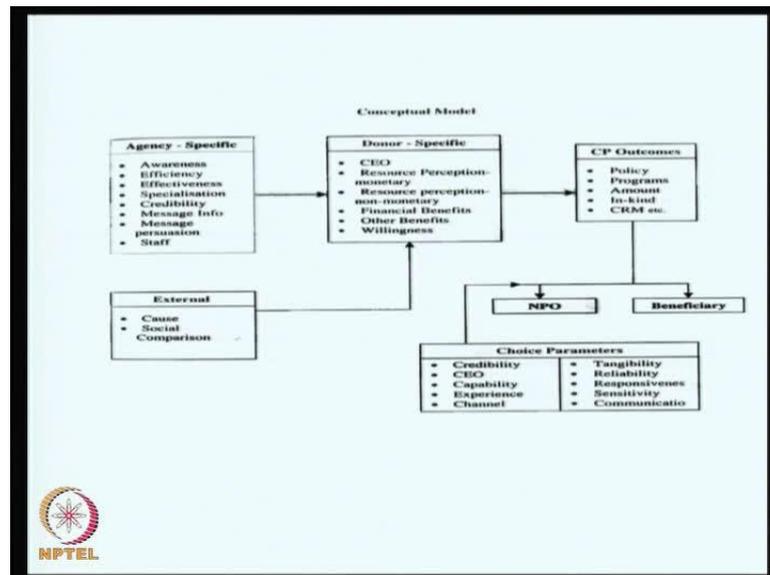
So, in other words, the R and D should constantly interact with the marketing department and the marketing department and the R and D department together should interact with the production department to translate the changes into production changes.

So, this is where the whole process of new product development is heading towards and this new product development. The new changes in this whole process, it is now getting translated into a study by itself, that is called the quality function deployment.

So, the quality function deployment, you are basically relying on the market feedback with respect to your products. So, the products are put out by the companies applied R and D. The companies, applied R and D, helps you to put out the products into the market. The market gives you feedback; both the R and D and the marketing of the depart company work on this feedback and the **feedback is the...** R and D then makes the required changes puts it in to production department to find out whether it can be put through the production process.

So, this is what was also being mentioned, whereas initially you are looking at the product R and D. Later on the process R and D becomes quite important.

(Refer Slide Time: 27:07)



Now, given this type of a relationship, that is, a corporate entrepreneurship, a few ideas on this corporate entrepreneurship is mentioned in this book again. So, it gives in exhibit 14.2, 13 best practices for R and D improvement.

(Refer Slide Time: 27:40)



Corporate Entrepreneurship

Also known as Corporate Intrapreneurship.

Guth & Ginsberg: “The birth of new businesses within existing organizations, that is, internal innovation or venturing; and the transformation of organizations through renewal of the key ideas on which they are built, that is, strategic renewal.”

Three measures of R&D success are –

- ✓ Improving technology transfer from research to business units.
- ✓ Accelerating time to market for new products or processes.
- ✓ Institutionalizing cross-functional participation in R&D.

 NPTEL

I just read these 13 best practices, the one the corporate and business units strategies are well defined and clearly communicated. Then core technologies are defined and communicated to R and D. This whole 13 best practices for R and D improvement has, is a result or is based on a study of third 15 MNCs with successful R and D operations included major firms like HP, Bell Labs, etcetera.

Then, investments are made in developing multinational R and D capabilities to tap ideas throughout the world. Then, funding for basic research comes from corporate sources to ensure a long term focus. Funding for development comes from business units to ensure accountability.

Kindly note this funding for basic research comes from corporate sources to ensure a long term focus. Funding for development comes from business units to ensure accountability. Basic and applied research are done either at a central facility or at a smaller number of labs, each focused on a particular discipline of science or technology.

Development works takes place at the business unit sight. Then formal cross functional teams are created for basic applied research and developmental work, formal mechanism exist for scientist to interact regularly and among R and D and other functions.

Analytical tools are used for selecting projects and also for evaluation of ongoing projects. Then, the transfer of technology to business units is the most important measure

of R and D performance. Effective means of career development are in place at all levels of R and D. Recruitment of new people is from diverse universities and from other companies, when specific experience and skills required would take a long time to develop internally.

Some basic research is performed internally, but there are also university and third party relationships. Formal mechanisms are used for monitoring external technological developments. This is taken from this benchmarking R and D and productivity by these two (()) and (()).

(Refer Slide Time: 31:40)



Corporate Entrepreneurship

Also known as Corporate Intrapreneurship.

Guth & Ginsberg: "The birth of new businesses within existing organizations, that is, internal innovation or venturing; and the transformation of organizations through renewal of the key ideas on which they are built, that is, strategic renewal."

Three measures of R&D success are –

- ✓ Improving technology transfer from research to business units.
- ✓ Accelerating time to market for new products or processes.
- ✓ Institutionalizing cross-functional participation in R&D.

 NPTEL

So, this is the way things have changed in the present day competitive scenario. All this resulting in this three measures of R and D success, which has been listed here, that is, improving technology transfer from research to business, then accelerating time to market for new products or processes and then institutionalizing cross functional participation in R and D.

Now, there are a few things which when you are looking at Indian organizations, you have to look at, you cannot always be looking at the only major companies. Now, you can always ask the question, what happens to small business units?

How should they really survive in this type of hyper competitive space, business space, and land space? So, what should be the strategy that should be adopted. So, a few points

on this is again mentioned in my book; so just trying to give you a few points. So, if you look at the Indian context, SME employs less than 200 people with an annual turnover of rupees 5 crore; that is small and business units are refer to as a SMEs.

The entrepreneurial side of this SMEs, though having its primary goals as profits, that is, the entrepreneurial venture and growth is characterized by innovative strategic planning. So, what does this mean? It is not that strategic planning is something confined to well established or large units. Even in the case of small and medium scale units, innovative strategic planning is the key for survival in the present market scenario.

So, in the present market scenario where you are having hyper competition, so in order to survive, even an SME has to look at innovative strategic planning; so this is the key for not just for the large and the major business units, but also for the smaller business, smaller and medium business units, not only to survive but also to grow in the market place.

So, the difference between a small firm and an entrepreneurial venture, a small definition is a small characterization is given. Most firms start with just a single product; those oriented towards growth, immediately start looking for another one. It is the planning approach that separates the entrepreneur from the small business owner. So, this is what is referred to as innovative strategic planning. SMEs in the Indian context have to recognize that the use of strategic planning is not confined to large scale enterprises.

So, if you really see in the US, 500 small business firms, 86 percent perform strategic planning and reported improved profits. So, there is no reason as to why an Indian SME should not also report improved profits through strategic planning. So, this becomes very essential right now, even for our Indian companies.

So, this is another words, the strategic management process which we have gone through in the earlier classes, whether it is the total process or whether it is the step and ladder approach, whatever we listed, all these points become applicable even to SMEs; this is the point, one has to keep in mind.

(Refer Slide Time: 31:40)



Corporate Entrepreneurship

Also known as Corporate Intrapreneurship.

Guth & Ginsberg: "The birth of new businesses within existing organizations, that is, internal innovation or venturing; and the transformation of organizations through renewal of the key ideas on which they are built, that is, strategic renewal."

Three measures of R&D success are –

- ✓ Improving technology transfer from research to business units.
- ✓ Accelerating time to market for new products or processes.
- ✓ Institutionalizing cross-functional participation in R&D.



Now, SMEs in India have to develop entrepreneurial characteristics, in order to survive in the changing market scenario. How are these characteristics going to help or how are they going to become key for the success of the firm? So, they can help in identifying potential opportunities better; that is, the innovative strategic planning can improve the firm's ability to identify potential opportunities better. Then can infuse a sense of urgency making them action oriented.

So, there is always this hyper competition, keeping the company on its toes. So, the result is you have a sense of urgency with respect to the actions of the company and knowledge of key to success in the industry. So, you keep on looking at what is happening; this is what I said, R and D and market interactions. Initially, technology you can say is the driver, but now when it becomes hyper competition you think that market is driving technology; so both are true.

So, initially technology drives the market. A market asks for more and then it looks as the market is driving technological improvements. So, this is what the market wants. So, the result is you have a very close link between R and D and marketing, which has to be forged in a company and both have to work in tandem, to see what could be the type of improvements, that could be brought about in the product attributes already in a market place.

So, this is required **to be along** at the product life in the market place. So, this is what the PLC; the study of the PLC helps you. So, the marketing department should be able to communicate with the markets better and this communication should be made understandable to R and D also better.

So, this is where you have the knowledge of what is called the industrial marketing. Taking the key or taking the key place in the present day set up, so when you are looking at manufacturing industries, you look at industrial marketing. So, if you have your engineering knowledge, it always comes in handy to understand the markets better. So, this is what it comes to.

The fourth aspect, supplementing through the outside helps skills, knowledge and ability. So, the result is, suppose, you internally you do not have the skills. Let us say, then, what is required is you may have go in for external assistance; it can come from well-established institutions or universities or R and D labs, things like that or it can also come through the help of well-known scientist or consultants in whatever form the company might make to make use of .

So, there is an exhibit which is given here, that is, this exhibit 14.3 on page number 222 and 223, just reading a few of these guide lines. One is focus on industries facing sustained technological or regulatory changes, especially those which witness exists by established competition.

(Refer Slide Time: 31:40)



Corporate Entrepreneurship

Also known as Corporate Intrapreneurship.

Guth & Ginsberg: "The birth of new businesses within existing organizations, that is, internal innovation or venturing; and the transformation of organizations through renewal of the key ideas on which they are built, that is, strategic renewal."

Three measures of R&D success are –

- ✓ Improving technology transfer from research to business units.
- ✓ Accelerating time to market for new products or processes.
- ✓ Institutionalizing cross-functional participation in R&D.

 NPTEL

Seek industries whose smaller firms have relatively weak competition. Seek industries that are in early high growth stages of evaluation, then seek industries in which it is possible to create high barriers for subsequent entry.

Just go back on these things once more, focus on industries facing sustain technological or regulatory changes, especially those which witness exists by a established competition. What are you trying to understand by this? You can know what really **the cause was** for these firms exiting the market. What type of competition made them exit the market? So, that you are prepared better, that is, the firm is prepared better then seek industries, whose smaller firms have relatively weak competitive position.

So, suppose you are able to improve upon this firm and come out with your new product developments better. Then, you are on much better wicket actually, and then seek industries that are in early high growth stages of evaluation. So, this is what, we discussed also earlier, so applicable both to the new products and also to the industry.

So, you have the product life cycle applying to new products. So, you are going through introduction growth maturity and decline applies also to industries as well as. So, you are at different stages of, in the evaluation with respect to the industry. The growth then the industry mature some and you should ensure that the industry keeps going as long as possible, not allowed to the industry to die, because of this hyper competition.

Suppose, it is required for the industry to diversify come out whatever, is required to prolong the life. So, then, seek industries in which it is possible to create high barriers for subsequent entry. So, this is, where you put some leads on competition, and then seek industries with heterogeneous products that are relatively unimportant to the costumers overall. Success, do not keep on looking, at homogeneous products, also look at heterogeneous products.

Seek to differentiate your products from those of your competitors in ways, that are meaningful to your costumers; in other words, costumer should be able to appreciate the changes that the R and D has done with respect to your product or your innovative strategic planning has done with respect to your products product attributes.

Then seek to dominate the market segments you compete in; if necessary segment the market differently or change the nature and focus of your differentiation efforts to increase the domination of the segments you serve. Seek to dominate the market segments you compete in, if necessary segment the markets differently or change the nature and focus of your differentiation efforts to increase the domination of the segments you serve.

(Refer Slide Time: 31:40)



Corporate Entrepreneurship

Also known as Corporate Intrapreneurship.

Guth & Ginsberg: "The birth of new businesses within existing organizations, that is, internal innovation or venturing; and the transformation of organizations through renewal of the key ideas on which they are built, that is, strategic renewal."

Three measures of R&D success are –

- ✓ Improving technology transfer from research to business units.
- ✓ Accelerating time to market for new products or processes.
- ✓ Institutionalizing cross-functional participation in R&D.



So, in other words, what is required for the success of a new venture is to dominate the market. So, in other words, an SME should try to become a leader in the market place as

quickly as possible; so it can be through the different new products or new product lines whatever, is required. It should try to occupy the leadership position.

Then stress innovation especially new product innovation that is built on existing organizational capabilities, seeks natural organic growth through flexibility and opportunism that builds on organizational strengths. So, this is, very important, you cannot be outsourcing; this innovation **always it should also come from within.**

So, you should try to promote this internal innovation to the maximum possible extent. Now, note that all these are required not only for the success of the SMEs per say, it is also required for the industrial development of the country at large. So, if the manufacturing sector has to record - a good growth. The contribution of the SMEs also becomes vital. So, you cannot just be accepting only the contributions to come from the major industries.

So, if you really look at the rate of growth of our country, we are growing at about 8.5 percent on an average over the last 5 years, which is in fact, what do you call the highest growth rate recorded with respect to its GDP, in highest growth recorded with respect to the country, since independence. So, if you really see, we are growing at about 8.5 percent, which is quite good; considering, that there has been recession in the global economy, all the types of things which have come in.

So, to keep up this growth or even to further, this growth what is required is a thrust on this innovative strategic plan. So, this is where all this SMEs the success of this SME's is also going to matter a lot.

So, we will stop here. We will continue in the next class. Thank you.