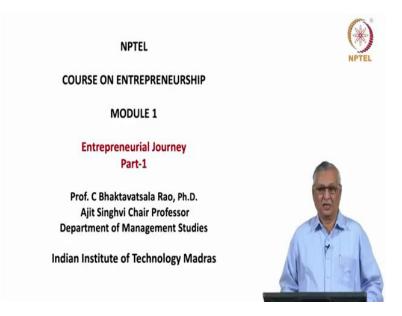
Entrepreneurship. Professor C. Bhaktavatsala Rao. Department of Management Studies. Indian Institute of Technology, Madras. Module-01. Entrepreneurial Journey Part-1.

(Refer Slide Time: 0:12)



Hi friends, welcome to the NPTEL course on entrepreneurship. This is our first module, and I am thankful to you for opting to participate in this course. As we all know, entrepreneurship is very critical in the development of an economy and by participating in this course and also by sharing my knowledge, we are doing our bit to the diffusion of entrepreneurial spirit in our country, and also globally. So welcome again. In this course, we will focus on the topic entrepreneurial journey.

(Refer Slide Time: 0:42)

Received my Ph.D. Degree in Industrial Management and M. Tech. Degree in Industrial Engineering from the Indian Institute of Technology Madras, Chennai. Received my B.E. Degree in Mechanical Engineering from Sri Venkateswara University, Tirupati. Have over forty-four years of diversified experience in strategic and operational leadership of large reputed companies, including global multi-national corporations, in India. My last formal assignment was as Managing Director and Executive Chairman of Hospira Healthcare India Private Limited, a Pfizer Company. Have been passionate about writing and publishing, with over one hundred and thirty publications in economic and business dailies and refereed journals. Have established LeaderCrest Academy for high quality academic publishing. Have authored and published eight books under LeaderCrest banner over the last forty months. Currently serving as Dr. Ajit Singhvi Chair Professor in Management Studies at the Indian Institute of Technology Madras, Chennai.

Before I start off with the course, the structure, the content and the methodology, let me say a few words about myself. My name is C. Bhaktvatsala Rao, I have been an alumnus of the Indian Institute of Technology, Madras, having received my M. Tech. Degree in Industrial Engineering, and also my PhD in Industrial Management from this great Institute. I received my B.E. degree from Sri Venkateswara University. I have had forty-four years of industrial experience in reputed global multinational corporations with base in India.

My last assignments were as managing director and executive chairman of Hospita Healthcare India Private Limited, a Pfizer company. I have been an avid writer for several years and I have also a strong intent and aptitude for research and teaching. I have established the LeaderCrest academy after my movement from Pfizer, for sharing my academic knowledge and also for supporting the management development in the country.

I am currently serving as Dr. Ajit Singhvi Chair Professor in Management Studies in the Department of Management Studies at the Indian Institute of Technology Madras, Chennai. And it is a great pleasure once again to be with you and share my perspectives on entrepreneurship.

(Refer Slide Time: 1:57)



So what does this course on entrepreneurship do? According to me it provides 4 very important indicators for us. One, it provides a very detailed overview of the multifaceted domain of entrepreneurship. Entrepreneurship is very exciting, but also is very complex. It also demonstrates the entrepreneurship's importance as a foundation of industrial and business growth in the country. It brings out several insights based on real life case examples of entrepreneurship.

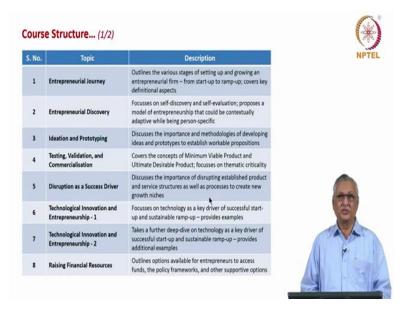
And also it applies in a practical manner, the theoretical underpinnings we have and all that is accomplished in a multi disciplinary framework. It also provides multiple constructs for entrepreneurs to be successful, leads them onto a few pathways for their companies to achieve sustainable growth.

(Refer Slide Time: 2:47)



How is the course going to be delivered? It will be delivered as per the NPTEL format. Typically, each module will focus on one core theme, and that theme will have also multiple topics within the theme. We will provide illustrative and experiential examples throughout. And this course will wrap up with 12 case studies of entrepreneurial developments or start-up developments and each has had a different strategy and a different business model.

(Refer Slide Time: 3:12)



The course structure comprises 15 modules which will be offered to you over a period of 12 weeks. And the course modules typically are Entrepreneurial Journey, which is this module, wherein we outline the various stages of setting up an entrepreneurial organization from start-up to ramp-up and covers a key definitional aspects. In the second module we will have

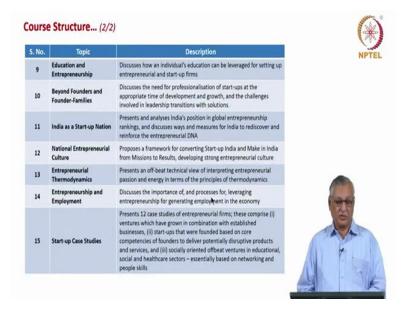
Entrepreneur Discovery, because it is very important for an individual to discover whether he has or she has in it the entrepreneurial Spark.

And what does this entrepreneurial spark mean and how is it different from normal aptitude and attitude and competence which we as other professionals possess. The third module will focus on ideation and prototyping. It is nice to be having an entrepreneurial mindset but how do you really ideate and how do we develop a prototype, which are the two foundation stages in setting up an entrepreneurial firm, that would be covered in the third module.

In the fourth module, we will talk about testing, validation and commercialization of the prototype and how therefore, the entrepreneurial idea will actually take shape in the real marketplace. Having done that we will look at in the module five, disruption as a success driver. One of the key characteristics of entrepreneurship is that is challenges the established products, is challenges the established business models, and tries to create a new industrial environment through novel products or novel ways of delivering the products and services.

So module 5 focuses on disruption as a success driver. In module 6 and 7, we will focus a lot on technological innovation and entrepreneurship, the linkages between the two. Several real life examples will be provided as to how technology has been a great disrupter of how businesses have been conducted. How do we raise finances, especially when start-up founders set up their companies with very scarce or meagre resources. So, module 8 focuses on raising financial resources for an entrepreneurial firm and also for a start up.

(Refer Slide Time: 5:11)



In chapter 9, we will explore the relationship between education and entrepreneurship. We have several examples of people who have not been fully educated in terms of let say, acquiring a college degree or a postgraduate degree but turning out to be very successful entrepreneurs. Those examples also will be covered in the course. But overall, there is no doubt that education helps us acquire knowledge, think in a very reasoned manner and also experiment with novel ways of doing things.

Therefore, the linkage between entrepreneurship and education will be explored in module 9. And all entrepreneurial companies are set to grow and eventually also become mainstream companies at one stage or the other. It is therefore important for founders to understand when they should leave the reins of an entrepreneurial firm that has been set up by them in the hands of professional leaders.

So that they could move on to focus on things which are which they are good at, particularly setting up of new entrepreneurial ventures or even encouraging other entrepreneurs to set up their ventures. So, module 10 talks about beyond founders and founder families. In module 11, we will talk about India as a start-up nation. Like many countries, India has got certain arts, crafts, certain native DNA, how do we leverage this native DNA and take India forward, integrating the newer digital skills as well as the newer Make in India paradigms that we have.

So India as a start-up nation, and in that endeavour, where does India figure in terms of global comparisons in entrepreneurship, in innovation, that will be the focus on module 11. In module 12, we will talk about the national entrepreneurial culture as an important facet of facilitating entrepreneurship on a wider scale. It proposes a framework for converting initiatives such as start-up India and Make in India into tangible result oriented missions.

And how do we develop strong entrepreneurial culture in the country will be the key topic in this module 12. Module 13 takes a very offbeat approach towards understanding entrepreneurship in terms of thermodynamic principles. As we will see in this course, energy and passion are two sides of an entrepreneurial coin. How do we use the principles of thermodynamics to understand how energy and passion work in an entrepreneurial system or within the entrepreneur? So, Chapter 13 focuses on entrepreneur thermodynamics.

Chapter 14 focuses on the very important topic of entrepreneurship generating additional employment. What is the nexus between formal employment or informal employment and

formal entrepreneurship or self employment, this will be the focus on this module. And different models of the previous era that is the micro, small, medium enterprise development and today's era of digitally enabled tech driven start-ups, these will be examined to understand the linkages between entrepreneurship and employment.

And finally, in module 15, as I said, we will wrap up this course with the case studies of 12 companies. And each of these companies belongs to a particular industry, different industry, and each has followed its own product model, or service model, and each has followed its own business model. And more importantly, these have been set up by either professionals or students who have been around us.

Therefore, it brings forth this point that entrepreneurship can be a passion, can be the pursuit of a rare breed of professionals, but at the same time, it also can be learned, it can also be practiced by people who are doing various other avocations and who are normal professionals as anybody else. So, to that extent, the start-up case studies tries to guide us that yes we can be entrepreneurs, if we decide to be entrepreneurs based on certain methods of becoming entrepreneurs.

(Refer Slide Time: 9:16)



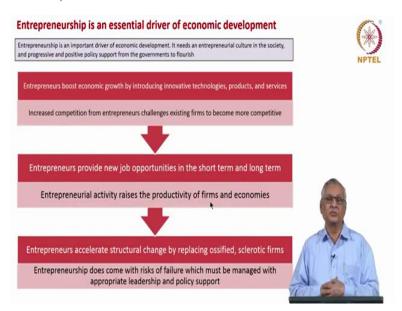
Upon successful completion of the course, I would think that there would be 3 clear deliverables. Fundamentally, the participants will gain an expansive and deep appreciation of entrepreneurship and its pivotal role in the economy.

Secondly, the participants are likely to be able to approach entrepreneurship with clarity and focus, remove any cobwebs we have in our mind about entrepreneurship, saying that it is too

esoteric or too challenging to be attempted by people, but at the same time, very well aware of the risks of entrepreneurship and how do we really mitigate those risks. So that would be the second deliverable.

And thirdly, for an entrepreneur who is already practicing, the benefit would be in terms of navigating the opportunities and challenges of entrepreneurship more effectively with the several additional insights that would be available through the course.

(Refer Slide Time: 10:06)



Now let us come to the main topic of entrepreneurship and the entrepreneurial journey. Entrepreneurship is an essential driver of economic development. We need an economic environment which continuously grows and which grows with productivity, safety and protection of environment. And for that to happen, technologies have to be continuously renewed, the ways of doing business, how to be continuously renewed and the new methods of delivering products and services to the marketplace have to be devised.

And all that is possible with entrepreneurial culture. Therefore, an entrepreneurial culture in a nation or a society and also progressive and policies support from the governments to support such a culture would be a fundamental pivot for enhancing entrepreneurship in the economy. And why is entrepreneurship very important, because entrepreneurship boost economic growth by introducing innovative technologies, products and services, that is the fundamental contribution of entrepreneurship.

And increased competition from entrepreneurs challenges and also motivates the established companies to become more competitive and to renew and review their own methods of doing.

So the economy overall benefits because newer products and newer services are brought in by the entrepreneurs. And the established companies are challenged and motivated to improve their products and services. Thirdly, entrepreneurs provide new job opportunities in the short term and long term.

I would discuss in the module which relates entrepreneurship and employment as to how a typical entrepreneur provides many more jobs than he would if he moves to an organized employment. So entrepreneurs definitely provide new job opportunities in the short term as well as in the long term. Entrepreneurial activity, as I said, raises the productivity of firms and economies. We have very clear examples of how digital economy has completely galvanized the entire industrial landscape with greater productivity.

Digital Economy was not just content with computerising, data processing or making transactions faster, the ways of doing businesses have been fundamentally altered. If one were to do an air ticket people used to go to an airlines office and then book their tickets and that used to take a full day. But today by a click of a button people are able to access their ticketing options or also do the ticketing through online payments.

So that is the kind of fundamental digital transformation that has happened in the interface between a service provider and a service receiver through digital technology and more such changes are happening. And this has happened through start-up activities through entrepreneurial activities and also by entrepreneurial thinking on the part of established companies.

As a result of all these kinds of changes that the entrepreneurs trigger, entrepreneurs typically accelerate structural changes by replacing ossified sclerotic firms, that is firms which have been losing out productivity, which have been losing out in terms of contemporary and competitive service to the customers, they tend to get replaced by newer, more vibrant entrepreneurial firms.

Therefore, entrepreneurs ushering a very positive structural change in the country. All the benefits are there, but there are also risks, that entrepreneurship does come with risks of failures, and which must be managed with appropriate leadership on the part of entrepreneurial and start-up firms and also with appropriate policy support by the governments.

(Refer Slide Time: 13:47)



We will delve into this in greater detail in one of the later courses. But I must also say that entrepreneurs are of different types. I would flag fundamentally 4 types of entrepreneurs, Innovative Entrepreneurs, Replicative Entrepreneurs, Opportunity Entrepreneurs and Necessity Entrepreneurs. Innovative entrepreneurs are those who bring in fundamentally new products or fundamentally new services, and create new business segments around those products and services.

A typical example is the search engine. This was brought in by Google and it has created a totally new industry by itself, or when Adobe has brought in the documentation management system, it created a new industry in document management. Similarly, when email was introduced, that created a new industry in terms of Hotmail and Yahoo mail and various other electronic mailing options, and so is electronic commerce, pioneered by Amazon and various other companies.

So, the entrepreneurial driver for innovative entrepreneurs is in terms of bringing new products and services which didn't exist thus far in the national milieu. Second class of entrepreneurs are Replicative Entrepreneurs, by far these are the largest group of entrepreneurs. Whomever you see in terms of medium and small enterprises or the today's big firms when they were first of all set up emulating another company, these are all replicative entrepreneurship examples.

Replicative entrepreneurs typically enter the industrial and market space by offering products and services, which are similar to those products and services which is already in the market.

But they have a unique selling proposition in each case, they have a different way or more efficient and more congenial way of offering their products and services, therefore they entered the market.

Replicative entrepreneurs are as important as innovative entrepreneurs, because if the innovative entrepreneurs are likely to be at the top of the innovation pyramid. The replicative entrepreneurs are likely to be in the middle and the bottom providing the benefits of innovation in a much different and much more affordable way to the broader society. So replicative entrepreneurs are extremely relevant and important for an economy.

The third classification is Opportunity Entrepreneurs, because entrepreneurs become entrepreneurs because of their mindset, and they would like to do something different. Many entrepreneurs pursue entrepreneurship because they see an opportunity, they see the opportunity for wealth creation, they see the opportunity for market capitalization of their firms when they are invested in or when they finally list themselves on.

So the wealth creation and the opportunity of serving the nation, through new products and services, leaving behind an institutional legacy of doing something different, that prompts Opportunity Entrepreneurs to enter into the industry. And opportunity entrepreneurs are typically not really required to do an entrepreneurial enterprise because they already have a job or they are well settled or they are probably part of a first generation enterprise system already.

However, they do this opportunity entrepreneurship because they feel motivated by the opportunity of becoming entrepreneurs and serving the nation or the task of wealth creation. Then we have also the class of Necessity Entrepreneurs. Necessity Entrepreneurs are those who are forced by circumstances to become entrepreneurs. For example, there is a recessionary downtrend and there is a cycle of depression and companies are right sizing or downsizing their employee force.

And we have employees who have acquired the significant knowledge and they would not like to be without jobs. They would like to say that yes I have core competence and I have a new way of doing things, they would leverage their knowledge and capability to set up entrepreneurial enterprises. Similarly, we can think of people who have retired from their active services, who have certain savings to fall back on.

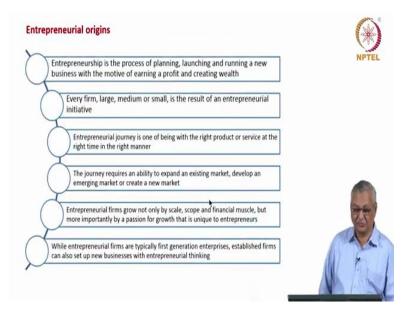
And they would also feel, for example, that they still have significant knowledge and experience to contribute to the industrial development. They also may say that yes I have a necessity of fulfilment still remaining to be carried out and they would like to be Necessity entrepreneurs. Social entrepreneurs are another group of entrepreneurs. While we spoke about these 4 classes of entrepreneurs, we have seen an economic purpose or economic mindset propelling those entrepreneurs onto their journey.

But we also have this group of social entrepreneurs who want to make a mark in the social firmament of the nation. They would like to make important changes in how the society conducts itself. So a social entrepreneur may think of clean water supply, he may think of nutritious food supply to schools, how to educate indigent students, how can we make micro loans available for people who are on the streets and need an avocation to support themselves with.

Social entrepreneurship could be of several sorts or how could we plug the wastage of grain in the rural situation. Social entrepreneurship by and large does not have an economic profit motive that is driving them. Never the less there could also be business enterprises, whose output could be very social in nature, but they could have their own ways of earning their economic returns.

For example, when we talk about saving of grains through appropriate technologies, in the rural fields or in the rural warehouses, there could be productivity associated savings that could occur to the agricultural value chain and part of the savings could be in terms of the pricing of their services. Therefore, new technology business ventures could have a social purpose and that is also very welcome for a national development opportunity.

(Refer Slide Time: 20:02)



How does entrepreneurship origin? Basically, entrepreneurship, if you look at the definition in a classic dictionary, is one of making a business for earning a profit. But it is also the process of planning, launching and running a new business with the motive of earning profit and creating wealth. So the purpose is not just do something and earn business, it is a whole industrial activity of planning for a product, planning for a service, creating that product and service and commercializing that product or services through an appropriate business model.

And the motive being creating the profit, creating the wealth out of the operations. Every firm that we see today, large, medium or small has been an entrepreneurial initiative at some point of time in the past. Entrepreneurial journey is one of being with the right product and right service at the right time in the right manner. Entrepreneurial journey has got several challenges. If the product that is devised is not appropriate for the market needs, it is unlikely to be successful.

Unlike established companies, entrepreneurial companies would not have deep pockets to ride out over failures. Therefore, having the right product or service in the right manner at the right time, that becomes very important for success of entrepreneurial journey. There are two expectations out of a good entrepreneurial journey, we should have the ability to expand an existing market or create a new market. In between the two, that is expansion of the existing market or creating a new market, we could also develop an emerging market.

An example could be in terms of water purifiers. Water purifiers was an emerging market, however, that market was expanded by having better ways of doing Reverse Osmosis, better

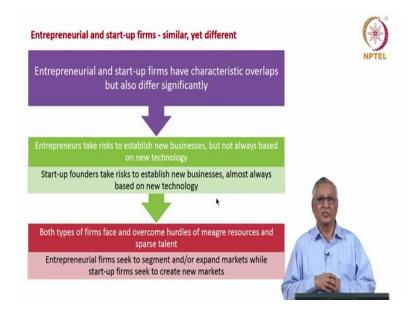
ways of killing all kinds of bacteria. So the emerging market for water purification back in the 80's and 90's was expanded in a significant way by bringing newer entrepreneurial ventures into the marketplace.

Entrepreneurial firms grow not only by scale and scope, and financial model, but more importantly by the passion for growth which the entrepreneurs possess. So more than the technology, more than the finance, it is the entrepreneur passion that develops the entrepreneurial firm on its growth path.

While entrepreneurial firms are typically first generation enterprises, that means the industrial experience has been taken up for the first time by the founder, established firms also could be very entrepreneurial in the way in which they have set up their companies or the way they have grown their companies. For example, when there was no steel industry in India of native origin, if the Tata patriarch came and then set up the steel plant in India, it is the entrepreneurial activity of the highest order.

Similarly, when Larsen and Toubro was set up by the founders several several decades ago, it was also an entrepreneurial decision that has been taken. Therefore, the industrial enterprises too can be established with entrepreneurial thinking. And even established companies can be entrepreneurs when they diversify into newer areas or they incubate newer ways of doing business. We will cover several examples in future sessions as to how industrial enterprises that have already been established have grown by innovating on newer areas of doing things.

(Refer Slide Time: 23:49)



We hear about entrepreneurial firms as well as start-up firms. Are they similar? Yes, they are similar in terms of the characteristics but they are also different based on certain unique peculiarities. Both have similar characteristics, but they differ significantly. Both essentially take risks, entrepreneurial firms take risks as well as start-up firms take risks. But entrepreneurial firms tend to be more replicative, they are not necessarily based on new technology.

Let's say Kia sets up a new factory in an underdeveloped region of Andhra Pradesh. And someone decides that I would not supply the parts from a far off place, I would set up my ancillary unit next to Kia, so it is an entrepreneurial decision. The founder of that company has decided that he has decided to bet with the company by proximity and by closer technological association and supply chain association with the Kia Motors.

Therefore there is a risk taking that was involved, but it is not always based on new technology. He is probably likely to replicate the technology he has been using already into the new models that are required for Kia Motors or develop his or her own technology based on the inputs to be provided by Kia. That is the entrepreneurial setting, but start-up founders take place entirely based on new technologies.

They believe that the way of doing the business the products and services require fundamentally newer technologies and therefore, they create new businesses based on new technologies. The difference between, let us say, an entrepreneurial firm and a start-up firm will be very patent when we look at setting up a retirement home. For the first time when somebody sets up a retirement home for senior citizens, that would be a very innovative entrepreneurship because such a concept has never existed in the real estate field.

And replicative innovator could still use the same model and set up more innovative based we use in our lexicon, entrepreneur firms and start-up firms in an interchangeable manner, are they the same or they are similar or they are different. Entrepreneurial firms and start-up firms are similar in nature, but they also have their significant differences. Entrepreneurs take risks just as start-up firms take risks, but entrepreneurial firms simulate whatever is available.

And typically, they use the technologies and market forces that are already present in the industrial structure and industrial milieu. Whereas start-up founders take risks to establish new businesses, based almost entirely on new technology, that is the basic difference. When somebody tries to treat patients through medicines which are already established, that is a

kind of entrepreneurial firm. But if someone tries to treat patients through personalized genetic medicine, that is a start-up based on newer technology.

So both are treating patients as clinics or hospitals but one uses the technology which is already known, but takes risk to set it up in a newer area or to compete with other established clinical houses. On the other hand, a genetic treatment facility has got an entirely different technological foundation and has a different way of approaching patients and also treating them. So that is the difference between entrepreneurship and start-up movement.

Both the types of firms have got typical hurdles of meagre resources and sparse talent. Entrepreneurial firms typically try to segment, they micro segment a market and develop the market segments, and eventually, probably their efforts will pay off in terms of those emerging market segments becoming large markets of their own. On the other hand, start-up firms try to create newer markets around their newer technologies or newer products.

(Refer Slide Time: 27:57)



It is not that India has not been new to entrepreneurship. The entire swarm of micro, small and medium enterprises that are diffused all over the country, the entire structure of ancillary companies serving large companies reflects the fact that entrepreneurship has been there in India as a strong industrial ethic from the time of our independence and even earlier. And government of India has also been very supportive of micro, small and medium enterprises with multiple benefits.

If a micro small enterprise is a product-based SMSE (MSME), it is classified by the investment that is required in plant and machinery. A company is called a micro company if

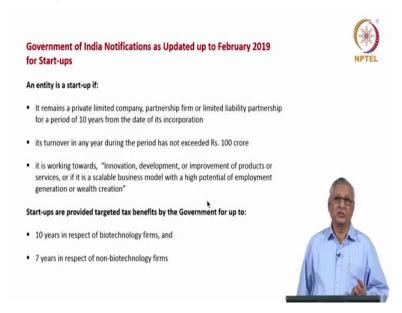
the investment is less than or equal to rupees 25 lakhs. It is called a small enterprise if the investment is more than rupees 25 lakhs but less than or equal to rupees 5 crores. And it is called a medium enterprise if the investment is more than rupees 5 crores but is less than or equal to rupees 10 crores.

If it is a service SME (MSME), the investment requirements are a few notches below what is required for a product SMSE (MSME) for obvious reasons. It is called a micro service SME (MSME), if the investment is less than rupees 10 lakhs it is a micro enterprise, if the investment is more than rupees 10 lakhs but less than or equal to rupees 2 crores it is a small enterprise and if the investment is more than rupees 2 crores and is exceeding rupees 5 crores is a medium enterprise.

And MSME's registration is extremely important for such small companies because the governments have traditionally extended a whole lot of benefits for the enterprises. Tax benefits, reservation for only MSME production from payment of duties, statutory penalties for delayed payments, reduced fees for trademark registration, intellectual property support, legal support, subsidies, government schemes and various other criteria have been established to support MSME in the overall industrial scene.

MSME benefits require registration in the prescribed formats. Start-ups can also be registered as MSMEs.

(Refer Slide Time: 30:10)



In terms of the start-ups, the definitions are slightly different or even significantly different. An entity is a start-up if it remains a Private Limited company, Partnership firm or Limited Liability Partnership for a period of 10 years from the date of its incorporation. That means, there is a time limit that has been set up for a start-up to make its mark in terms of its growth. Its turnover in any year during the period has not exceeded rupees 100 crore. So, if it exceeds 100 crore, it is considered a mainstream company.

And thirdly, most importantly, if it is working towards innovation, development or improvement of products or services, or if it is a scalable business model with a high potential of employment generation or wealth creation. So, in the definition of start-up, it is very clear that a novel way of doing things or a novel technologically driven product, service, infrastructure is the key foundation for definition as a start-up.

Also, the start-up is eligible to be considered as a start-up only if it also has a high potential of employment generation or wealth creation. Start-ups are provided targeted tax benefits by the government for up to 10 years in respect of biotechnology firms, and seven years in respect of non biotechnology firms.

(Refer Slide Time: 31:29)



The Government of India, especially from 2014 has been explicitly recognizing the importance of start-up movement. That is because entrepreneurship and start-up movement provide lasting benefits to the economy. These benefits are technological competitiveness, employment generation and wealth creation. Start-up India is the moment organized by the Government of India for encouraging start-ups to register themselves and also avail themselves of certain facilities which are offered.

Stand Up India is an example of what could be done from for women entrepreneurship and also for indigent entrepreneurs to be successful on their own feet. Make in India is a broader program attracting manufacturing investments into the country. So start-up India, Stand Up India and Make in India together form a framework by which we could have technology-led design and manufacturing initiatives and also initiatives which meet the requirements of not only the Indian marketplace but also the global market.