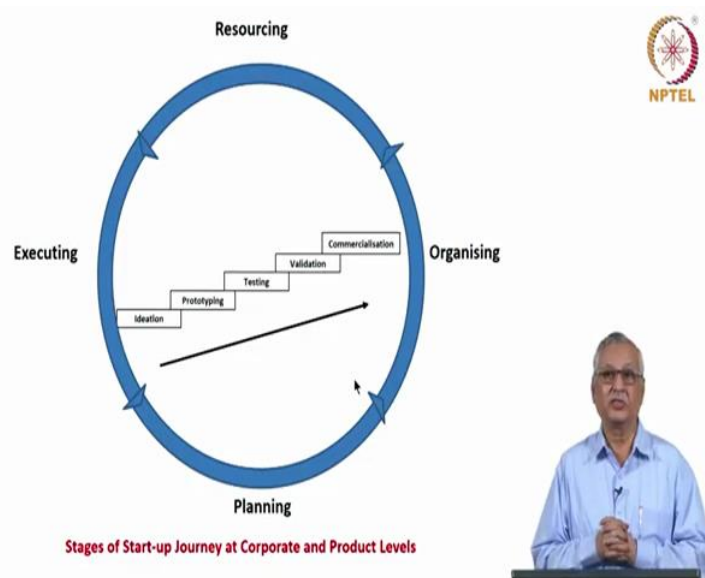


Entrepreneurship.
Professor C. Bhaktavatsala Rao.
Department of Management Studies.
Indian Institute of Technology, Madras.
Module-01.
Entrepreneurial Journey Part-2.

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So, what are the stages of having a start-up journey from seed of an idea to the pinnacle of its achievement? So, we can look at this growth in terms of 2 methodologies. One is what happens to the product or service which the company has in mind or the entrepreneur has in mind and secondly, typically what does it require in terms of resourcing, to achieve those objectives? Typically, from a product perspective, we have got 5 stages which are very important.

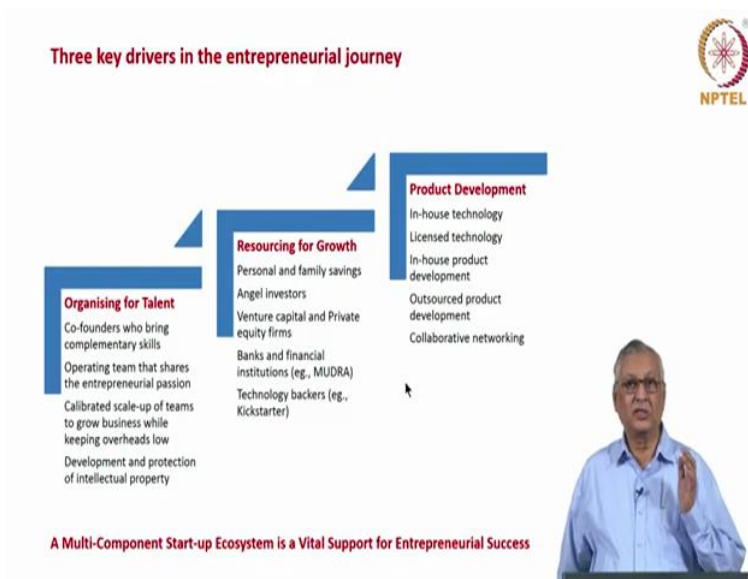
The first stage is ideation, wherein the idea of the product is thought about. Second stage is prototyping that is, the idea is converted into a workable product. Third stage is testing, whether the product is working the way it should work. Fourth one is the validation, validation of the concept of the product itself, is it the one which the market today wants or is it the business that the market is willing to support. And finally, commercialization of these 4 phases are successfully gone through.

But for these four phases to be successfully gone through, the company requires from the entrepreneur 4 aspects. One, the important foundational aspect of planning, how the whole series of activities from ideation to commercialization will be accomplished and how the

resources would be brought into the enterprise. Second, organizing that is getting people on board, co-founders and the team members and also organizing of various inputs which are required, that could be even vendor network to support the venture.

The third is resourcing, providing financial resources and capital resources for the organization. And finally executing, moving physically in terms of ideation, prototyping, testing, validation and commercialization. So, this is the start-up journey from a product functional level as also from a corporate strategic level.

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The key drivers in an entrepreneurial journey are essentially three. One organizing for talent, two resourcing for growth, and three developing the product. So, these correspond to the 3 aspects which we have discussed. Apart from the planning, we talked about organizing, we had talked about resourcing and we talked about executing, these are the important endeavours in this entrepreneurial journey. So under organizing for talent, we require co-founders who could be there, along with the founder for complementary skills.

We also require an operating team that shares the same entrepreneurial passion as others. A calibrated scale up of teams to grow business while keeping the overheads low. An entrepreneurial firm cannot be operated in the same manner as a large organization. Even if it has got an excellent product on its table, it cannot do massive advertising. So, the way of advertising itself has to be very unique, innovative and of low cost.

Even the early product validations may not necessarily be through classic pilot marketing in physical markets spaces, we may have to look at different ways of marketing a product,

taking the support of technology geeks or funding platforms or specially formulated promotional schemes for the product to be seen and tested by people. So the way we scale up has to be with the objective of achieving the maximum impact with the lowest possible fixed overheads and also keeping the variable costs as low as possible.

And again, while we are organizing for talent, we need to get talent which is capable of generating intellectual property and also protecting that. Therefore development and protection of intellectual property becomes an important objective of start-up development. Over a period of time it becomes very tangible asset and it could be monetized much later for resourcing for growth.

And as far as resourcing for growth is concerned, obviously, the starting point is in terms of personal and family savings, but the second phase comes with angel investors or high net worth investors who are willing to put in money. The third aspect of resourcing for growth is to take the company to a particular level of achievement and then go to fund houses which have got larger purses, venture capital firms and private equity firms.

And in this process, when a product has got a working capital cycle that can be funded by banks, one could also go to the banks and seek working capital financing. Because when we go to angel investors and venture capital investors, typically the equity dilution happens and value capture doesn't happen to the promoters as much as it should happen. Therefore, a prudent mix of both, equity investments and debt raising based on the nature of the product and the nature of the working capital cycle that becomes important.

And all of these things should come in the planning phase. How do I carry out my production activities in the pre-commercialization as well as commercialization phase. And also the associations with technology backers such as Kickstarter and this will help garner some working capital even before the launch of the product. And the third phase is the execution phase, which is actual product development.

Do I have the technology to be able to bring in the product to the fruition or should I have licensed technology? Should the technology be developed in house or it should be outsourced? And what is the kind of collaborative network I must look at. So, a multi component start-up ecosystem is a vital support for entrepreneurial success in the entrepreneurial journey.

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Incubators and Accelerators



Incubators are companies or entities that make available certain infrastructure to a start-up firm. For example:

- Plug and play co-working space at affordable rent for the long-term
- Financial and accounting help
- Intellectual property and patent filing assistance
- Networking and mentoring forum
- Access to academic laboratories

IIT Madras Research Park is a great example of a comprehensive incubator system.

Accelerators are time-pressured programmes (usually of a few months) offered by companies to help entrepreneurs in the seed stage of development, usually in terms of:

- limited financial grants
- mentoring programmes
- Limited workspace accommodation

Accelerators typically focus on ideas linked to the supporting company's value chain.



At this time, we should also look at incubators and accelerators, although this topic will come up in greater detail in the subsequent modules. Incubator is a company or an entity that provides the space and the facility for a start-up to start its activities. It is kind of plug and play co-working space at an affordable rent for the long term. It provides certain common services such as finance and accounting, legal and intellectual property, company registration, and other normal services that are required to run an operation 24 by 7.

It also provides typically certain networking and mentoring forums for the entrepreneurs. It also provides access to academic laboratories. The government policies are encouraging educational institutions to have their own incubator parks. But much before this became a norm, we have had in IIT Madras, an IIT Madras Research Park, which has blossomed into one of the finest examples of incubator systems in the country and comparable with many global incubator systems of this type.

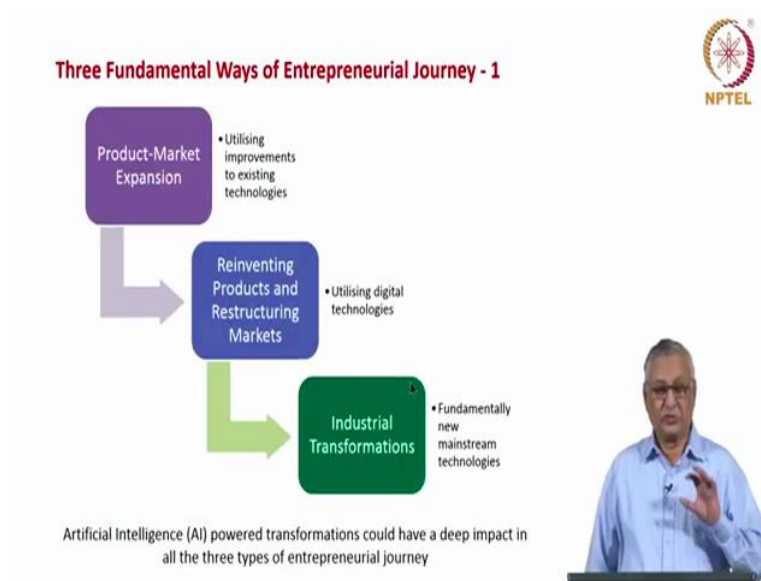
So, incubators are very important and very helpful for start-ups to begin their activities. In contrast with incubators, we also have the accelerator programs. Accelerator programs are time compressed or time titrated programs wherein certain objectives are provided for selected start-ups by companies, which are already in certain domains. And they would like the start-ups to use their facilities or use their funds in certain cases, and also the people linkages to be able to fulfil their targets.

Therefore, there is an interest on the part of the company to improve its value chain while seeking the assistance from the entrepreneurs to develop their ideas to serve the company.

And also there are certain benefits to the company itself because by working with the company, probably they would be part of the value chain as the product evolves and becomes a commercial reality.

So, accelerators, has certain aspects of incubation, but the objectives and the methodologies are quite different. And incubator is a kind of work space to work on, probably till the company becomes too large to be staying in the incubator system. Whereas accelerator is very time titrated, very specific and goal driven.

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So, recalling some of the points which we have discussed. There are 3 fundamental ways of conducting this entrepreneurial journey. One is product market expansion, that is come up with products which are already existing, but has certain improvements and therefore, they have a unique selling proposition in each case and therefore, they expand the product market space.

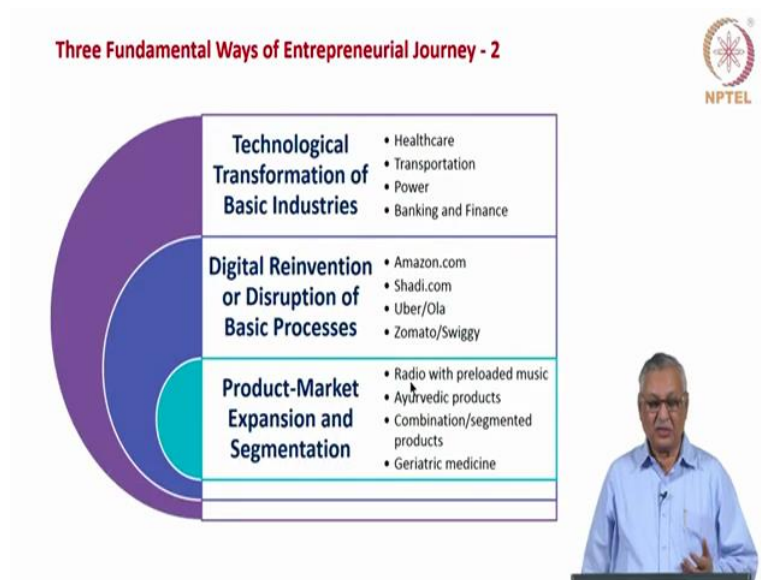
When you have let us say a toothpaste which has got certain Ayurvedic ingredients, you are creating a new market but essentially based on the current method of packaging, current method of developing a toothpaste and current method of reaching to the customers. So, product market expansion has taken place in this very specific example through entrepreneurial thinking and entrepreneurial drive.

The second is reinventing products and restructuring markets. Typically use of digital technology has completely transformed the way certain businesses are performed, the way

certain products services are utilized. So reinventing the products and restructuring the markets is the second fundamental way of conducting an entrepreneurial journey.

But the third one is complete industrial transformation, that is the mainstream technology itself is completely modified in terms of generating newer ways of doing things which are having a different technology backbone. And in today's circumstances, whether it is product market expansion or reinvention of products and restructuring of markets or transformation of the main major industrial technologies, Artificial intelligence powered newer paradigms, the industry 4.0, as we call comprising artificial intelligence, machine learning, deep learning, blockchains, robotics and similar other aspects would have a deep impact on all the three types of entrepreneurial journey.

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So, the 3 fundamental ways of entrepreneurial journey, let us look at in terms of certain of the examples. When we talk about product market expansion and segmentation, a conventional radio which has been made more appealing or more contemporary with preloaded music, that becomes an example of product market expansion segmentation. Similarly, Ayurvedic products, which changed the way the fast-moving consumer goods are utilized and are seen that is another example.

Combination segmented products, that is 2 medicines are available and we combine those 2 medicines to become a third medicine but has better product market impact in terms of patient therapy as well as complaints, that becomes a product market expanding kind of entrepreneurial venture. And when medicine is being offered to all kinds of population,

developing a stream of medicine, which explicitly looks at senior citizens, geriatric medicine that becomes another product market expanding activity.

So, we have examples all around us of how the products and markets that are already established are being micro segmented and improved in terms of the breadth and depth of the marketplace. The second group is digital reinvention or disruption of the basic processes. When we have amazon.com revolutionising the way the physical book reading, book printing process has been digitized, that is a fundamental difference. And when it extends itself to doing e-commerce, that is even more digital reinvention and disruption of the basic process.

Shaadi.com is an example of matrimonial services that are offered online. Uber, Ola - ride handling services being offered through digital means. Then Zomato, Swiggy food delivery through digital means. But when we talk about technological transformation of basic industries, the core of the technology itself is fundamentally altered. When we look at healthcare and when we talk about things like robotic surgery or precision medicine, or remote medicine, the healthcare practices are fundamentally changed.

So, that is the transformation of the basic industry. Similarly, when transportation moves from IC engine transportation to electric vehicle transportation, there is a fundamental change. When power becomes green energy, solar energy that is a fundamental change. And when banking and finance moves from branch-oriented banking to blockchain oriented banking, it is the fundamental transformation of how banking and finance is conducted.

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Examples of Industrial Transformations

Pharma	<ul style="list-style-type: none">• Biologics• Precision Medicine	Healthcare	<ul style="list-style-type: none">• Robotic Surgery• Remote Medicine
Automobile	<ul style="list-style-type: none">• Electric Vehicles• Autonomous Vehicles	Banking and Finance	<ul style="list-style-type: none">• Fintech• Cryptocurrency
Energy	<ul style="list-style-type: none">• Solar Energy• Wind Energy	Education	<ul style="list-style-type: none">• AR/VR• Personalised Online Coaching

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So, the examples as I said, are in Pharma of we have biologics and precision medicines. Biologics change the way the small molecule medicines, that is the organic chemistry based molecules were being offered as medicines based on the medical pathways. Biologics are much more perceptive in terms of the pathway that has to be worked on in the human body. And they opened up a completely new biologics based industry and there are companies which are dedicated solely to biologics, like Amgen and Genentech. And several start-ups which are focusing only on biologics are not small molecules.

Today, we have another group of start-ups which are focusing on precision medicine, that is matching the available medicines to the genetic makeup of a person and saying that out of this fleet of medicines which are available, only ABC could work with the person and DEF will not work for the person or any other combination.

So this is the kind of structural change that is happening in pharmaceutical industry based on newer mainstream technologies. In the automobile industry, as I mentioned, electric vehicles replacing the internal combustion engines and driver vehicles being replaced by autonomous vehicles, that is a fundamental transformation of the automobile industry. And why do we call it fundamental transformation, because much of the ancillary infrastructure which supplies the IC engine would not be required anymore.

Much of the gearboxes and axle technologies which are available in the current form today may have to be re-engineered and reworked. And several newer technologies relating to sensors, several new technologies related to sensors, lasers, radars, cameras, computers, and of course, electric batteries have to be brought into the automobile industry infrastructure. Therefore, there is a fundamental transformation of the industry itself.

Similarly, when energy moves into solar energy and wind energy, it is a fundamental transformation. 30-40 years down the road there may not be many thermal power plants of the current type and NTPC may be less of a thermal power producer and more of a solar and wind energy producer. It would also be energy supplier for electric vehicle movement, therefore there is a fundamental transformation in the way the energy industry will be structured in the future.

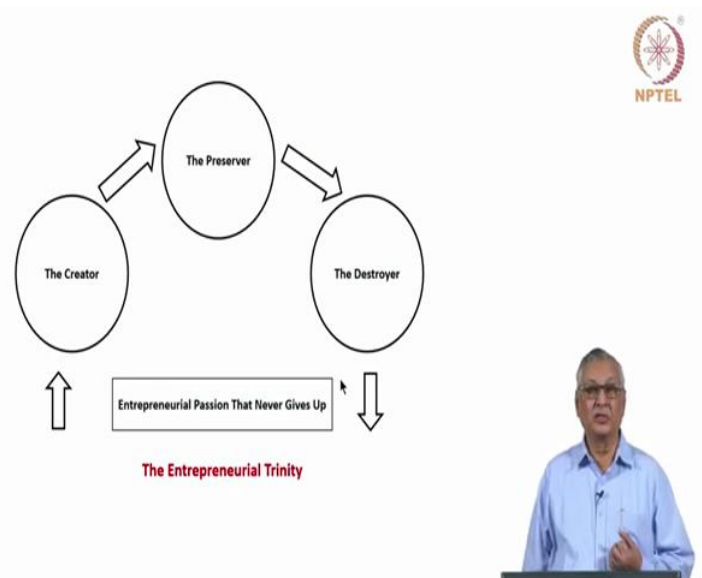
When we look at the healthcare, the conventional completely human based surgery will be replaced by robotic surgery, which could be a combination today of a doctor directing robotic arms to conduct certain surgeries. And the ratio of robotic intervention versus human

intervention could change in favour of robotics in a much more significant way in the future. That would be a fundamental change.

Similarly, remote medicine where all doctors may not be available, but at the same time, they would be available through remote methodologies and revolutionize healthcare in the interior parts of the country. That is another change could happen. In banking and finance, FinTech and cryptocurrency would definitely be newer areas of banking transformation.

The education industry, particularly the higher education industry could be completely revolutionized by augmented reality and virtual reality, taking the students through experiential learning all the time. Similarly, online coaching as we know could be further personalized and based on the student's capabilities, aptitudes, attitudes, and also the learning curve, the educational courses may be personalized and digital technologies could be a great way to customize online coaching even further.

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So these are the kinds of online changes that are happening in the entrepreneurial space. But entrepreneurial space is not always one of continuous growth. There are the 3 types of entrepreneurial developments that happen all the time. The first is the creator, an entrepreneur typically is the creator. He creates, in a way of speaking, something out of nothing. Except for the entrepreneurial passion, he or she would not possess anything other than that in a material term before he or she embarks on the entrepreneurial journey.

Therefore, he or she is the creator. Second, the preserver, that having created an entrepreneurial firm and having brought it to a particular level, a good entrepreneur tries to

preserve the structure and also make it more viable, make it more profitable. But all the time that would not be possible. There will also be entrepreneurs who destroy the edifices they have built, because the market dynamics have changed, the technology dynamics have changed and unfortunately, in some cases, because the companies themselves have not been managed well.

So in an entrepreneurial system, we would have creators, we would have preservers, we would also have destroyers, and that I would call is the entrepreneurial Trinity that exists in any entrepreneurial space. Without doubt if we have more of creators, more of preservers and very few destroyers, the entrepreneurial system of the nation would be very virtuous. On the other hand, if you have more destroyers than creators or preservers, it would mean a lot of loss in resources that a country can ill afford.

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Indian Examples of the Entrepreneurial Trinity

- 1) The Creators**
 - Healthcare Entrepreneurs (Dr Pratap Reddy, Dr Devi Shetty, Dr Badrinath etc.,)
 - Steel Entrepreneurs (Tata, Jindal, Kalyani etc.,)
 - Retail Entrepreneurs (Goenka, Damani, Biyani etc.,)
 - E-Commerce Entrepreneurs (Bansal, Bhavish, Kalra etc.,)
- 2) The Preservers**
 - Automobile Entrepreneurs (Bajaj, Tata, Mahindra etc.,)
 - Pharmaceutical Entrepreneurs (Dr Anji Reddy, Dilip Sanghvi, DB Gupta etc.,)
 - Software Entrepreneurs (Narayana Murthy, Azim Premji, Shiv Nadar etc.,)
 - Hospitality Entrepreneurs (Oberoi, Kamat, Lalit etc.,)
- 3) The Destroyers**
 - Airline Entrepreneurs
 - Telecom Entrepreneurs
 - Electronics Entrepreneurs
 - Logistics Entrepreneurs

In practice, entrepreneurs tend to be a combination of all the three types at different points of time: (i) creating and growing businesses, (ii) consolidating and preserving businesses, and (iii) divesting and restructuring businesses



We have several examples of the Entrepreneurial Trinity. When we talk about the creators, we have many healthcare entrepreneurs who have been pioneers in setting up healthcare service in the country. Dr. Pratap Reddy who set up Apollo hospitals, Dr. Devi Shetty, who set up Narayana Hrudayalaya and Dr. Badrinath who set up Shankar Netralaya. There are entrepreneurs who created something extremely relevant for the country and they were also not spot creations they have been developed into national chains.

We also have in the steel industry, there were Tata, Jindal, Kalyani, they have set up their own enterprises, even during the tough times of pre independence as well as the regulated times of the post independence. Retail entrepreneurs Goenka, Damani, Biani, they have set

up retail arms in India. E-commerce entrepreneurs Bansal, Bhavish, Kalra, etc. So, we have a huge number of creators who have created the new ways of doing business, new products, new services and created the entrepreneurial ecosystem in the country.

Then we also have the preservers. Automobile industry goes its origins to the 1940's in India, basically import dependent at that time, but certain innovations also took place over time since the 1950's. These automobile entrepreneurs have been able to preserve their industrial infrastructures and grow them in spite of the enormous challenges and opportunities that have happened in the automobile industry, bringing in foreign technologies, bringing in newer competitors. In spite of that, the automobile entrepreneurs have been able to preserve and grow their enterprises. Bajaj, Tata, Mahindra, these groups are examples of that.

Similarly, pharmaceutical industry entrepreneurs Dr. Anji Reddy who established Doctor Reddy's and his successors who grew, who continue to grow the company. Dilip Sanghvi, who set up the Sun Pharmaceuticals, DB Gupta, who had set up Lupin. These entrepreneurs are examples of preservers in the pharmaceutical space.

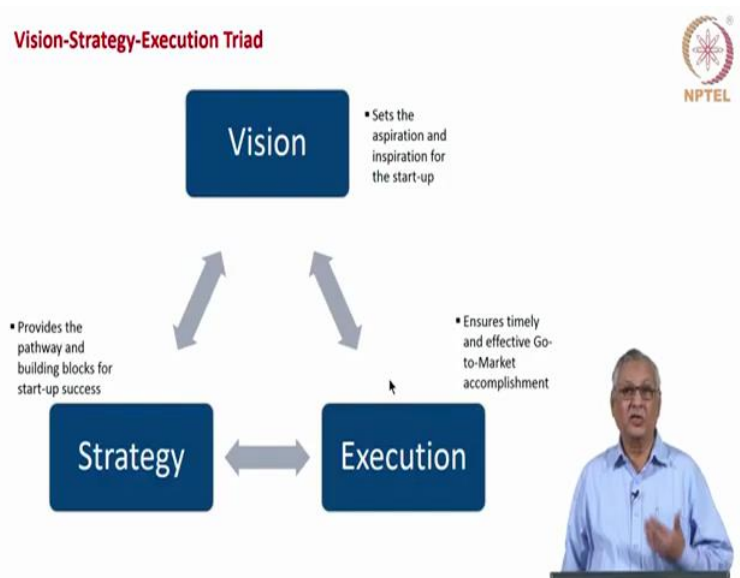
And in the software industry we have Narayanmurthy, Azim Premji, Shiv Nadar, who set up behemoths such as Infosys, Wipro and HCL Tech and preserved them to be competitive, to be globally agile. And in the hospitality space, we have the Oberois, Kamats, Lalits, who have indigenous hospital chains. There also have been destroyers, many airline entrepreneurs have destroyed their enterprises through wrong planning or through misallocation of resources and not reading the markets right.

Today we have probably few, this also applies to telecom entrepreneurs. Electronic entrepreneurs also come into the same category. We have had hardware based electronics industry even 30 years ago or 40 years ago, but they have not been able to sustain themselves and convert their enterprises, their early entrepreneurial spirit in and across industry, into certain mainframe activity or mainstream electronics activity. So they have in a way destroyed their own enterprises and their own wealth.

We also have logistics entrepreneurs, who have been very successful based on the previous methods of doing transportation and today are not able to cope up with the digital transformation that is occurring. But in practice, it is not that the entrepreneur would be in an either-or situation that is, an entrepreneur would be only a creator, he would not be a preserver and unlike to be a destroyer, or in another combination.

Typically entrepreneurs tend to be a combination of all the three types of entrepreneurial behaviour system. They do create and grow businesses on a continuous basis. They do consolidate and preserve their businesses on a continuous basis. And occasionally they do also divest and restructure their businesses. So the Entrepreneur Trinity exists as a fundamental characteristic of an overall entrepreneurial system in the economy.

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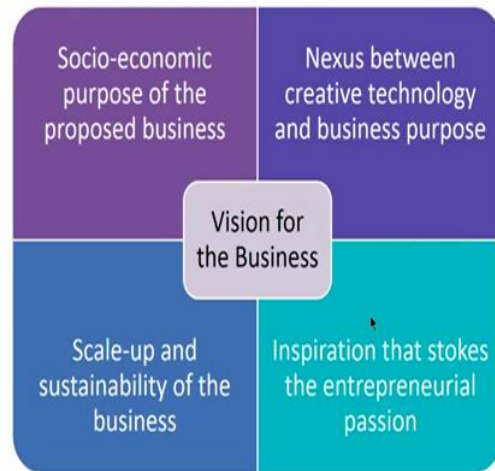


For an entrepreneurial firm to succeed, the mantra is the same as the mantra that is required for an established firm. That is the vision-strategy-execution triad. The vision sets the aspiration and inspiration for the start-up, that is how it sets itself for the established firm. Strategy provides the pathway and the building blocks for the start-up success, and execution ensures timely and effective go-to market accomplishment. So, vision, strategy, execution, that is the essential triad for a start-up, just as it is for an established company.

The only difference is that in an established company, there are processes and systems to articulate the vision every now and then, would have a long range corporate planning which captures the strategy, course corrects this strategy every year and a management plan and budget which ensures that the strategy is executed and monitored and benchmarked against goals on an ongoing basis.

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Vision for Entrepreneurial Success



So when we look at these three aspects, the vision for entrepreneurial success, the strategy for entrepreneurial success and the execution for entrepreneurial success, we can look at a little more granulation. What is the vision? Vision is the socio-economic purpose of the proposed business. Typically, when we look at a product as a product, we tend to lose the focus. We need to look at the product as what it serves the customer for, that is the most important way of looking at the product.

But the broader way that is, what does it do to the broader socio-economic equation in the economy? Does it lead to greater social strength? Does it lead to more economic activity by the customer? That is the broader socio-economic purpose of the proposed start-up. Second, the vision should have a very clear nexus between the creative technology that the start-up founder has and also the business purpose that is envisaged through the company.

And the third vision should be one of scale-up and sustainability of the business. A start-up cannot be an R&D venture for too long. The start-ups goal is to bring the product to commercial fruition as early as possible. Therefore, how do I scale-up the product? How do I ensure the sustainability of the business, that should also form a part of the vision. And finally, the vision is stoked by the entrepreneurial passion.

The vision can be grand if the entrepreneurial passion is strong and the vision can be weak and ordinary if the entrepreneurial passion is on a lower scale. So, the vision for entrepreneurial success depends on the 4 factors. The socio-economic purpose that one has,

the technology nexus he or she has as an entrepreneur, the scale-up and sustainability of the business that is thought about and fourthly the inspiration that influences the level of vision.

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As far as strategy is concerned, again there are 4 ways, because there is a planned pathway for converting the vision into reality. The more one thinks of the various options that could be there to convert the vision into the reality, the more one simulates the likely competition that could be on way. The more one conjectures, the way the market could respond to the product or service that is being offered, the pathway would be that much more robust.

And the strategy therefore would be a very invaluable aid to define the problem and the solution perceptively. Strategy also helps the start-up firm to stage-gate its approach to build and grow the business. And finally, it will be seen as a template to monitor and course correct the entrepreneurial journey. So if you are having a product which sells both to the consumers, individual consumers as well as to the offices, you can stage-gate, how do I enter the individual consumer space and how do I enter the office space, what should come first and how should I do the overall product development and market development. So strategy provides a framework to be able to achieve that. And that is important because it also establishes a very good nexus between returns and investments.

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Execution for Entrepreneurial Success

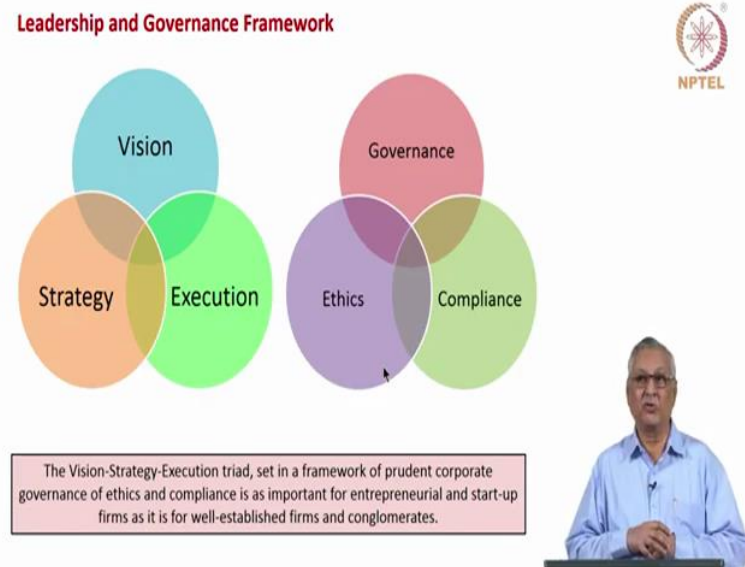


The third is execution. And the execution depends on 4 factors. Again, one, not only first to market but also right to market, that is there should not be any quality glitches in the products or services once the marketplace is reached. Secondly, given that we have a perfect information market today, it is not that a start-up would be able to do a product which nobody else is able to think of. It is likely that others equally innovative entrepreneurs could exist in the industry or in the economy, and have similar vision strategy. When that happens, execution is the only differentiator that exists between different entrepreneurs.

Third, execution requires optimal deployment of resources. We have to be very frugal and very pointed in the way we deploy our resources. That could be right from the office space we use to the multitasking that we undertake as entrepreneurs and team members and finally to the way we manage our product market as activities.

And the fourth one is the influence execution has on the risk-reward balance, if you are able to execute well, the risk-reward balance will tilt in favour of reward. On the other hand, if the execution is poor, and we need to iterate many times, or it could be in the development of vendors or in the development of manufacturing facilities or the final assembly and the final testing or even packaging and putting into the market, if our execution is not up to the mark, the risk-reward balance could be in jeopardy. So, execution has got a very strong influence on the entrepreneurial success.

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All this has to happen within an overall corporate governance framework, because the ultimate objective of entrepreneurship is to scale up and reach a situation where it becomes a mainstream company which has investor participation and also hopefully public participation at some stage or the other. So, while vision strategy execution are important to make this company operational, scaled up and successful, we also need ethics compliance and governance as the overall framework in which the vision-strategy-execution aspects are carried out.

This is because if a company has got good principles of corporate governance, which we may define as having a proper professional leadership, which we may define as proper supervisory board, or even a board of directors with the legal responsibilities, automatically the company would have certain ways of doing its business and that is very important for the vision-strategy-execution triad to be very effective. And when the company goes in for larger investments through venture capital investors and also through public listing, these aspects of corporate governance would be found to be very invaluable for the company to be effective.