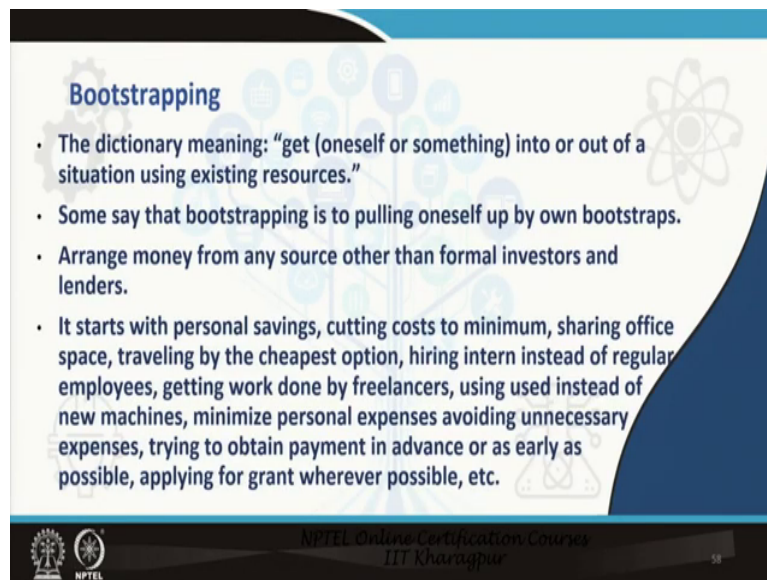


Entrepreneurship Essentials
Prof. Manoj Kumar Mandal
Rajendra Mishra School of Engineering Entrepreneurship
Indian Institute of Technology, Kharagpur

Module – 10
Lecture - 48
Funding New Venture – III

Hello, in this session we will be talking about bootstrapping and incubation acceleration etcetera.

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Bootstrapping

- The dictionary meaning: “get (oneself or something) into or out of a situation using existing resources.”
- Some say that bootstrapping is to pulling oneself up by own bootstraps.
- Arrange money from any source other than formal investors and lenders.
- It starts with personal savings, cutting costs to minimum, sharing office space, traveling by the cheapest option, hiring intern instead of regular employees, getting work done by freelancers, using used instead of new machines, minimize personal expenses avoiding unnecessary expenses, trying to obtain payment in advance or as early as possible, applying for grant wherever possible, etc.

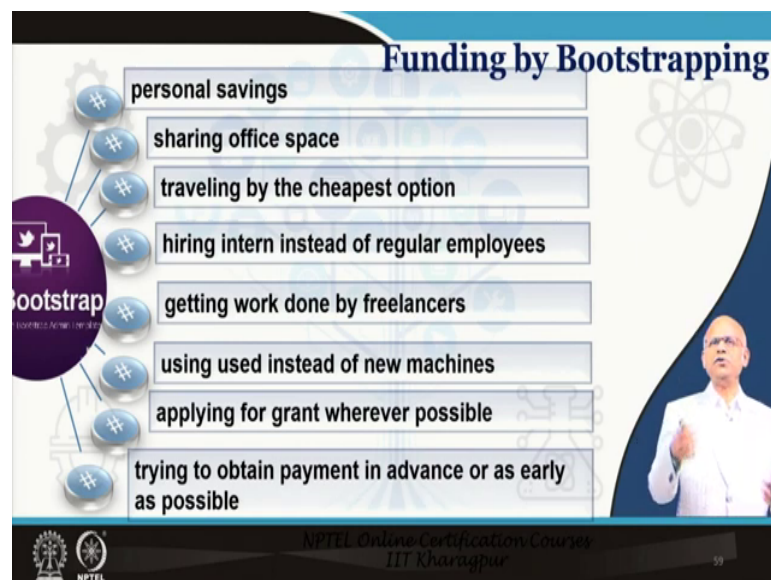
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So, right down to the topic bootstrapping; bootstrapping is a the method of arranging money from your own source. Meaning that; you do not depend on others at the early stage when the

risk is very high and you do not you will not be acceptable to many people for with their money they do not know they would not like to risk their money on a very early stage idea.

What you do is you try to arrange money from all your source possible maybe even using the credit card of course, using the credit card should be the last resort to adopt, but then when there is no other source perhaps that is the only one. But you should try to be economic, you try to depend on non conventional sources where the cost actually is minimal.

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Like if you hear about many successes stories you will find that they mostly started in the garages of some known person and then that is how they started they saved money on rent.

So, primarily you depend on personal savings then you try to share office space with space with somebody you remember Dhirubhai Ambani when he started his business in India. He

was sharing a telephone through a hole in the on the wall and he was just occupying a table space in somebody elses office. So, things goes even beyond that and only those who can save lot of money and they can actually make a buck go a long way and eventually make successes stories.

Then traveling by the cheapest method possible hiring intern instead of regular employees. Like suppose, you are you are just a graduate or maybe you have worked for a couple of years and come back to start your startup. Hiring students, good students who have maybe 2, 3 years of studies already done, perhaps they are the best employees they will be working passionately and with very limited money perhaps without money also that is another way of bootstrapping.

Getting work done by freelancer, then using used instead of new machines like suppose, you need a computer you can always get it from somebody rather than buying a new one. So, these are the way applying for a grant. Many people actually are not aware and then they think this is a small money, but then at this point of time when there is no source rather than looking for investment it is always better to look for grant.

If you have something patentable, then you can depend on DSIR Department of Scientific and Industrial Research. They have a wonderful scheme called prism. There are phases in prism there are three phases actually if you are with just an idea you can apply for prism phase 1 where the money available is only 2 lakhs, but then this is absolutely grant and there is no condition.

You only one condition, that is you must have a patentable technology. If you have a patentable technology then a DSIR will give you 2 lakh rupees for prototyping and filing a patent. So, 2 lakh rupees is a huge amount of money for anybody who just have an idea has an idea and would like to go forward. Because suppose, you use your own money and then you do not go anywhere then this money is gone your saving is gone then you cannot start another idea and then start prototyping.

So, you can use DSIR money this is absolute absolutely grant you do not have to return then there is second phase of the money that is 20 lakh. Here also almost no string attached, this is absolutely grant and you just have to bring 10 percent of the money and DSIR will give you 90 percent of the money up to a maximum of 20 lakh rupees provided you have already filed a patent and you have a prototype that is kind of a minimum viable prototype and its validated by at least somebody. Meaning; it is almost like a proven idea not like idea which is just in the idea stays.

So, imagine that you have 20 lakh rupees from rupees of grant then, third phase you have 50 lakh you get 50 lakh rupees to start your venture, meaning; commercializing your idea. So obviously, that is one of the best source of money, then other things are trying to get payment in advance rather than waiting for payment to come. All these are kind of a not very specific items of bootstrapping. The succinct message is that one should really try hard to manage expenses from his her own sources.

Bootstrapping meaning that you are trying to pull yourself up using your own shoelace kind of a thing means meaning a very thin string using a very thin string you are trying to hang and survive something like that and if you do that and if you can really come up with a proven idea at the end of the period, there will be a lot of people to fund because they will know that with minimum money you have done so much and it is a proven idea money will be available.

If you remember a lean product development. This is all about lean product development. Next item is crowdfunding; crowdfunding is popular, but not many startups adopt this method of capital raising, but then this is a very attractive capital raising because this is hardly any risk you raise money from the crowd or from the public at large looks like this, there are lot of people around the world and then if you have a wonderful idea.

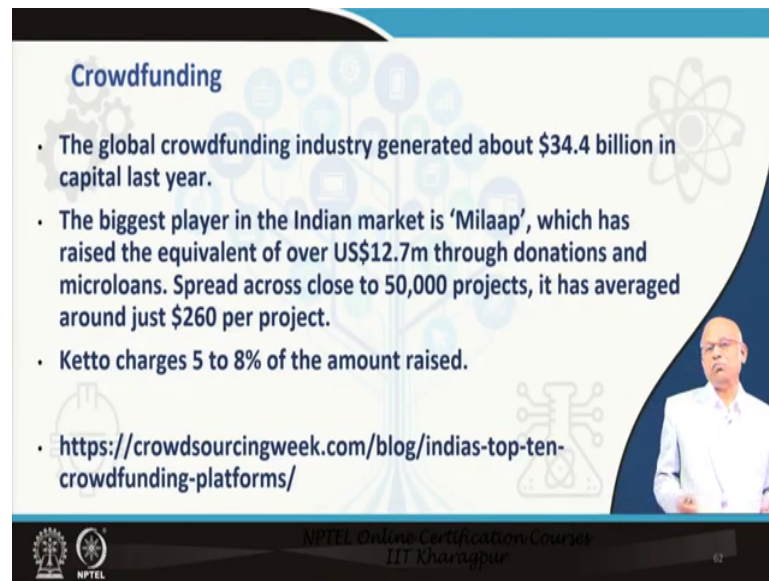
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If you have a wonderful narrative that resonate with their philosophy psychology. If they feel that this is a noble cause or this product is going to help the society. In some way or the other there are many people who will donate money. It may be a donation it may there may have some quid pro quo or something like you give a product or something at the end or you will give some kind of reward in developed world or many other countries other than India, they also give equity.

You can give equity or some reward in some format, but then you get money from the crowd. So, lot of people so, you get connected with lot of people you get your product validated by them if you really give a product to them in exchange for money.

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Crowdfunding

- The global crowdfunding industry generated about \$34.4 billion in capital last year.
- The biggest player in the Indian market is 'Milaap', which has raised the equivalent of over US\$12.7m through donations and microloans. Spread across close to 50,000 projects, it has averaged around just \$260 per project.
- Ketto charges 5 to 8% of the amount raised.

• <https://crowdsourcingweek.com/blog/indias-top-ten-crowdfunding-platforms/>

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So, crowdfunding actually is catching the fancy it has been there for a long time and look at the data. The global crowdfunding industry generated about 34 billion dollar of capital last year; last year meaning 2019. I have taken the data just now. So, obviously, this is a huge money particularly when we think of raising a small amount of capital per initiative 34 billion dollar divided by a small amount of money will translate into many many projects.

In India Milaap is one of the major or significant player who are helping to raise money from the public look at their data they raised equivalent of 12.7 million dollars through 50000 projects. It is now, what is crowdfunding? Crowdfunding is using an online platform to raise capital from the public.

Now what are this platform this platform is a one line portal where you can pitch in the form of a video or maybe a presentation where people can log in and see your presentation, see

your story and if they are kind of impressed with the story and if they are positively inclined about the proposition they may click a button to pay money.

So, it may be any amount of money and then eventually when many people are paying money you get a handsome amount or the targeted amount. So, there is no upper limit or lower limit of or maybe you can mention a lower limit say 1 dollar or say 1000 rupees at the minimum or something and then eventually the total money that comes from various people is your money. But then there is a charge for that. Most of the platform are kind of startup companies. So, this is the commission that you pay is their income and their strength is the number of registered users their awareness in the people about their existence.

So, many people will be visiting their website on a regular basis or there will be some registered users per say the moment you register your proposition in their platform they will send a mass mail to all those people. So, they will visit and see what kind of a proposition you have if they like it there will be money.

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Crowdfunding – Fund Raising Through a Online Platform

- Refers to raising money from scores of individuals or donors to fund the development of a product or service and take it to market through setting up a startup.
- Some details about the product or service, progress made and the planned roadmap are shared with people for them to make an informed decision to give the money.

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Crowdfunding is a one line platform. It refers to raising money from scores of individuals or donor to fund the development of a product or service and take it to the market through setting up of a start up. Now you have to give the details what is the novelty of your product or say you if you are if you have a; if you have a design some kind of a fashion item you have to really come up with the nobility of that or the aesthetic uniqueness of those products. So that, people become impressed.

So, that is a risk again because you have to divulge your unique selling propositions in a manner, at least partially so that, people become impressed. So, you are going to impress people with your unique designs that you have made. So, you are actually going to the, going to the market going to public at large with your may be information that you may not like to.

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Reward-Based Crowdfunding

- Entrepreneur propose to reward potential investors / donors with their upcoming product or services or certain benefits
- If the founders are in businesses such as apparel, bags, jewelry, beauty products, lifestyle products and personalized stationery, they get valuable feedback in the process of response.

The slide features a central image of a man in a white shirt speaking. The background is decorated with icons: a gear, a tree with circular nodes, a molecular structure, a hard hat, and a circuit board. At the bottom, there are logos for NPTEL and IIT Kharagpur, along with the text 'NPTEL Online Certification Course IIT Kharagpur'.

So, if you do not like that way then of course, using crowdfunding should not be your foot your you should not adopt that. Now there may be different kinds of crowdfunding. Reward based crowdfunding; where you propose some reward maybe say some kind of a product that you are manufacturing you can promise them that whenever the product will be ready or I go commercial I will send a piece of that product one piece two piece three piece depending on whatever they do.

Some startup actually promise to give a car, when they come up with the car. So, they were raising something like 25000 rupees to 1 lakh rupees as initial money. So, using that money they would be manufacturing the cars and out of these people out of this money they will manage their setting up their plant and then manufacture the car and send them of course, a car is a hugely large item and how feasible is that is to be. So, we thought of.

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Other Types of Crowdfunding

- Equity-based Crowdfunding – not legal in India
- Lending-based Crowdfunding
- Pre-order Crowdfunding
- Donations Or Social Crowdfunding

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Other types of crowdfunding is like, equity based crowdfunding which is not legal in India because, in India there is a rule that any raising of any capital should be routed through SEBI and SEBI thinks that if you are promising to give anything to an individual in exchange for money, then it should be done through SEBI permission. But then SEBI is yet to come up with a policy about crowdfunding. So, if you do not promise anything if you just raise money for the sake of raising for the sake of a noble cause only then it is legal.

Otherwise if you say that I am going to give you something in exchange for money that becomes something like a public issue, a nano public issue or something and that is to be routed through SEBI. It may be lending based crowd crowdfunding. This is popular in India and this is legal meaning you give money in exchange you take loan from people in exchange for interest. So, you are raising fixed deposit kind of thing and then you pay interest pre order

crowdfunding, pre order meaning that people are ordering in advance some items that you sell and giving money so, you get money.

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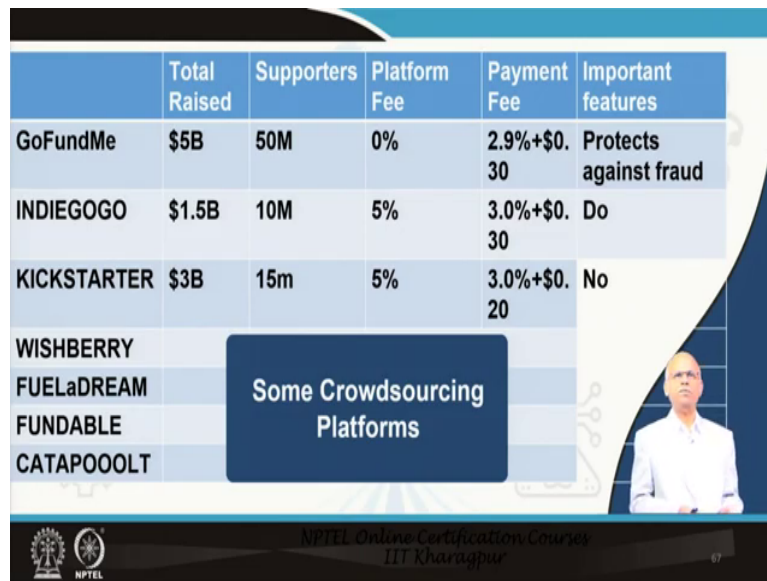
- India has seen a rapid growth of crowdfunding platforms.
- The quantum of money raised through these growing number of platforms has also grown substantially.
- Besides the much needed capital, a startup may receive vital feedback about the acceptability or attractiveness of their product from a large audience with limited efforts early on.

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Donations or social crowdfunding you may have a social cause like a public cause or you are trying to do something for the people at the bottom of the pyramid and you are asking for money to for this noble cause so, people may give money. India has seen rapid growth in crowdfunding and many many projects could be started with the help of crowdfunding.

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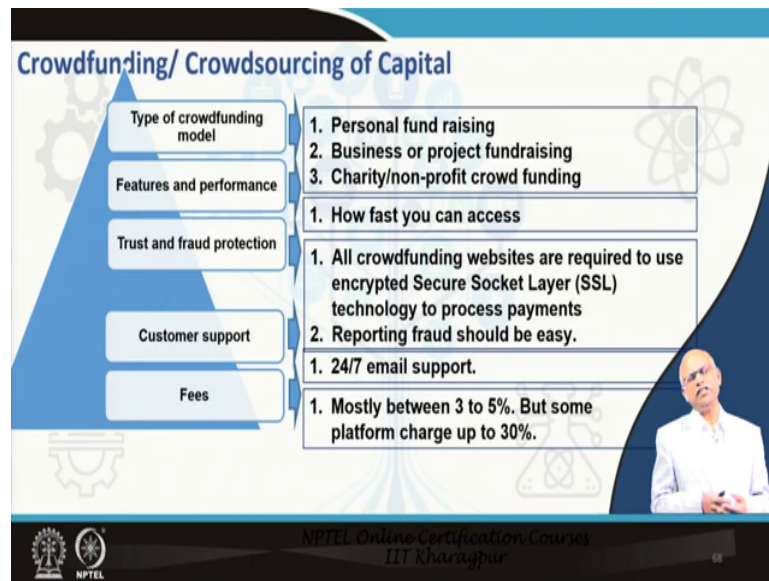
	Total Raised	Supporters	Platform Fee	Payment Fee	Important features
GoFundMe	\$5B	50M	0%	2.9%+\$0.30	Protects against fraud
INDIEGOGO	\$1.5B	10M	5%	3.0%+\$0.30	Do
KICKSTARTER	\$3B	15m	5%	3.0%+\$0.20	No
WISHBERRY					
FUELaDREAM					
FUNDABLE					
CATAPOOLT					

Some Crowdsourcing Platforms

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These are some of the global crowdfunding organization as well as Indian and look at the kind of money they have raised. More importantly, you should be aware about the kind of commissions that they charge. Some of the crowdfunding platform charge something like 5 percent of the fees and there is some payment fees as well for every transaction there is a payment fees some something like say 2.3 per 2.9 percent or 3 percent as transaction fee plus a onetime registration.

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Now, points that is to be considered when you think of availing crowd crowdfunding. One is type of crowdfunding model; is it personal fundraising or business or project fundraising charity or non profit crowdfunding features it may be say what kind of platform which platform is better for you if you are thinking that way then you should think how fast they can that you can access to their platform and people can access.

What are the number of registered users, so that you reach out to a larger audience. Then security is a very important part because some people are giving you money and you are receiving money there may be somebody in between who will be hacking their account or your account. So, eventually there may be huge fraud involved in this whole process. So, every crowdfunding platform needs to have this encrypted secure socket layer so that, this kind of a hacking is not possible. So, that they are not defrauded.

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Advantages & Disadvantages of crowdfunding

Advantages	Disadvantages
<ul style="list-style-type: none">• Usually easy to raise fund• The crowd does not interfere• Usually not associated with dilution• Validation of product or service	<ul style="list-style-type: none">• Usually requires a social dimension.• Have to build the story to resonate with investors• Risk of sharing the product idea to public too early and run the risk of me-too copy-cat competition• Not suitable for B2B

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Then what is the service? It is a 24 by 7 and fees is mostly 3 to 5 percent, but at times it goes up to 30 percent. Advantage; usually, easy to raise fund crowd does not interfere they will never question you. Usually not associated with dilution you do not have to dilute equity unless you are allocating equity to them validation of products suppose you are giving a product to them in exchange for money and depending on how well they are accepting your product is a validation.

So, you get you almost like you are selling your product and getting it your idea validated. Disadvantage; usually. requires a social dimension meaning that unless you have a wonderful narrative wonderful story perhaps people will not be inclined to invest in your company. Then most importantly, most important disadvantage is that you are trying to risk divulging your

ideas to the public at large because, you are going to tell people that I have this unique wonderful idea.

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Crowdfunding in India

- Any kind of fund raising from the public is to be authorized by SEBI (Securities & Exchange Board of India).
- SEBI is yet to put in place formal regulatory framework for crowdfunding.

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And it may not be very suitable for a kind of a business proposition because public may not be kind of interested in that kind of business proposition.

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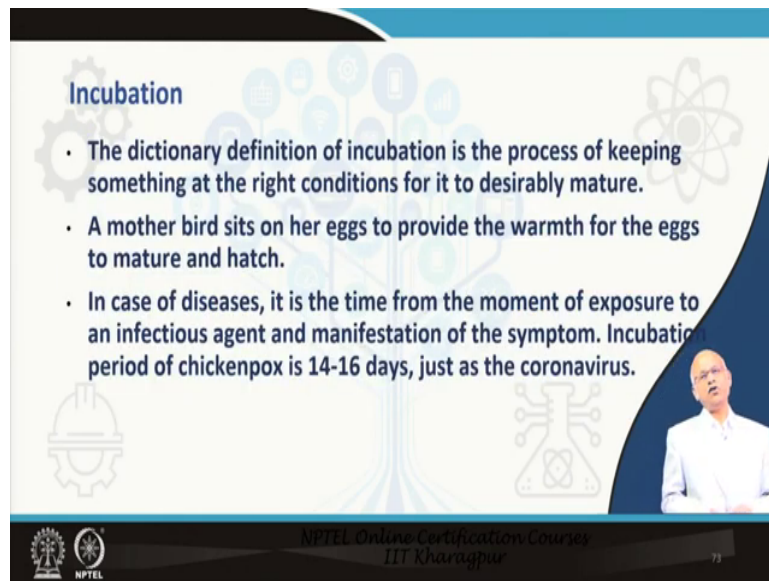
Microfinance

- 'Rang De' has been providing microloans online. 'Rang De' has been funded by the World Bank through 'Development Marketplace' (DM). 'Rang De' takes 2% of the money lent.
- 'Milaap' – online microlending portal.
- 'Fuel A Dream' charges about 10.3% as platform fees.
- 'Wishberry' charges a one-time non-refundable fee of USD 52.37 plus 10% commission of the funds raised.
- 'Catapoolt' charges around USD 23 as a project submission fee along with 10-15% of the total funding raised.

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Now, as I said SEBI has to permit. Now there are microfinance like say rang de is one of the big crowd crowdfunding platform. They take only 2 percent of the money that people lend them online len people lend to the companies who are raising money. Milaap is another one is a huge one then fuel a dream takes about 3, 10.3 percent platform charge. Wishberry takes 10 percent, Catapoolt take 10 to 15 percent.

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Incubation

- The dictionary definition of incubation is the process of keeping something at the right conditions for it to desirably mature.
- A mother bird sits on her eggs to provide the warmth for the eggs to mature and hatch.
- In case of diseases, it is the time from the moment of exposure to an infectious agent and manifestation of the symptom. Incubation period of chickenpox is 14-16 days, just as the coronavirus.

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So, kind of costly, but then not so costly if you think of raising money from bank or any other source bank charges something like 15 percent interest on an annual basis. So, you are going to end up paying a lot of percentage depending on the gestation period or say incubation period for you.

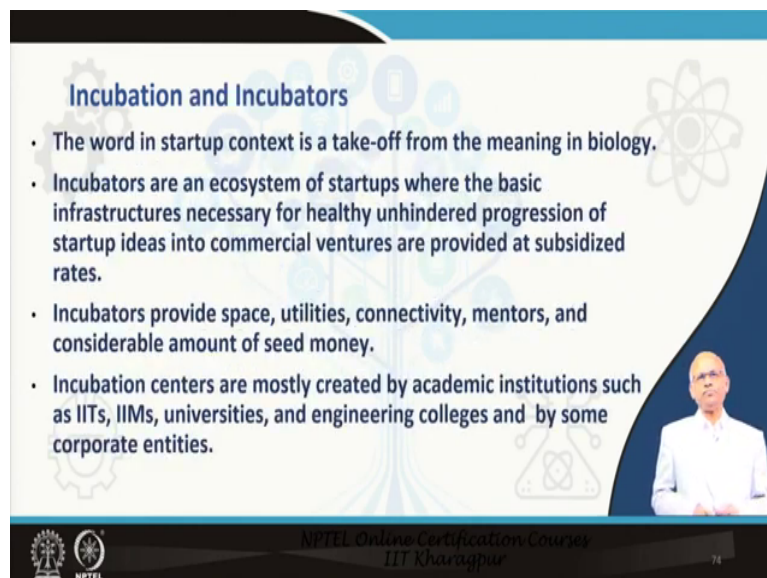
Now what is incubation? Incubation is a another source of capital and availing low cost facilities for early development of your idea. The dictionary word of dictionary meaning of the word incubation is; obviously, when a bird is incubating her eggs meaning it is sitting on the eggs and for providing it the warmth and then the eggs will be hatched, that is called incubation it came from there.

Now it is mostly used in case of disease also like this corona virus it takes about 14 to 16 days of incubation in the body before it actually attack significantly. So, that the symptoms will be

visible from outside. So, incubation from a start up point of view is facilitating almost like a mother warming the eggs is almost like that. It is facilitating and held hand holding the budding entrepreneur at the early stage of their of their enterprise when they need some money, some infrastructure where the cost is low and some mentoring and all other facilities like internet connectivity, power, water etcetera that is what is incubation.

In India, incubation is normally provided by universities like IITs, IIM and nowadays even engineering colleges are encouraged to set up their own incubation cells. So that, engineers coming out of those colleges can get direct access because they know the faculty members, they know infrastructure available. So, they can use the laboratory facilities and they do not have to really invest heavily on all of that when they do not have even the any revenue stream.

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Incubation and Incubators

- The word in startup context is a take-off from the meaning in biology.
- Incubators are an ecosystem of startups where the basic infrastructures necessary for healthy unhindered progression of startup ideas into commercial ventures are provided at subsidized rates.
- Incubators provide space, utilities, connectivity, mentors, and considerable amount of seed money.
- Incubation centers are mostly created by academic institutions such as IITs, IIMs, universities, and engineering colleges and by some corporate entities.

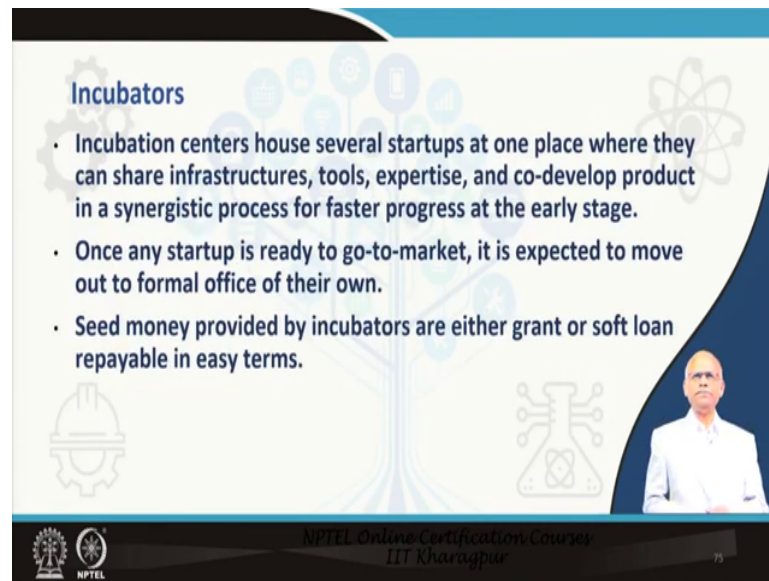
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So, the word incubation in the context of startup meaning giving early facilities for blossoming your ideas. Incubations are kind of an eco ecosystem where there are many other startups. So, you can share your own challenges aspirations and you can you can co share some of their facilities like say, you do not have a laptop somebody else has a laptop. So, things like that or some testing facilities.

It provides a space utility, connectivity, mentors and considerable amount of seed money. IIT Kharagpur offers up to 25 lakhs of seed money or, but this is not us a grant this is a loan, but some institute like say IIM Ahmadabad as I know they offer this money as grant. So, IIT Karagpur provides as loan at a 3 percent rate of interest call you call it soft loan.

But you have to give 3 percent equity to IIT Kharagpur, means; a step science and technology entrepreneurship part it is a initiative by DST Department of Science and Technology.

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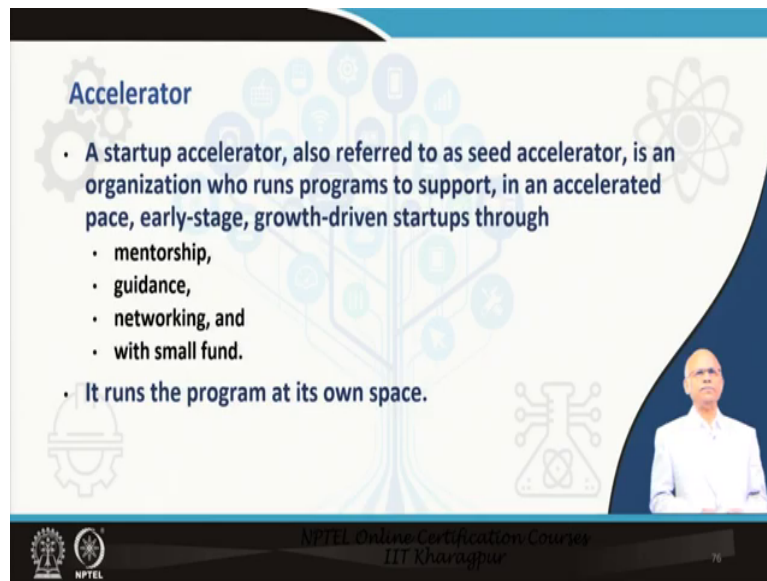
Incubators

- Incubation centers house several startups at one place where they can share infrastructures, tools, expertise, and co-develop product in a synergistic process for faster progress at the early stage.
- Once any startup is ready to go-to-market, it is expected to move out to formal office of their own.
- Seed money provided by incubators are either grant or soft loan repayable in easy terms.

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So, the advantage of incubation means; getting incubated is that you get access to top class infrastructure without paying much money and you get some fund as well. So, once you kind of are ready with the finished product, then you are ready to go to market you are expected to leave that place and then find your own place start your company maybe you approach to investors get money and then graduate something like that. So, this is what is incubation.

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Accelerator

- A startup accelerator, also referred to as seed accelerator, is an organization who runs programs to support, in an accelerated pace, early-stage, growth-driven startups through
 - mentorship,
 - guidance,
 - networking, and
 - with small fund.
- It runs the program at its own space.

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Acceleration is like as the word means accelerate the pace of development. So, when you are kind of in a stage of incubation or you have just slightly more than an idea which is slightly more proven, because more proven then you can approach to some of the accelerators to handhold you and then accelerate the pace of your development. Normally, they invite you to their premises and then they offer you a mentor, they offer you guidance, they offer you little bit of a money for your own sustenance and then they try to make sure that you are growing fast.

Accelerate, acceleration happens among similar kind of enterprise, like say one batch will have similar kind of people maybe say artificial intelligence. So, they call it cohort based acceleration. Meaning; everybody has a similar kind of product. The objective is that you can you can pear learn, you can learn from somebody else in the people who are being

accelerated. So, it happens like this. There are organizations who who takes who take this as their main business they invite applications and then many startup apply there.

So, depending on their promise they will be selected very few people will be selected depending on the demand of, obviously. Now only the selected candidates will be provided a space and then some money and then they will be connected with external market as well. So, you get connected with potential market you may you can start developing in collaboration with your market. And this happens in the premises of the accelerator.

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Accelerator

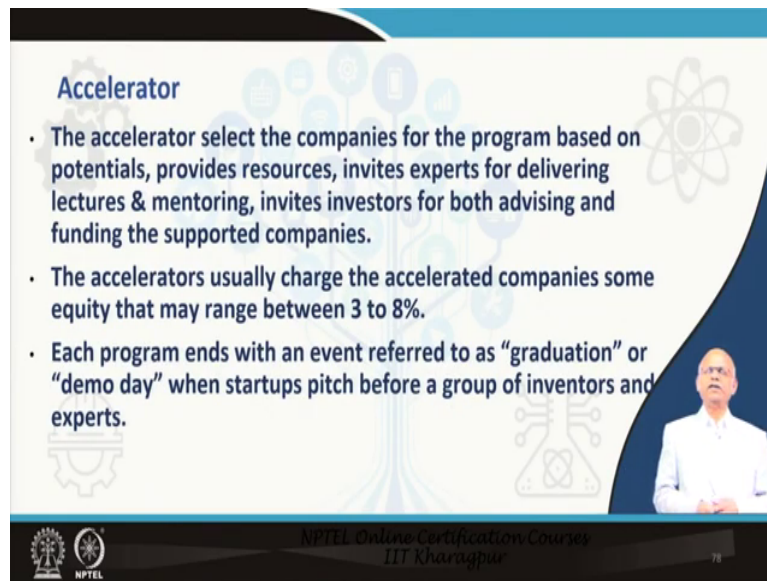
- The acceleration programs run for a fixed and short durations ranging from 3 to 6 months.
- Most of the acceleration programs run as part of the cohort of companies who can learn from each other and collaborate for synergies.

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So, normally they run this program for 3 to 6 months most of the acceleration program runs as part of a cohort of companies who can learn from each other and collaborate for synergies.

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Accelerator

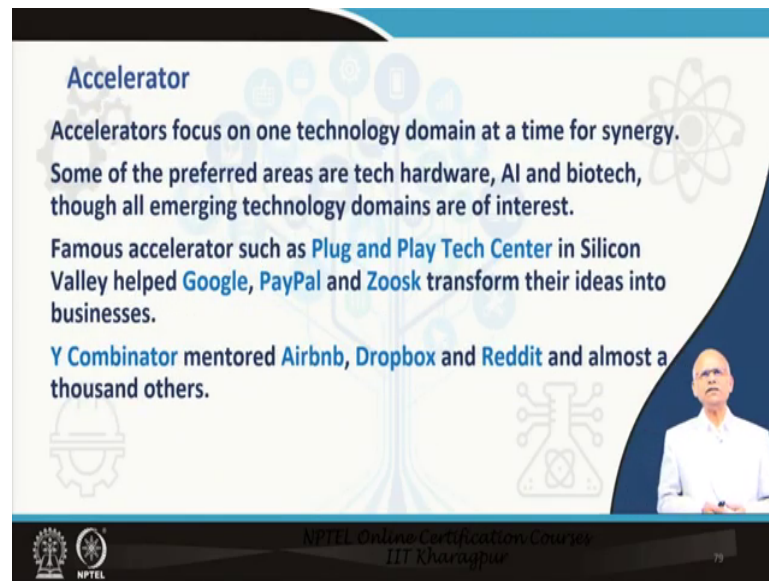
- The accelerator select the companies for the program based on potentials, provides resources, invites experts for delivering lectures & mentoring, invites investors for both advising and funding the supported companies.
- The accelerators usually charge the accelerated companies some equity that may range between 3 to 8%.
- Each program ends with an event referred to as “graduation” or “demo day” when startups pitch before a group of investors and experts.

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Accelerators select companies for the program based on potential, they provide resources, but then most importantly the selection rate is very very less; meaning that, 3 to 8 percent of the sorry, this is just equity. So, accelerators in the benefit of the accelerator is the equity that you provide. Meaning that; if you are selected for acceleration, they will facilitate everything in exchange for equity.

Now, each program ends with an event called demo day or graduation day when the accelerators will be inviting lot of investors, every company every company under acceleration are expected to give presentation before this investors. So, if you are liked by the investors; chances are very high that you get invested and from this acceleration you further accelerate no looking backward.

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Accelerator

Accelerators focus on one technology domain at a time for synergy. Some of the preferred areas are tech hardware, AI and biotech, though all emerging technology domains are of interest.

Famous accelerator such as **Plug and Play Tech Center** in Silicon Valley helped **Google, PayPal** and **Zoosk** transform their ideas into businesses.

Y Combinator mentored **Airbnb, Dropbox** and **Reddit** and almost a thousand others.

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Some famous names like say plug and play tech center in silicon valley they helped google, PayPal, Zoosk, they transform their idea ideas into business. Y Combinators mentor Airbnb, Dropbox, Reddit and almost a thousand others. There are big big names of of many unicorns whom Y Combinator mentored or accelerated.

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Established Accelerators are Highly Demanded:

Y Combinator and TechStars have application acceptance rates between 1% and 3%.

The focus is on teams, not on individual founders.

Accelerators tend to think that it is too difficult for **one person to handle all the work associated with a startup.**

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Now established accelerators are highly in demand. So, the selection rate is very very less for Y Combinator and TechStars their application acceptance rate is between 1 percent to 3 percent which is you can guess out of 100 applications, only 1 or maybe at the most 3 applicants will be selected for acceleration.

So, they are highly demanded. The focus is not the not focus is on the team, team and the idea obviously, but then most accelerators think that single man is not really a good idea to start a company. So, they prefer a balanced team for accelerating.

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Accelerator

- Venture capital firm Sequoia Capital India has set up its startup accelerator programme called Surge in February 2019.
- The Surge picks up 10–20 early stage startups twice every year for mentoring.
- Surge invests \$1 to \$2 Mn in each startup.
- Byju Raveendran and Ritesh Agarwal are some of the mentors in Surge.

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Now, in India, many accelerators are there and the significant name came up just last year in February 2019 Sequoia Capital which is very conspicuous investor in Indian start ups.

They started something called Surge and surge is an accelerator they pick up something like 10 to 20 business propositions and then they ask they mentor them they provide huge and huge sums of money it is not just for maintenance they give something like a million to 2 million dollar to each startup. And people like Byju Raveendran, Rithesh Agarwal of OYO are in the list of their mentors.

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The image is a screenshot of a presentation slide. At the top, there is a URL: <https://www.surgeahead.com/> landing page. Below the URL, the main text reads: "Welcome to Surge, a rapid scale-up program for startups in India and Southeast Asia." The slide features a blue and white color scheme with various icons related to technology and startups, such as a gear, a lightbulb, and a network diagram. In the bottom right corner, there is a small inset image of a man in a white shirt. At the bottom of the slide, there are logos for NPTEL and IIT Kharagpur, along with the text "NPTEL Online Certification Courses IIT Kharagpur".

So, you can imagine it is going to be a wonderful experience happening there. This is a screenshot taken from their landing page, this is another screenshot from their landing page.

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<https://www.surgeahead.com/> landing page

Surge combines \$1 million to \$2 million of seed capital with company-building workshops, global immersion trips and support from a community of exceptional founders.

Our Goal:
To supercharge your startup. And give you an unfair advantage, right out of the gate.

Log 9 Materials: Revolutionizing the energy sector with aluminum fuel cells

• 11 Jan'20

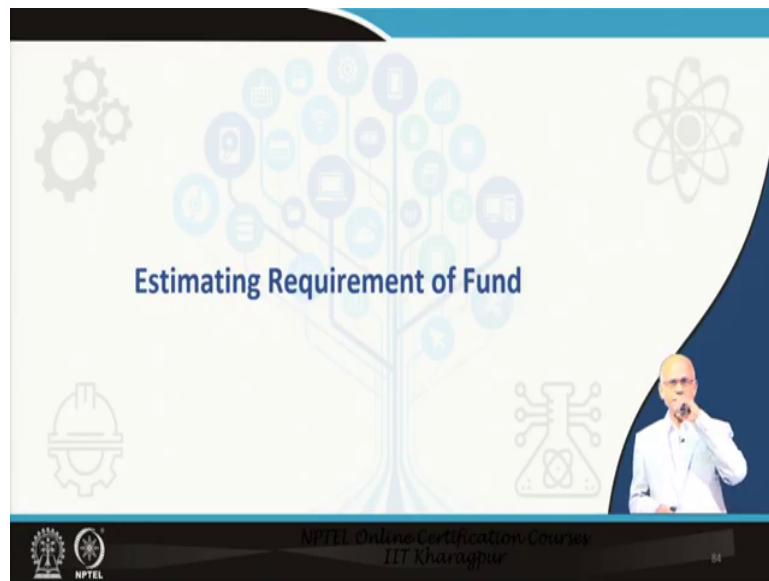
Log 9 Materials (Surge 02 2019) is leveraging its expertise in graphene nanotechnology to build and scale fully recyclable, emissions-free aluminium-air fuel cells that can power cars, homes and communities.

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So, you can guess the surge com surge ahead is the full name and their goal is to supercharge your startup and just the bottom part is about one of the; one of the startups that they have already accelerated that is called log 9.

They are in to manufacturing batteries it is called fuel cell using aluminum and air. So, this fuel cells when successful will power e cars, homes and communities. So, this has so, much of promise this is this is going to be a replacement of lithium and batteries, lithium is short in supply.

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Now, if you think of approaching to somebody for funding you will be at a loss as to how much money to demand and is there a formula that I will be requiring this amount of money.

I have been emphasizing and over emphasizing that excess money is as bad as short of money. If you do not have money you have nowhere to go you cannot move forward, but excess money also may lead to eventual failure. So, you fail after raising so much money, not only you fail you fail others also who give you money. So, there is a necessity to understand how much money we need. You walk into a bank branch and the branch manager is going to ask you how much money do you need. You have to tell them something otherwise how they will sanction the money.

You say 5 lakh, then he is going to ask you how do you come up with this 5 lakh.

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Project Cost				
Year	1	2	3	4
Investment in land and building	10			
Investment in machinery	100			
Other expenses such as electrical connection (transformer), licenses, approach road, disposal arrangement	20			
Investment in trial production	5			
Contingency	10			
Total investment in fixed assets	145			
Turnover	200	250	300	400
25% of turnover	50	62.5	75	100
Working capital requirement (Turnover method)	50	62.5	75	100
Project cost	190			

The table is annotated with two callout boxes. A 'Working Capital' box points to the 'Working capital requirement' row, and a 'Fixed Capital' box points to the 'Total investment in fixed assets' row. A red bracket on the right side of the table groups the 'Working Capital' and 'Fixed Capital' rows, indicating their combined contribution to the total project cost.

So, here is some estimation which the banking people actually use for estimating how much money you need. This is very kind of very specific for manufacturing companies like say small scale or medium scale companies when they prepare a project report, they prepare a project cost. And if you are thinking in terms of a software company perhaps many of the elements will be different.

But let us see what do they have? Like investment in land and building suppose you want to put up a smaller scale manufacturing plant you need some land. So, investment in land and building maybe one item, investment in machinery is another item, machinery meaning for manufacturing you need to create this facility. Other expenses such as say electrical connection, say approach road, then maybe drainage system and many other things that you

need to put up maybe a transformer etcetera etcetera. So, altogether suppose it is 20 lakh or something.

Investment in trial production; this requires actually for manufacturing company maybe you will require 10 days of trial or maybe even a month or month of trial to stabilize the manufacturing process. So, it becomes quite costly, then there are contingencies like suppose some of the cost goes up then your estimate goes haywire. So, you keep some contingency some of the things are not even known in advance. So, everything together is say 1 crore 45 lakhs, suppose these amounts are in lakhs.

So, fixed capital; total fixed capital requirement is 1 crore 45 lakhs. Now we have some backup estimate as to what how much money you need. So, you can tell people that I need 1 crore 45 lakhs for putting up my fixed assets my fixed capital investment, then you need some working capital.

There are two methods of there are many methods of estimating working capital. Primarily, we use two methods; one is turnover method the other is holding period method. So, turnover method says that if your turnover is say 2 whatever is your turn over 25 percent of that is your working capital requirement. Suppose, in that next year your projected turnover is say 2 crore rupees. 25 percent of that is 50 lakh rupees. So, 50 lakh rupees is the working capital requirement.

And out of the 25 percent, 20 percent is the money that you expect from other source, you have to bring 5 percent of the money. So, 20 percent of projected turnover is the money that you expect any bank to pay you as loan, working capital loan. So, that becomes total is 50 meaning total working capital requirement and total fixed capital requirement is 145 together it is 190. Now, if you approach to a bank, they will be talking about providing you a loan of 75 percent of this and you have to bring 25 percent of that, if you are thinking of funding your project through loan.

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Working Capital (WC): Holding Period Method				
		Annual Cost	Holding Period	Value thereof
Raw-Materials	Purchase cost plus transportation.	600	1 month	50
Goods-in-Process	Cost of production: Raw materials, labor, interest	720	0.5 m	30
Finished Goods	Cost of production: Raw materials, labor, interest,	840	1.5 m	105
Receivables	Cost of sales: Raw materials, labor, interest, selling and administrative expenses.	1200	2.5 m	250
Creditors	Total requirement of WC	540	1 m Total	(-) 45 370

Holding period method is also followed and it is followed for slightly medium to large scale industries when you try to estimate the working capital more accurately, there you need to understand what is the period for which you hold the raw material in your godown, then you completely use.

If you look into your go down at any point of time, on an average you will find some value. Suppose, you look into a godown on 10 occasions at 10 different point of time. Now you make an average that this is the average raw material that remains in my godown and then you estimate what is your annual purchase. Suppose, your annual purchase is 600 lakhs or something and suppose you see that you normally hold 1 months purchase of raw material in your godown. So, you use 1 month 600 divided by 12; that means, 1 months requirement. So, it becomes 50. So, 50 is your working capital requirement to maintain the raw material.

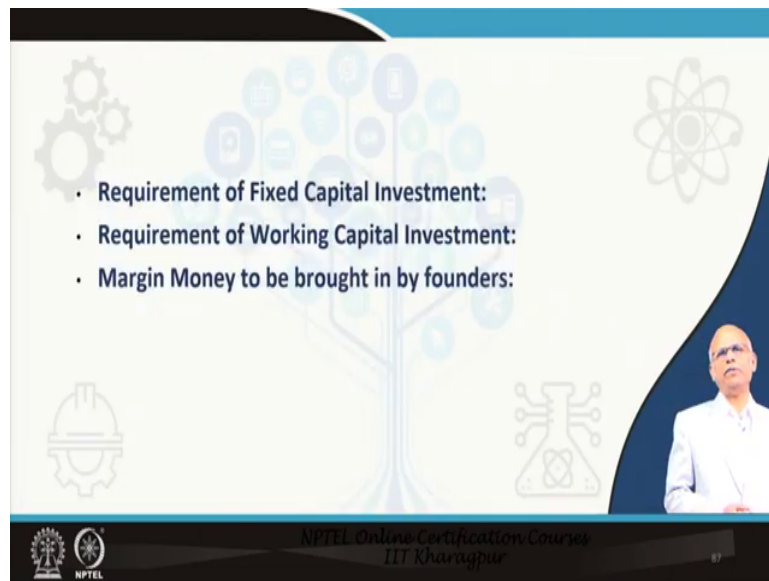
Similarly, goods in process. If you know that at any point of time I have say 0.5 months equivalent of cost of production in my shop floor then 0.5 months becomes your holding period of goods in process. Holding period for raw material was 1 month similarly finished goods.

If in your warehouse if you maintain finished goods stock of 1.5 months on an average then your holding period for finished goods is 1.5 months. So, if you have if you know the projected cost product projected annual production or cost of production, you can estimate what amount of finished goods you are going to hold moving forward.

Same is receivable and creditors. Creditors is more interesting because, creditors gives you money almost like money in the form of raw material. So, if creditor suppose you can maintain the credit for a month. Suppose you buy raw material today and you always pay after a month.

So, you see what is this amount? How many months of consumption of raw material that you get on credit. So, in the future if you know total raw material that you are going to consume in the next year, then divide by that holding period you get the amount of raw material that you are going to get on credit. And that becomes a negative because that money is coming you do not require that money. So, you add all the items except creditors then you deduct creditors you get total working capital requirement. So, that is the working capital requirement.

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The slide features a central graphic of a tree with various icons (gears, a lightbulb, a person, a gear, a person, a gear) on its branches. The text on the slide is as follows:

- Requirement of Fixed Capital Investment:
- Requirement of Working Capital Investment:
- Margin Money to be brought in by founders:

At the bottom left, there are logos for IIT Kharagpur and NPTEL. At the bottom right, there is a small inset image of a man in a white shirt, presumably the presenter. The text at the bottom center reads "NPTEL Online Certification Courses IIT Kharagpur".

So, you have requirement of fixed capital investment, you have estimated requirement of working capital investment. Now 25 percent of that is the margin money will be talking about more about margin money when we talk about debt funding at present we have just discussed about some ballpark about the money that you need to un to approach to an investor that I need this amount of money and the breakup is like this. So, we will discuss about business angel and venture capitalists how do they do the transaction what are the structure of the deals etcetera in the next session.

Thank you very much.