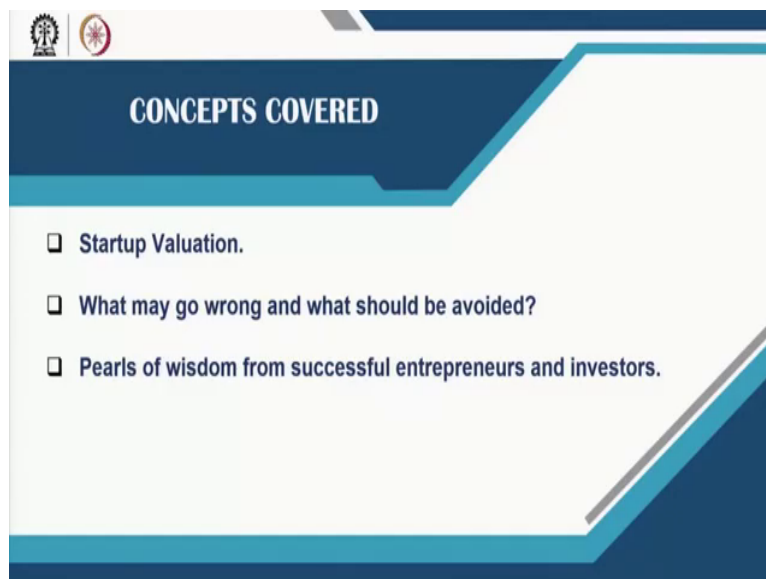


Entrepreneurship Essentials
Prof. Manoj Kumar Mandal
Rajendra Mishra School of Engineering Entrepreneurship
Indian Institute of Technology, Kharagpur

Module - 12
Lecture - 56
Start up Valuation – I

Welcome, topic of the session is valuation or Start-up Valuation to be precise. There is a saying that value lies in the eyes of the beholder and that applies to many things both tangible and intangible assets. Suppose you have a building and you want to sell it in the marketplace, now, one way to value is to make a valuation of the bricks and mortar that has gone in. And you have all the data, you have the data about the price of cement concrete and labour cost add them up and you have one kind of value.

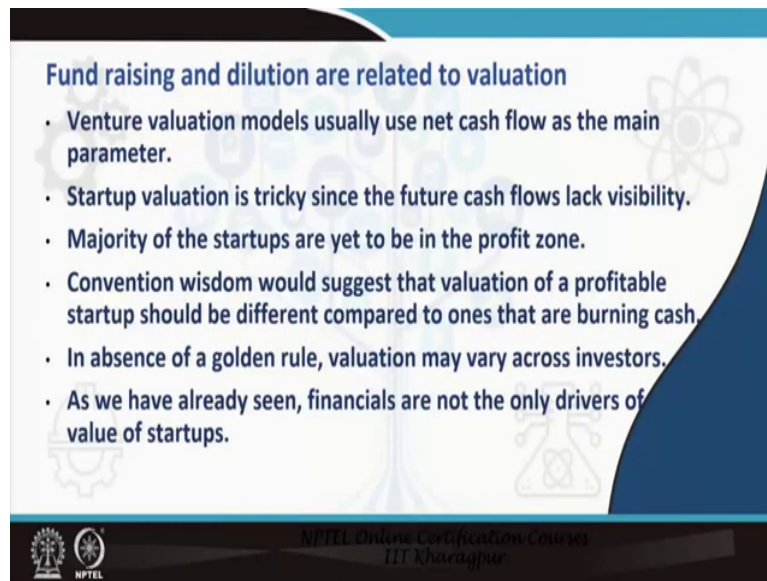
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The slide features a dark blue header with the text 'CONCEPTS COVERED' in white. Below the header, there is a list of three items, each preceded by a square checkbox icon. The slide also includes two institutional logos in the top left corner and decorative blue and white geometric shapes on the right side.

- Startup Valuation.
- What may go wrong and what should be avoided?
- Pearls of wisdom from successful entrepreneurs and investors.

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Fund raising and dilution are related to valuation

- Venture valuation models usually use net cash flow as the main parameter.
- Startup valuation is tricky since the future cash flows lack visibility.
- Majority of the startups are yet to be in the profit zone.
- Convention wisdom would suggest that valuation of a profitable startup should be different compared to ones that are burning cash.
- In absence of a golden rule, valuation may vary across investors.
- As we have already seen, financials are not the only drivers of value of startups.

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But then all buildings are not valued the same way, you have a building at a very prominent place that is going to be valued very different compared to a building in a rural place where there are very few buyers. So, value actually depends on demand and supply, you have something in your hand; it is not even visible. Now, there are 10 people running after you to buy whatever is there hidden in your hand it has value.

Now, suppose you just nobody is interested in that whatever is there even if you show that you have something in your hand nobody is interested it has no value. So, value is the money that anybody is ready to pay in an arms length transaction. Arms length meaning in a transaction which is not under duress like nobody is forcing you to sell it at a price or nobody is forcing the buyer to pay some price; meaning without any influence if the market discover a price of something that is the value. But then, that depends on an established marketplace.

If there is a marketplace then there are buyers there are sellers and gradually you will find that within a very short time people will discover the market driven price of something. Say you are in a potato market or tomato market, there are large number seller large number of buyers and there they may take a queue from previous days price, they may also think what is the supply is looking like and how many people are there to buy etcetera.

And then gradually people will start at a price and then moving forward within very short time the price will settle at something. So, that is how price is discovered in a marketplace for most of the things. And we do transaction we think that my thing is valued like this, this, this. If your familiar with the current stock market today in particular the market has gone down by 15 percent Sensex is down by 15 percent. Today meaning I do not remember the date 23rd perhaps ok.

So, the shares that you were holding maybe a month back, might have been valued 1 lakh rupees and today it is valued just maybe 20,000 rupees many of the companies have lost value to the tune of 90 percent. So, 1 lakh became 10,000 or so. So, nothing has changed in the company per se, company remains the same their tangible assets brick mortar everything remains the same. All that has changed is perception about the market, how market is going to value the companies earning and second earnings per se we will change because of the situation that is sweeping across the world.

So, valuation in a nutshell is it is a tricky thing number 1. Number 2 its a dynamic thing value of today may not be the same value tomorrow, whatever that is we must depend on something otherwise this world cannot go on. So, there are methods for valuation these are all subjective, you have to make a subjective assumption about future cash flow future profit. And then, future multiples of earnings multiples of book value.

So, depending on whatever is the market trend about multiples and depending on how things pan out the valuation that we do today, will have relevance moving forward depending on how it pans out. So, people say that valuation is both an art and a science; meaning there are subjective information there are objective information. Objective information's are mostly

historical like how companies have made profit in the previous years and how those profits were valued by the market.

Suppose a company earned say 5 crore rupees of profit and the market value of the company is say 50 crore rupees; that means, every rupee has been valued at 10 rupees in the marketplace. So, that is one way of think and that is called price to earnings ratio price is 50 crore rupees earning is 1 crore rupees. So, 1 crore divided by 50 is the 50 divided by 1; that means, 50 times the earning is the value. We will move we will revisit all of that moving forward this is just an introduction.

Now, fund raising in particular for startup involves valuation, how much money you get how much money you demand how much money the investors are going to give you will pretty much depend on the valuation. Now, the investors will say that your company is valued this, you may be kind of dissatisfied that. You might think that my company has already become something like a million dollar company, suppose they see that is 0.1 million there are reasons for them to think.

So, there are reasons for you to think that way, you have to come to a to the same page. So, you agree and they agree on a particular valuation only then you can move forward. So, how do they do it valuation? For established, companies primary valuation methods depend on cash flow future cash flow and they either discount the future cash flow or they make some kind of a multiple depending on historical data and then, they multiply the future matrix whatever that is and get a valuation.

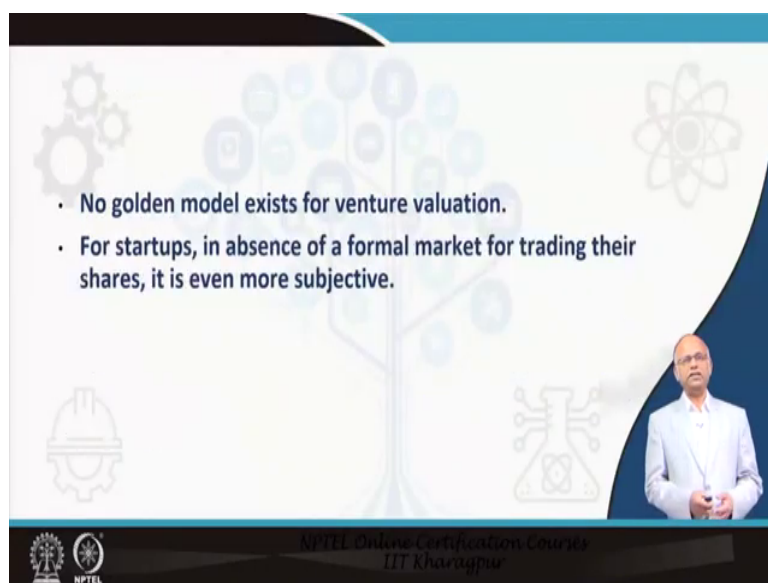
There like the trick, because most of the startups are yet to make a profit they are mostly burning cash so, they are in red. So, there is no cash net cash flow moving forward then how to value number 1. Number 2, even if there will be cash flow say projected cash flow there might be some positive say profit, but that is not so much visible. Like for the next 5 years perhaps you are not going to make lot of profit its not visible. So, how to value their lies the trick.

And that is why market or industry for sale industry like startup ecosystem has built some models for valuation, we will talk about valuation based on discounted cash flow of course, there is no slide over there. But then, if you remember just the previous sessions perhaps we talked about discounted cash flow method of net present value estimation. So, if you are thinking of valuing say reliance industries, which is a which is an established company and you want to make a valuation.

Suppose you are an investor in a stock market. So, you will be applying discounted cash flow method for estimating value of reliance industries how do you do that? You will have data on projected cash flow, the company themselves will publish some data its always available; its available with Bloomberg with available with many other database providers. So, you have this data. Now, you have your own discount rate, many people will have different discount rate. Suppose you want to discount the earnings at 11 percent or 12 percent.

So, you have the cash flow moving forward and you must understand or make some kind of a guesstimation about the terminal values. Suppose your investment horizon is for 5 years at the end of 5 years what should be the value of reliance in the marketplace that becomes a terminal value. Discount the terminal value and all other cash flow to the present day and you get some kind of idea about the valuation of reliance industries which is not applicable in this case.

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The slide features a white background with a blue curved border on the right. It contains two bullet points, a central tree graphic with circular nodes, and several faint icons: gears, an atom, a hard hat, and a flask. A presenter in a white shirt is visible in the bottom right corner. The footer includes the NPTEL logo and the text 'NPTEL Online Certification Courses IIT Kharagpur'.

- No golden model exists for venture valuation.
- For startups, in absence of a formal market for trading their shares, it is even more subjective.

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So, you have the formula in the previous session, I gave you the formula is not here today, but that is how established companies are valued. They are also valued based on earning per share and price to earnings multiples, I will show you how this is done. They also multiplied book value of the company with a multiplier book value multiplier to get present value.

So, earning per share book value then they also sometimes discount the dividend is called dividend discounting method of valuation, not so popular, but then in absence of a golden rule, people are trying to use anything and everything that are available. You come up with it this is also an opportunity for anybody and everybody to do research and come up with a model that will be more robust more creditable will be a wonderful work. So, let us move forward.

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The slide is titled "Valuation Truths" and features a central graphic of a tree with various icons (gears, lightbulbs, charts, etc.) on its branches. To the right, a speaker in a white shirt is visible. The slide contains the following text:

Valuation Truths

Valuation of startups is:

- Both art and science
- Value depends on what the market says your company is worth
- The value is what a knowledgeable investor is willing to pay in an arm's length transaction

At the bottom, the NPTEL logo and the text "NPTEL Online Certification Courses IIT Kharagpur" are displayed.

Now, valuation for startup as I said is a both art and science because for a startup it is even more complex than say reliance industries which are established. They have a credential behind them meaning that they have a trend of profitability.

And then, you can extrapolate that with reasonable confidence and then make a future cash flow projection. So, they are less kind of uncertain these are more uncertain startups are more uncertain; value depends on what the market says your company is worth; obviously, its an arms length transaction. The value is what knowledgeable investor, suppose there is an angel who has already invested in 100 companies. Now, the an angel will have a for better idea how a company today will pan out moving forward.

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Valuation: value of equity interests

- value is in the equity
 - Dilution: reduction in holding
 - Fully diluted: include all shares that could be issued, but not all authorized

Your company private limited

| | | | |
|--|------------|-------------------------|------------|
| Equity: Authorized capital 5000 equity shares of ₹100 each | ₹5,00,000 | | |
| Paid up capital: 1000 shares of ₹100 each | ₹1,00,000 | Fixed assets | ₹10,00,000 |
| Reserves | ₹5,00,000 | Current assets | ₹7,00,000 |
| Creditors | ₹20,00,000 | Capitalized cost of R&D | ₹4,00,000 |
| Bank loan | ₹5,00,000 | Accumulated loss | ₹9,00,000 |
| Total | ₹30,00,000 | Total | ₹30,00,000 |

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So, they will have a better idea about future. So, they will be able to give some kind of idea about valuation of a company. Let us take some hypothetical case; suppose you have a company called your company private limited with this example I am trying to convey how valuation is done how equity is related to value and etcetera etcetera.

So, stay one value actually lies in the equity; meaning equity holds the value understand it clearly is kind of slightly complex. Equity is not the value, but then value lies in assets whatever asset you have you have a fixed asset of 10,00,000 rupees look at the balance sheet current asset of 7,00,000 rupees capitalized cost of r and d. Meaning you have done some research and development maybe you have filed a patent also possible.

So, these are that is intellectual property when capitalized cost of R and D is an intellectual asset; meaning intangible asset you cannot see that, but it is an asset. Accumulated loss is an

asset because as I explained earlier asset is an application of fund, it does not have to remain tangible visible and you cannot not necessarily that you should be able to touch it and feel it not necessary. That is why accumulated losses and application of money, you have sources of money on the liability side equity and liability. Whatever money you have sourced some money has gone into funding losses that is a loss is an asset.

So, you have accumulated loss of 9,00,000 rupees capitalized cost of r and d; that means, you have you have to amortize that moving forward that is where amortization comes in. So, you have spent some money in research and development, but you have not converted that into cost or expense you have not expensed it off. So, that remains as an asset any expense that you do not expense off during a particular year or any cost that remains as an asset that is to be amortized moving forward. So, total becomes 30,00,000 rupees.

So, these are your asset. Now, for any established company you look at the asset make a valuation that is how brick mortar valuation is done, its like valuing a building. So, here look at this do you want to value this company at 30,00,000 rupees? You will definitely not, because look at the asset type; accumulated lots loss itself is 9,00,000 rupees why you would like anybody would be willing to buy a loss for 9,00,000 loss of 9,00,000 rupees by paying 9,00,000 rupees is it a surprise surprising question. Surprisingly there are people who will be interested to buy accumulated loss can you guess?

The companies who pay top rate income tax, say some company is paying income tax at the rate of 30 percent they will be interested to buy loss and then set off some of the losses with their income. And they will end up paying less tax they will estimate whether taking over a loss making company with accumulated loss. We will give them the leverage that they are looking for they will do a valuation accordingly forget about that, that is a different topic that is not the topic of today. Our topic is that you are not interested to.

Buy a startup with accumulated loss of nine lakh rupees paying 9,00,000 rupees to acquire that. So, perhaps you will be valuing this company maybe fixed asset of 10,00,000 rupees current asset of 7,00,000 and maybe something for R and D expenses. But now, suppose they have a wonderful technology that is going to help you to enjoy some kind of monopoly in a

market place; you have a blue ocean market and you are going to make huge profit using that technology you are going to value that greatly.

Maybe this 30,00,000 rupees whatever you look at it you will be interested to pay 3 crore rupees to buy this company. But then this value in a way is held in the equity, if the equity or the company is say 1,00,000 rupees then this 1,00,000 rupees has the value of whatever you pay say 3 crore rupees is that value ok. Before proceeding to the value let me explain one more data here. Look at the equity, there is something called authorized capital; this is the capital that register of companies have authorized you to raise.

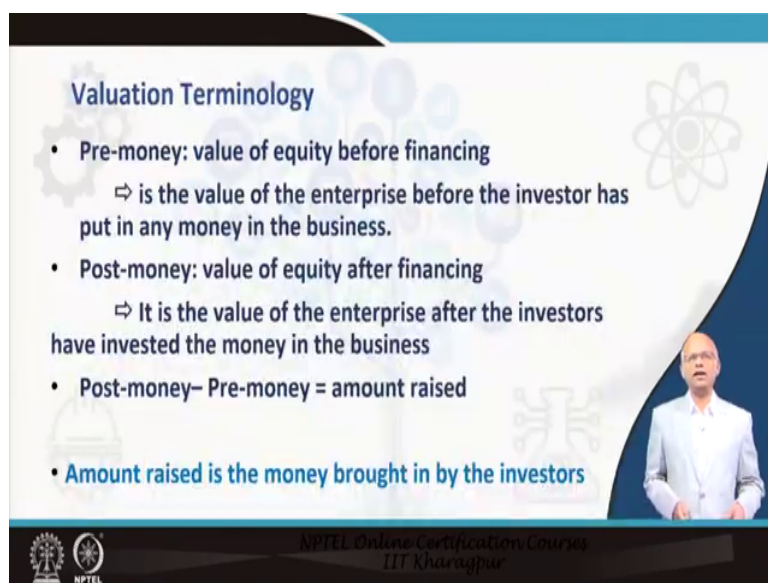
Suppose you started a company called your company private limited. So, you applied and you told the RoC that my authorized capital should be 5,00,000. Then RoC is going to ask you that is fine I am going to authorize you to raise 5,00,000 rupees, but how much of the capital that you are raising now, how much money you are bringing on the table in the company.

Suppose you tell the RoC that I am bringing only 1,00,000 rupees I means the cofounders 1,00,000 rupees. So, they will say then that is called paid up capital, I am authorizing you to raise up to 5,00,000, but you are bringing in only 1,00,000 that is your paid up capital.

So, you are authorized to raise 4,00,000 more as capital moving forward without taking fresh permission from the ROC; you have received the permission for 5,00,000 ok. So, let us move forward. Now, suppose you three of you are three cofounders or just assume the three cofounders you have invested 1,00,000 rupees in the company, suppose each share is of rupees 100. So, how many shares are there? There are 1,00,000 rupees divided by 100 rupees. So, you have 1000 shares.

So, maybe one of the cofounder holds 400 shares, another cofounder holds say 300 shares another cofounder holds say another 300 shares. So, 400, 300 and 300 that is the distribution forget about that that is not the point of discussion today.

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Valuation Terminology

- **Pre-money: value of equity before financing**
⇒ is the value of the enterprise before the investor has put in any money in the business.
- **Post-money: value of equity after financing**
⇒ It is the value of the enterprise after the investors have invested the money in the business
- **Post-money – Pre-money = amount raised**
- **Amount raised is the money brought in by the investors**

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Just remember this balance sheet and every time we are going to refer to this balance sheet coming back. Valuation terminology you know this we have discussed, but I do not want on the revisit because valuation is everything today. Pre money value is the value that an investor assign to your company before they bring any money on the to the company.

So, you are approaching to a to an investor on angel the angel comes here and then, looks at everything looks at the balance sheet. So, he say looks at the balance sheet and he says you have accumulated loss that is kind of crazy that is scary; but ok, you have some four lakh rupees of R and D what have you done is there a technology something tangible? Then you show him that look we have this product and this is patented and we think that this is going to win us the market and competition and what not.

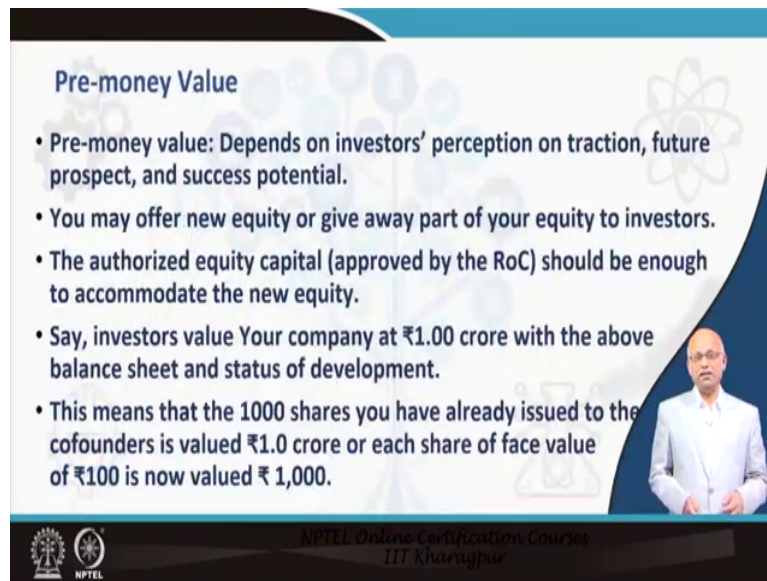
So, investor becomes amazed and this wow wonderful, 30,00,000 rupees is your balance sheet size 30,00,000 rupees is your balance sheet size, but I think this is quite valuable your company is quite valuable. So, he says I think it should be valued about 1 crore rupees. So, that is what is called pre money value. Now, he says how much money do you want you say that we want 1 crore rupees? The angel says that before even asking about the money part he says, I will value your company something like a crore rupees given the technology that you have.

So, let us move forward. I am valuing your company at 1 crore. So, how much money you want? Then you tell the angel that I want 1 crore rupees from you. So, that determines the percent holding. Your company is valued 1 crore the angel is bringing another 1 crore it becomes 2 crore rupees total value that is called post money value or post investment value; pre money is 1 crore angel brings another 1 crore that is cash. So, you do not have to make another valuation for that.

So, immediately the moment angel brings 1 crore your company value goes up to 2 crore rupees out of the 2 crore the angel holds 1 crore value you 3 holds hold another 1 crore value what should be the percentage holding for the angel? Obviously, 50 percent; because he holds 50 percent of the post money value, you guys hold 50 percent of the post money value. Now, there is a question how many shares should you allot him allot the angels from where do you create new shares or do you sell your own shares? Usually, many founders will be enticed into selling their own shares.

But the fact is that if you sell your own share, then the money comes to your pocket it does not go into the bank account of the company try to make the distinction. Suppose out of 3 of you only 1 guy says that you know while the while you allot shares to investors I want to part with some of my shares. So, whatever suppose he gives 10 shares. So, 10 shares equivalent of money will go to his bank account his or her bank account it will not go to the company account. So, understand that very clearly.

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Pre-money Value

- Pre-money value: Depends on investors' perception on traction, future prospect, and success potential.
- You may offer new equity or give away part of your equity to investors.
- The authorized equity capital (approved by the RoC) should be enough to accommodate the new equity.
- Say, investors value Your company at ₹1.00 crore with the above balance sheet and status of development.
- This means that the 1000 shares you have already issued to the cofounders is valued ₹1.0 crore or each share of face value of ₹100 is now valued ₹ 1,000.

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Now, let us move systematically. Now, pre money value is it depends on the investors perception on traction whatever traction you have gained, then future prospect of the company success. Potential you will he or she will think about so many things their expert they not just three factors, but they will think of many factors and decide that ok. So, let us let us think that your company is valued this. You may offer new equity or give away part of your equity to the investor the authorized equity capital which is 5,00,000 rupees approved by the RoC should be enough to accommodate the new equity.

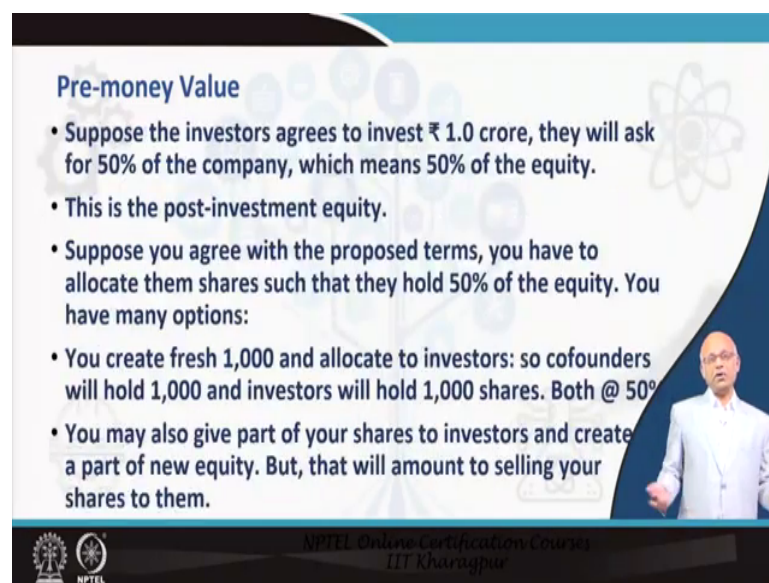
So, you create new equity out of the remaining 4,00,000 share 4,00,000 rupees worth of share that miss 4000 whatever 40,000 4000 shares perhaps plus into 1000 100. So, it should be 4000 into 100. So, 4000 shares say investors value your company at 1 crore rupees, with the above balance sheet and status and development; this means that your 1000 shares that you have now, 3 of you have is valued how much? 1 crore rupees. The investor is investing your

company pre money that 1 crore rupees which means your 1000 shares are now, valued 1 crore rupees; divided 1 crore rupees by 1000 shares you get per share value.

How much is that? 1000 rupees; that means, your 100 rupees share you subscribed at 100 rupees if you look at the balance sheet, you look at that it is face value is 100 rupees. So, you invested 100 rupees for each share. So, 100 into 1000 became 1,00,000 rupees.

Now, the investors is have valued your company at 1 crore rupees. So, each share has now, been valued as 1000, 1000 into 1000 shares that makes 1 crore rupees. Now, you have to allot share.

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Pre-money Value

- Suppose the investors agrees to invest ₹ 1.0 crore, they will ask for 50% of the company, which means 50% of the equity.
- This is the post-investment equity.
- Suppose you agree with the proposed terms, you have to allocate them shares such that they hold 50% of the equity. You have many options:
- You create fresh 1,000 and allocate to investors: so cofounders will hold 1,000 and investors will hold 1,000 shares. Both @ 50%
- You may also give part of your shares to investors and create a part of new equity. But, that will amount to selling your shares to them.

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Now, if investor brings in 1 crore rupees you definitely understand that he is demanding 50 percent, it need not be told that I need 50 percent. Because company post money he holds 50 percent of the value you hold 50 percent of the value this is post investment equity.

Suppose you agree with the proposed terms you have to allocate shares for holding 50 percent of the company, suppose you are not giving any equity from your source you are giving a new equity you are creating new equity. Obviously, you are holding 1000 shares you have to give them 1000 shares. So, that 1000 and 1000 makes 2000 they hold 50 percent you hold 50 percent as simple as that.

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Pre-money Value

- You create fresh 1,000 and allocate to investors: so cofounders will hold 1,000 and investors will hold 1,000 shares. Both @ 50%.
- You may also give part of your shares to investors and create a part of new equity. But, that will amount to selling your shares to them.
- If you create new shares, the paid-up share capital goes up to 2,000 shares of ₹1,00 each: i.e. ₹2,00,000.
- You have your 1,000 shares and allocate the new 1,000 shares of ₹100 each amounting to ₹1,00,000.

Suppose investors valued your company at ₹2.00 and invested ₹2.0 crore in your company, you would have allocated the same number of shares. Number of shares is related to share holding and not on the quantum of money invested.

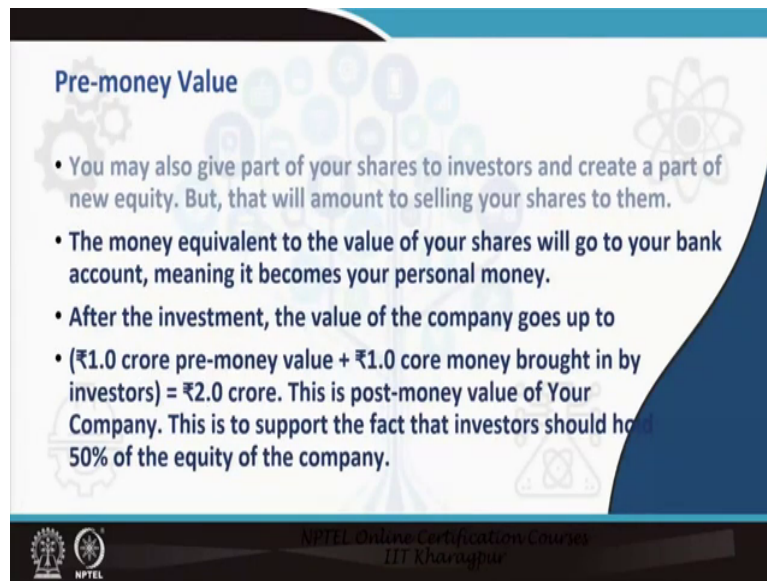
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But then, if you are giving any equity then you do not have to create 1000 shares new 1000 shares, you will give away suppose you give away 500 shares. So, you will be 500 they will become 500 you do not have to create any shares, you get 50 percent they get 50 percent.

Now, suppose you create new shares your paid up capital will now become just double; because you had 2,00,000 rupees of paid up capital consisting of 1000 shares, you have and you should another 100 shares of rupees 100 each face value remains 100 always. Even though your share now, is valued 1000 rupees you are actually allotting face value of the shares.

So, you are allotting 1000 shares of rupees 10 each. So, your capital is going up by 1,00,000 rupees not by 1 crore understand that very clearly. 1 crore rupees is the money that is coming to your bank account, it does not have any relation with the equity per se. Equity is allotted based on the percentage that is all about equity not related to the money that they are investing. So, you have your 1000 shares the investors has 1000 shares so, you have 50-50.

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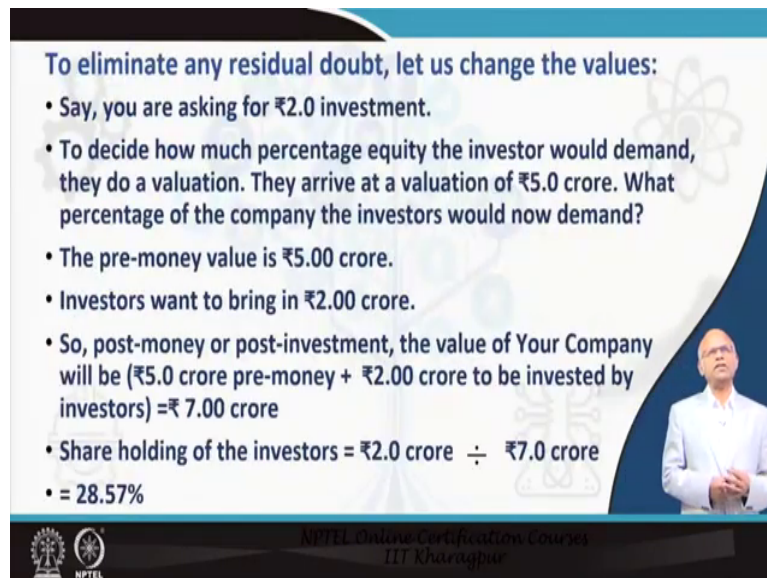
Pre-money Value

- You may also give part of your shares to investors and create a part of new equity. But, that will amount to selling your shares to them.
- The money equivalent to the value of your shares will go to your bank account, meaning it becomes your personal money.
- After the investment, the value of the company goes up to
- ($\text{₹}1.0 \text{ crore pre-money value} + \text{₹}1.0 \text{ core money brought in by investors}$) = $\text{₹}2.0 \text{ crore}$. This is post-money value of Your Company. This is to support the fact that investors should hold 50% of the equity of the company.

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Suppose investor value your company at 2 crore and invest 2 crore in your company you will still allot them 1000 shares; because they will hold 50 percent. So, you understand investment quantum of investment is not related to equity per se, equity is related on percentage. Now, the money equivalent to the value of your share will go to your bank account if you give shares from your pocket your share, after the investment the value of the company goes up so, whatever ok. So, these are all discussed.

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To eliminate any residual doubt, let us change the values:

- Say, you are asking for ₹2.0 investment.
- To decide how much percentage equity the investor would demand, they do a valuation. They arrive at a valuation of ₹5.0 crore. What percentage of the company the investors would now demand?
- The pre-money value is ₹5.00 crore.
- Investors want to bring in ₹2.00 crore.
- So, post-money or post-investment, the value of Your Company will be (₹5.0 crore pre-money + ₹2.00 crore to be invested by investors) = ₹7.00 crore
- Share holding of the investors = ₹2.0 crore \div ₹7.0 crore
- = 28.57%

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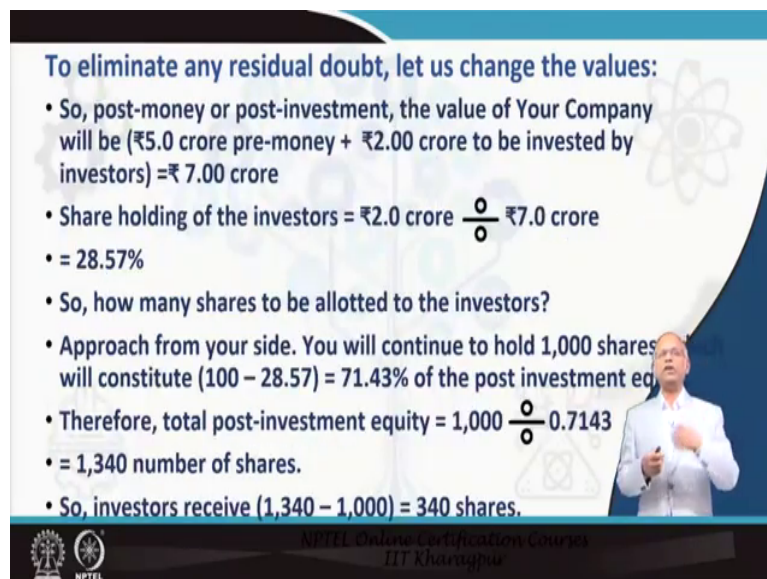
To eliminate any residual doubt let us change the values little bit. See you are asking for 2 crores rupees investment your valuation was say how much the pre money value to arrive at a valuation of 5 crore. Say you are asking for 2 crore to decide how much percentage equity suppose your company has been valued at 5 crore rupees rather than 1 crore so, we are changing all the data. Say pre money value valuation is 5 crore and you are asking only 2 crore not 5 crore. So, what should be the percentage holding that is to give a different perspective?

So, pre money valuation is 5 crore forget about that, that will define the share price of your share. So, what is the price of your share per share? That is 5 crore rupees divided by 1000 I am going to put a short question on assignment about this. Say pre money value is 5 crore what should be the value of each share of your of you 3. So, 5 crore divided by number of share is 1000. So, each share is valued at 500 rupees 500 multiplied by 1000 is 5 crore.

Now, investors have agreed to bring in only 2 crore rupees. So, what should be their holding? Now, you have to go from backward, like 5 crore is pre money valuation, 2 crore is post money valuation sorry post 2 crore rupees is in brought in by investor what is the value of post money? 5 crore pre money 2 crore came in value is 7 crore. Now, if suppose investors tell you now, investor cannot tell you how much percentage they want, percentage should come automatically because they are bringing 2 crore.

So, how to estimate that? Estimation is like this. Now, the total value is 7 crore out of that out of that what should be your percentage? You estimate that first because out of 7 crore you hold 5 crore value. So, you hold 5 crore divided by 7 that is your percentage holding and investors hold 2 crore divided by 7 crore that is their percentage holding.

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To eliminate any residual doubt, let us change the values:

- So, post-money or post-investment, the value of Your Company will be (₹5.0 crore pre-money + ₹2.00 crore to be invested by investors) = ₹ 7.00 crore
- Share holding of the investors = ₹2.0 crore \div ₹7.0 crore
- = 28.57%
- So, how many shares to be allotted to the investors?
- Approach from your side. You will continue to hold 1,000 shares will constitute $(100 - 28.57) = 71.43\%$ of the post investment equity
- Therefore, total post-investment equity = 1,000 \div 0.7143
- = 1,340 number of shares.
- So, investors receive $(1,340 - 1,000) = 340$ shares.

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Now, how many shares you allowed that will depend on this percentage. So, shareholding by investor is 2 crore by 7 that is 28.57 percent how many share you should give? You are holding that is 71.43 percent is equal to 1000. So, 1000 divided by 71 percent is how many numbers is, 1340 number; that means, that is the 100 percent of the share post money, deduct your share of 1000 you get 340 share.

So, for 2 crore rupees you will be allotting to the investors only 340 shares of rupees 100 each that is how it is calculated hope this is clear from this example.

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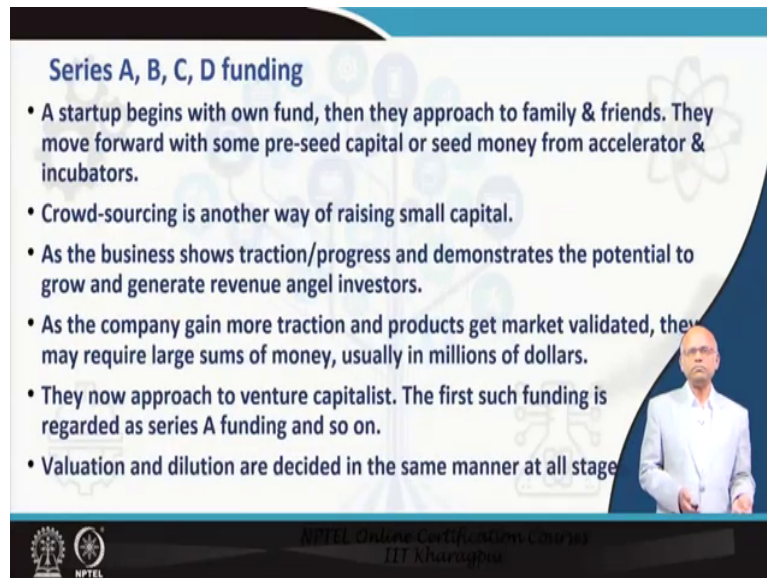
- In absence of a golden rule, valuation may be subject to investors own priority.
- Valuation depends on the time required for a certain percentage of returns by the investors.

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In absence of a golden rule valuation may be subjective, subject to investor many investor will value a particular company differently. If you see any of the episodes in Shark Tank, on the

spot they will be valuing differently 5 Shark will be valuing a particular company very differently widely differently.

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Series A, B, C, D funding

- A startup begins with own fund, then they approach to family & friends. They move forward with some pre-seed capital or seed money from accelerator & incubators.
- Crowd-sourcing is another way of raising small capital.
- As the business shows traction/progress and demonstrates the potential to grow and generate revenue angel investors.
- As the company gain more traction and products get market validated, they may require large sums of money, usually in millions of dollars.
- They now approach to venture capitalist. The first such funding is regarded as series A funding and so on.
- Valuation and dilution are decided in the same manner at all stage

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Now, one thing I forgot to mention while talking about investment or funding new venture is series A, B, C, D; just in a nutshell time is short. See the money that you raise from your own from your friends and relatives from your dad's father in laws or people like that, then you raise some money from maybe incubator or maybe accelerator these are all seed money. Then you can also raise from public like say crowd sourcing or something these are all seed money. Now, beyond that you raise money from angel that is also almost like seed money.

They are not series even angel money is not part of series money. Series money is a bulk money substantial amount that runs into millions of dollars normally that you raise from a venture capitalist. So, millions of dollars raised from venture capitalists for the first time is

series A, second time is series B, third time is series C, D etcetera, but there may be series A also may be bifurcate. Suppose you raise 5 million dollar from a venture capitalist then you need some say something like 500,000 dollars in between. So, that may not be another series.

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Startup Valuation Truths

- The valuation is driven by the long-run potential of profit.
- Investment decisions are driven only by projected returns on the investor's investment and the risk perception of the investors.
- There is no golden rule for valuation.
- There are subjectivities and bit of objectivities as well

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So, these are all series of moneys will not go at length on that. What is the truth about valuation? Valuation is driven by long term potential of profit, investment decisions are driven only by projected returns investor thing that after 5 years I want 20 x return. So, they will back calculate and estimate the value today depending on that they will look at your company what is the return possible, what is the what is the profit that may come up and what should be the profit multiple price to earnings ratio they will multiply that with your earning and they will try to understand what is the value say 5 years.

Hence and then they will back calculate and estimate the pre money value. I will show it with an example moving forward maybe in the next session.

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Methods of valuation

There are many methods of valuation of startups. They can be segregated into three/four categories

- Cost-based methods or cost to duplicate
- Income-based methods
- Market-based methods
- Scorecard method

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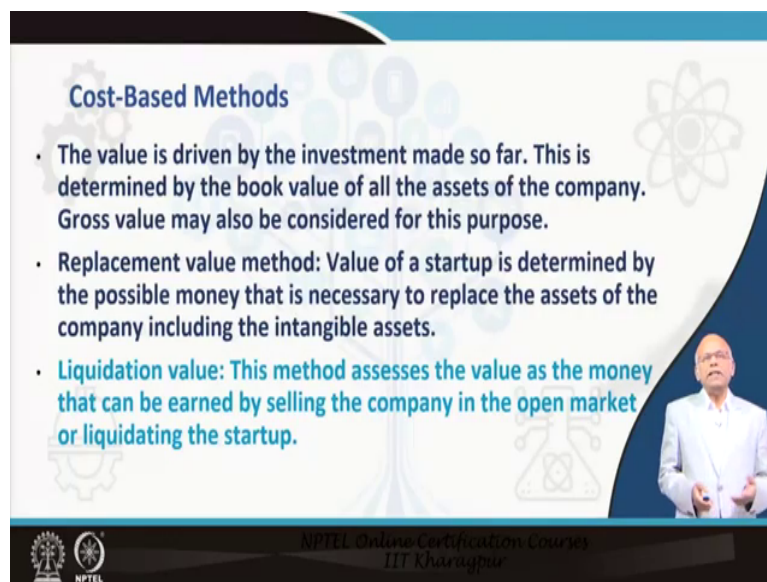
Now, there are cost based methods, there are income based methods, there are market based method and there is something called scorecard method. I will have to move far cost based means whatever money you have invested in the company that is the cost. Or alternately, if I have to I have to promote another company say build the same company a fresh using new money whatever money I am going to spend that is a cost based method that is the value.

Normally people will not use it because you know you can create 10 companies of the same type its not going to be the same again same again and that will that will lose value every company has IP Intellectual Property and all that. You cannot repeat that you cannot repeat

on the patent out of another company patent is unique. Income base method is all that we have discussed that is discounted cash flow.

Whatever is the income that market base method is suppose some startup is selling at x amount of money meaning they have raised money at x multiple of whatever. Then you think that my company is 2 times better than that. So, my company should be valued 2 x times something like that scorecard method has a different method. I will discuss that moving forward.

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Cost-Based Methods

- The value is driven by the investment made so far. This is determined by the book value of all the assets of the company. Gross value may also be considered for this purpose.
- Replacement value method: Value of a startup is determined by the possible money that is necessary to replace the assets of the company including the intangible assets.
- **Liquidation value: This method assesses the value as the money that can be earned by selling the company in the open market or liquidating the startup.**

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So, cost based as you understand, then there is something called liquidation value is not really cost based I am just mentioning. This method assesses value as the money that can be earned by selling the company, distress sale or whatever.

Suppose I have a company now, if I want to sell it in the marketplace, its almost like market Devon then what the market is going to give me I whether I liquidate the company or say whatever. Some company takes over my company what whatever price like there will be some market data that at this rate people are actually changing hands so, you have that.

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Earning Capitalization Method - Example

- This method is also known as Profit Earning Capacity Value Method.
- The value is the capital necessary to earn the amount equivalent to the profit of the startup.
- Suppose you want to make a pre-tax profit of 1 crore on an average over the next years.
- You want to buy a startup and want to assess its value.
- So, how much money you have to invest to earn that amount annually?
- You can check the risk-free rate, say bank offers 10% interest.
- Estimate how much capital you have to invest in bank fixed deposit to earn 1 cr annually (that the startup is to generate as profit).
- So, Amount of capital = $\frac{\text{Annual interest amount}}{\text{Capital to be invested}} = \frac{1 \text{ crore}}{0.10} = 10 \text{ crore}$
- Therefore, you are comfortable to buy the startup at 10 crore.

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Earning capitalisation method; meaning you know that earning moving forward you capitalize that almost like discounted cash flow, but slightly difference not a big deal. Suppose you invest 1 crore rupees in the bank say state bank or some other bank then suppose they pay you 10 percent interest.

So, you get 1,00,000 rupees every month 1,00,000 rupees every year 10 percent is 10,00,000. So, 10,00,000 rupees every year. Now, forget about this example suppose a startup gives you 10,00,000 rupees every year of returns say profit how much value you would like to give for

the startup? Obviously, you will make an analogy between is between a interest payment of 10,00,000 rupees by a nationalized bank or any other risk free return and then you will compare that. So, for receiving 10,00,000 rupees from a bank you need to invest 1 crore rupees.

So, you will be valuing that company 1 crore plus; because 1 crore minus plus there is risk because there is risk. So, you do not want to invest 1 crore rupees in a startup expecting 10,00,000 rupees a year because there are ups and downs and there is too much of standard deviation in in your perception about income. So, maybe you will be eager to pay something like 80,00,000 rupees 50,00,000 rupees depending on what is your perception, but then startup can give super profit also moving forward.

So, some come some individuals may be interested to pay 1 crore because they will think that profit may go off significantly moving forward.

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Factors Impacting Valuation

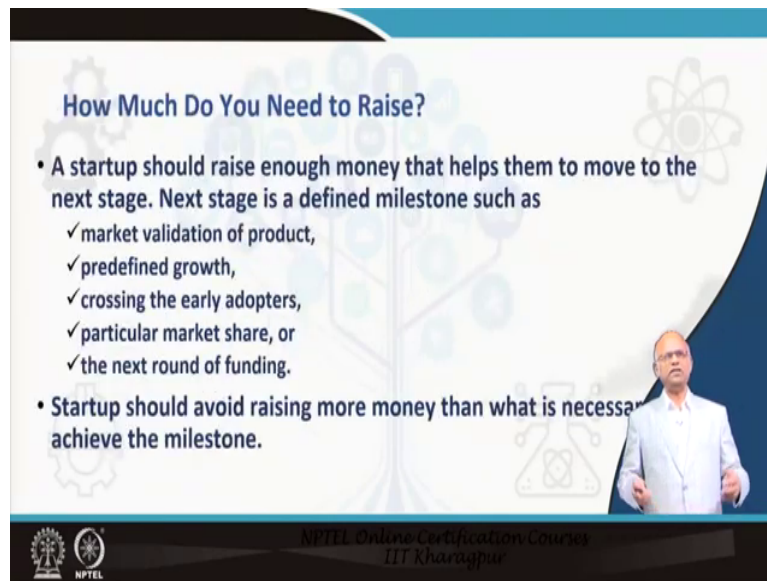
- Trend of valuation
- Economy
- Location
- Round size
- Stage of development of the startup
- Business sector of the startup
- Competitive advantage of the startup
- Team credentials, traction, and timing
- USP

- Growth
- Growth potential
- Market structure
- Innovation content
- Protected IP
- Market validation of product/service
- Customer creation speed
- Customer retention
- Customer acquisition cost

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So, that is the way of earning capitalisation. Factors you can read them later at leisure these are all discussed throughout the throughout my section lectures we have been talking about growth, growth potential, market structure, innovation and IP etcetera. How much do you need to raise? Any time this is a very important question.

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How Much Do You Need to Raise?

- A startup should raise enough money that helps them to move to the next stage. Next stage is a defined milestone such as
 - ✓ market validation of product,
 - ✓ predefined growth,
 - ✓ crossing the early adopters,
 - ✓ particular market share, or
 - ✓ the next round of funding.
- Startup should avoid raising more money than what is necessary to achieve the milestone.

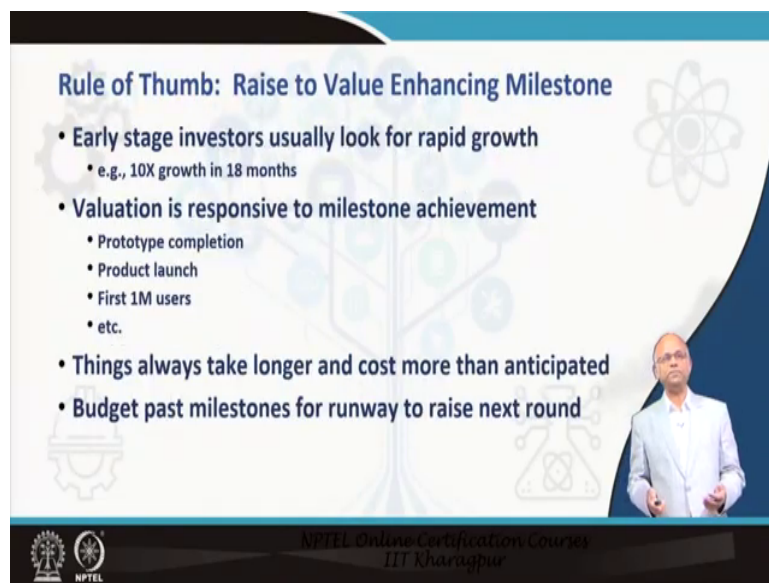
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And most of the people most of the startup actually do not have a have a clear idea, when to raise money how much to raise money they just think that other companies are raising money let us also raise money. One should raise money only when money is absolutely necessary for the company to move from one milestone to another milestone. Suppose you have a validated product now, you want to go to market with lot of you need lot of infrastructure to create.

So, you go for funding raising fund finance finances. So, how much money? Suppose somebody wants to give you 5 million dollar should you take 5 million dollar? If you take more money that you need you are at a loss in two ways; one even if you do not need 5 million and if you get 5 million you will find 5 million will evaporate in thin air within no time. And then you will burn so much money that your habit of burning money will lead you to failure number 1.

Number 2 you are going to dilute your equity so, much because you are raising more money. Whereas, if you raise that money moving forward in the second milestone, you will leak you will dilute less. So, do not try to get more money. So, mine timing for raising money, is the time when you desperately need money for moving to the next stage and that should be clearly definable that this is my present stage and that is my next stage. I am I am need I need this amount of money to move to the next only then how much money and what is the timing.

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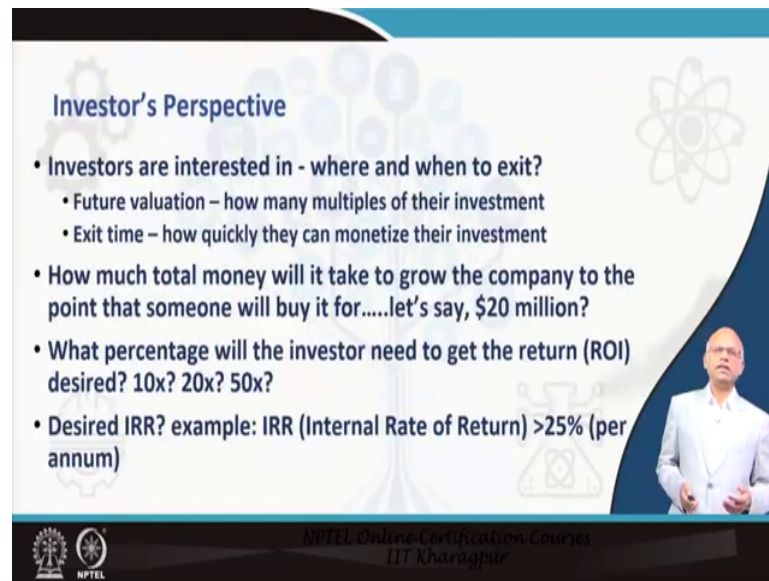
Rule of Thumb: Raise to Value Enhancing Milestone

- Early stage investors usually look for rapid growth
 - e.g., 10X growth in 18 months
- Valuation is responsive to milestone achievement
 - Prototype completion
 - Product launch
 - First 1M users
 - etc.
- Things always take longer and cost more than anticipated
- Budget past milestones for runway to raise next round

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Rule of thumb; early stage investor usually ask for 10 times return in 18 months meaning within 18 months you should be able to return 10 times the money. Then only there is average this is nothing sacrosanct all are ballpark. Valuation is in response to the milestone to be achieved, like say first one million users or maybe product launch or maybe prototype completion these are milestones these are kind of milestones that which we are talking about.

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Investor's Perspective

- Investors are interested in - where and when to exit?
 - Future valuation – how many multiples of their investment
 - Exit time – how quickly they can monetize their investment
- How much total money will it take to grow the company to the point that someone will buy it for.....let's say, \$20 million?
- What percentage will the investor need to get the return (ROI) desired? 10x? 20x? 50x?
- Desired IRR? example: IRR (Internal Rate of Return) >25% (per annum)

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Say investors perspective investor future valuation exit time all these depends on how much they are going to ask this is not so, much important.

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Market Considerations

- Entrepreneur Valuation Expectations usually is as under:*
- Too Low 9%
- Appropriate 22%
- Too high 69%
- All markets are affected by national trends
- Follow-on investors are not always local
- Entrepreneurs have limited experience of valuation

*According to Angel Resources Institute

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Market consideration say too low 9 percent like entrepreneur valuation perception normally they are not happy; they think here my valuation is too low or they normally ask for too much of a evaluation etcetera etcetera is not so, such an important issue.

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| STAGE | IRR | 5 Year ROI |
|---------------|------------|-------------------|
| Seed/Start-up | 82%+ | 20x |
| Early Stage | 60% | 10x |
| Growth | 40% | 5x |
| Later Stage | 25% | 3x |

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Typical expected rates of return. Suppose 5 years most of the suppose you are at seeds stage people will expect twenty times return early stage 10 times return, you are in the growth both growth phase they will be expecting 5 times return. You are much later at the growth phase they will be expecting 3 times returns. So, your dilution will be correspondingly low.

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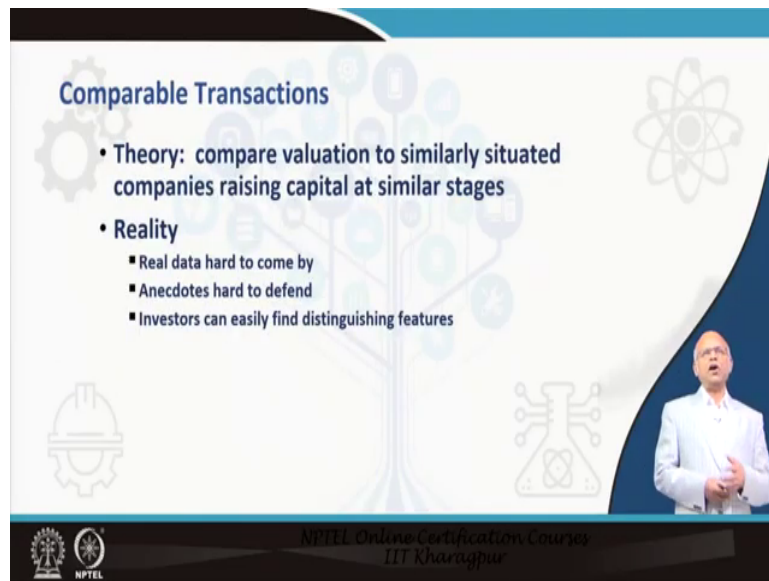
Useful Estimation Methods

- Comparable Transactions
- Comparable Companies
- Venture Capital Method
- Double Revenues Method
- Scorecard Method
- Risk Factors Method

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Useful estimation methods; say comparable transaction, comparable companies, venture capital method, double revenue method, then a scorecard method, risk factor method all you should you should Google and find out.

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Comparable Transactions

- **Theory:** compare valuation to similarly situated companies raising capital at similar stages
- **Reality**
 - Real data hard to come by
 - Anecdotes hard to defend
 - Investors can easily find distinguishing features

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This is not within the scope of this discussion because valuation is a big subject and within one or two lectures its very difficult to really cover something tangible. The foundation itself is taking so, much time.

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Comparable Companies

- **Theory:** compare valuations of similar companies when they were at similar stage of development
- **Reality:**
 - More data may be available (recently public companies report 3-5 years of historical results)
 - Perceived selection bias (not everyone will be next Google)
 - Prepare to defend assumptions re growth

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Comparable transaction real data hard to come like some exactly your kind of a startup will have somewhere and then they are selling and you know the data is very difficult. So, comparable transaction is not so much easy to do. Thank you very much, well catch up in the next session.

Thank you again.