Entrepreneurship Essentials

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Entrepreneurship

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Topics

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

Fund raising, Dilution, and 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.
- Conventional 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 valuers.
- As we have already seen, financials are not the only drivers of value of startups.

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

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

Valuation: value of equity interests

- value is in the equity
  - Dilution: reduction in holding
  - Fully diluted: include all paid-up shares and not authorized share capital

Your company private limited

Equity: Authorized capital 5000 equity shares of ₹100 each	₹5,00,000		
Equity & Liabilities		Assets	
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

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

Pre-money Value

- Pre-money value: Depends on investors' perception on traction, future prospects, and success potential.
- 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 balance sheet presented above and the current level of development.
- This means that the 1000 shares you have already issued to the cofounders are valued ₹1.0 crore or each share of face value of ₹100 is now valued ₹ 10,000.

Pre-money Value

- Suppose the investors agree to invest ₹ 1.0 crore, they will ask for 50% of the company, which means 50% of the post-investment equity.
- Suppose you agree with the proposed terms, you would give them enough shares for them to 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.

Pre-money Value

- You create fresh 1,000 shares and allocate to investors: so cofounders will hold 1,000 shares issued to them earlier and investors will hold 1,000 shares. Each holds @ 50%.
- You may also give part of your shares to investors. Say out of your 1,000 shares, you give 500 to investors. So, now you hold 500 shares and investors hold 500. Each hold 50% of equity. It is not the practice.
- If you create new shares, the paid-up share capital goes up to 2,000 shares of ₹100 each: i.e. 2,000X100 = ₹2,00,000.
- You have your 1,000 shares and allocate the new 1,000 shares of ₹100 each to investors amounting to ₹1,00,000.

Suppose investors value your company at ₹2.00 cr and invest ₹2.0 cr 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.

Pre-money Value

- You may also give part of your shares to investors.
- You literally sell part of your shares to investors and the money goes to your bank account, meaning it becomes your personal money.
- After the investment, the value of the company goes up to (pre-money value + investment) = 2,00,000 (in this case also)
- (₹1.0 crore pre-money value + ₹1.0 core money brought in by investors) = ₹2.0 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.

Value of One Share in Two Contexts

i. Create new shares to give to investors
ii. Sell part of your shares to investors

	Pre-money value (₹)	Post-money value	Number of shares with founders post-investments	Number of shares with investors post-investment	Total number of shares	% holding by founders and investors	Value per share (₹)
Create new shares	100 lakh	200 lakh	1,000	1,000	2,000	50:50	200L/2,000 = 10,000
You sell part of your shares to investor	100 lakh	200 lakh	500	500	1,000	50:50	200L/1,000 = 20,000

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

- Say, you are asking for ₹2.0 cr investment.
- To arrive at the percentage equity the investors should get, they do the valuation. Say, they arrive at a valuation of ₹5.0 crore (this is pre-money value). 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 ÷ ₹7.0 crore = 28.57%

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- Share holding of the investors = ₹2.0 crore ÷ ₹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, which will constitute (100 – 28.57) = 71.43% of the post investment equity.
- Therefore, total post-investment equity = 1,000 ÷ 0.7143
- = 1,340 number of shares.
- So, investors receive (1,340 – 1,000) = 340 shares.

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

Series A, B, C, D funding

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

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 a bit of objectivities as well

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
- Berkus method
- Income-based methods
- Market-based methods
- Discounted cash-flow method
- Method of multiples
- Venture capital method
- Scorecard method
- Replacement value method

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.

Berkus Method

- Assigns a monetary value to critical success factors such as the business idea, prototype, management team, market presence, and execution capability.
- Typically used for pre-revenue startups.

Berkus Method

- Key Factors and Valuation:

1. Sound Idea (Basic Value and Product Risk):

- The potential and proprietary nature of the business idea, with a maximum value of $500,000.

2. Prototype (Technology Risk):

- The presence of a working model or prototype, reducing technological risks, also with a maximum value of $500,000.

3. Quality Management Team (Execution Risk):

- The experience and capability of the startup's management team, another factor with a maximum value of $500,000.

Berkus Method

4. Strategic Relationships (Market Risk):

- Any partnerships and collaborations that can help the startup enter or expand in the market, again with a maximum value of $500,000.

5. Product Rollout or Initial Sales (Production Risk):

- The initial sales or product rollout plans to mitigate production and financial risks, with a maximum value of $500,000.
- **The Berkus Method assigns a value ranging from $0 to $500,000 to each of the five key factors, leading to a maximum valuation of $2.5 million.**
- **This method caps pre-revenue valuations at $2 million and post-revenue valuations at $2.5 million.**

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 p.a. over the next years.
- You want to buy a startup and want to assess its value.
- So, how much money you must invest to earn that amount annually?
- You can check the risk-free rate, say bank offers 10% interest.
- Estimate how much capital you must invest in bank fixed deposit to earn 1 crore annually (that the startup is to generate as profit).
- So, Amount of capital $= \frac{Annual\ interest\ amount}{Capital\ to\ be\ invested} = \frac{1\ crore}{0.10}$ = 10 crore
- Therefore, you are comfortable to buy the startup at 10 crore or less.

Factors Impacting Valuation

- Trend of valuation
- Economy
- Location
- Round size (investment amount)
- 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

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 the 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.

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

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)

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 in valuation

*According to Angel Resources Institute

Typical Expected Rates of Return by investors

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

As business gain traction, investors settle with lower returns because of higher competition.

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**

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

Discounted Cash-Flow Method

$$\text{Value} = \frac{CF_0}{(1+i)^0} + \frac{CF_1}{(1+i)^1} + \frac{CF_2}{(1+i)^2} + \frac{CF_3}{(1+i)^3} + \ldots + \frac{CF_n}{(1+i)^n} + \frac{TV}{(1+i)^n}$$

***Value* = Discounted net present value**
***CF* = Cash flow**
***Cf_0* = Initial investment**
***i* = discount rate**
***n* = time period from 1 to any.**
***TV* = terminal value**

- Please refer to class notes

Venture Capital Method

$$\text{Return on Investment} = \frac{Terminal\ Value\ or\ valuation\ at\ exit}{Post\text{-}money\ valuation}$$

Assuming no dilution in between

Terminal Value

Terminal Value = Revenue x Earnings rate x P/E Ratio

- P/E ratio is 'Price to Earnings' ratio.
- Price: price of one equity share
- Earnings rate: percentage net profit
- Suppose, the sales in year 5 is ₹1.0 crore and net profit is @1%
- The net profit of the company is ₹1,00,000 (net profit is also knowns as earnings)
- Your Company has 1,000 outstanding shares.
- Therefore, earnings per share is earnings/number of shares = ₹1,00,000/1,000
- = ₹100 per share
- Now suppose, One share of Your Company is traded in the stock market at ₹5,000
- So, P/E = price/earnings = ₹5,000/₹100 = 50

Estimating Terminal Value or Business Value at Exit

Investment	₹1.00 crore
Exit year	5th year
Revenues	₹ 1.0 crore
Earnings (Net Profit)	1% (₹1.0 lakh)
P/E	50
Terminal Value	₹20 crore

Terminal Value = Revenue x Earnings rate x P/E Ratio

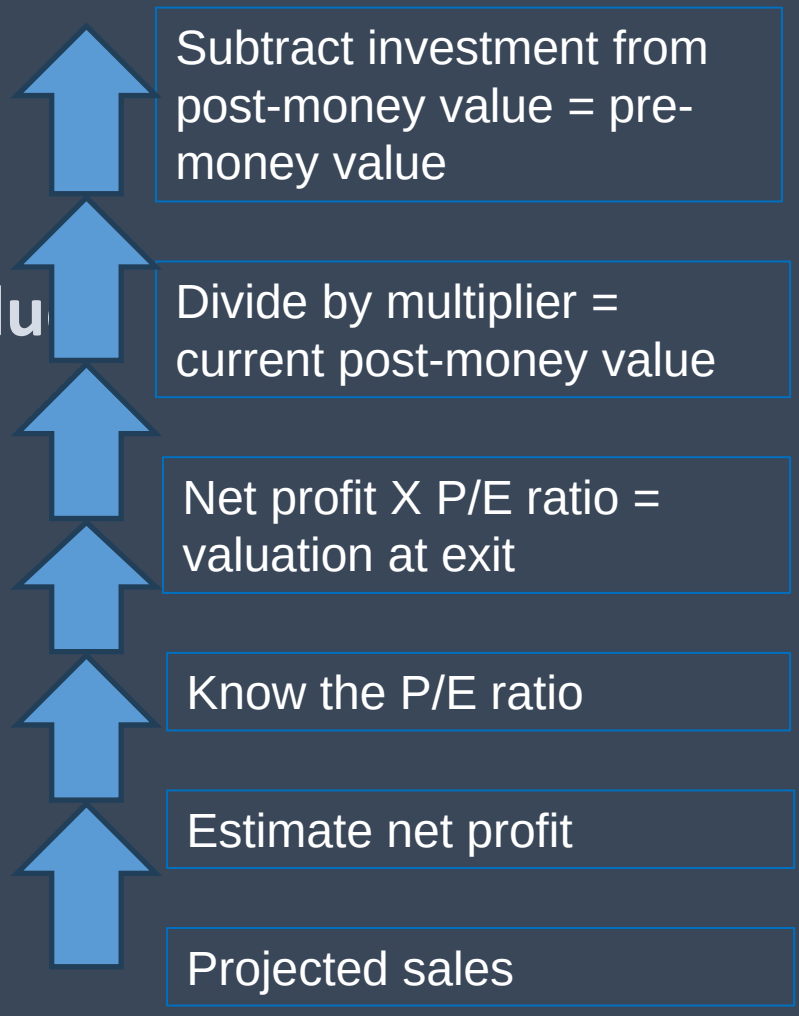
Terminal Value = 1.0 crore x 1.0%x 50 = ₹0.50 crore (net profit margin is 10%

Terminal Value = 1.0 crore x 20%x 50 = ₹10 crore (if the net profit is 20% of turnover)

Venture Capital Method

- Project exit value in x years
- Amount need to be raised to reach exit valu
- VCs need 10X return
- Solve for post money valuation
- Factor in dilution

Post money valuation = exit value/ROI



Example

- Company value **$50M** at the end of 5th years
- Investment required to reach expected exit value = **$1M**
- For 10X return, investors' share in exit value = $10M
- Investors' share in value at exit = $10/$50M = 20%
- Therefore, $1M = 20% of post-money value.
- Therefore, post-money value = 1/0.2 = $5M
- Pre money value = $5M (post money) - $1M (Investment) = $4M

Venture Capital Method

- Investment required by startup: ₹100 lakh
- Investor to exit: in the 5th year of investment
- Forecasted revenue in the 5th year: 2,000 lakh
- Profit during the 5th year (say NP margin @10%): 200 lakh
- Price to Earnings multiple: 25
- Value of the startup at the end of 5th year: 25X200 = 5,000 lakh
- Investors need 10X return. That means the value of the company will multiply by 10.
- The present post-money value of the company = 5,000 / 10 = 500 lakh
- Percentage holding of the investors: 100 lakh/ 500 lakh = 20%

Scorecard Method Factor Weightings

Strength of team	30%
Size of opportunity	25%
Product/technology	15
Competitive landscape	10
Partnerships/marketing	10
Later investment needed	5
Other	5

Source: Bill Payne, Kauffman publication 2007

Venture Capital Method Made Easy

- Determine the potential value of company at exit ("terminal value"): say, ₹20 crore
- Determine the return on investment required: say, 10X
- Calculate Post-Money (one tenth of exit value): ₹20crore/10 = ₹2.0 crore
- Decide size of investment: ₹1.0 crore
- Calculate Pre-Money: ₹ 2.0 crore - ₹ 1.0 crore = ₹ 1.0 crore

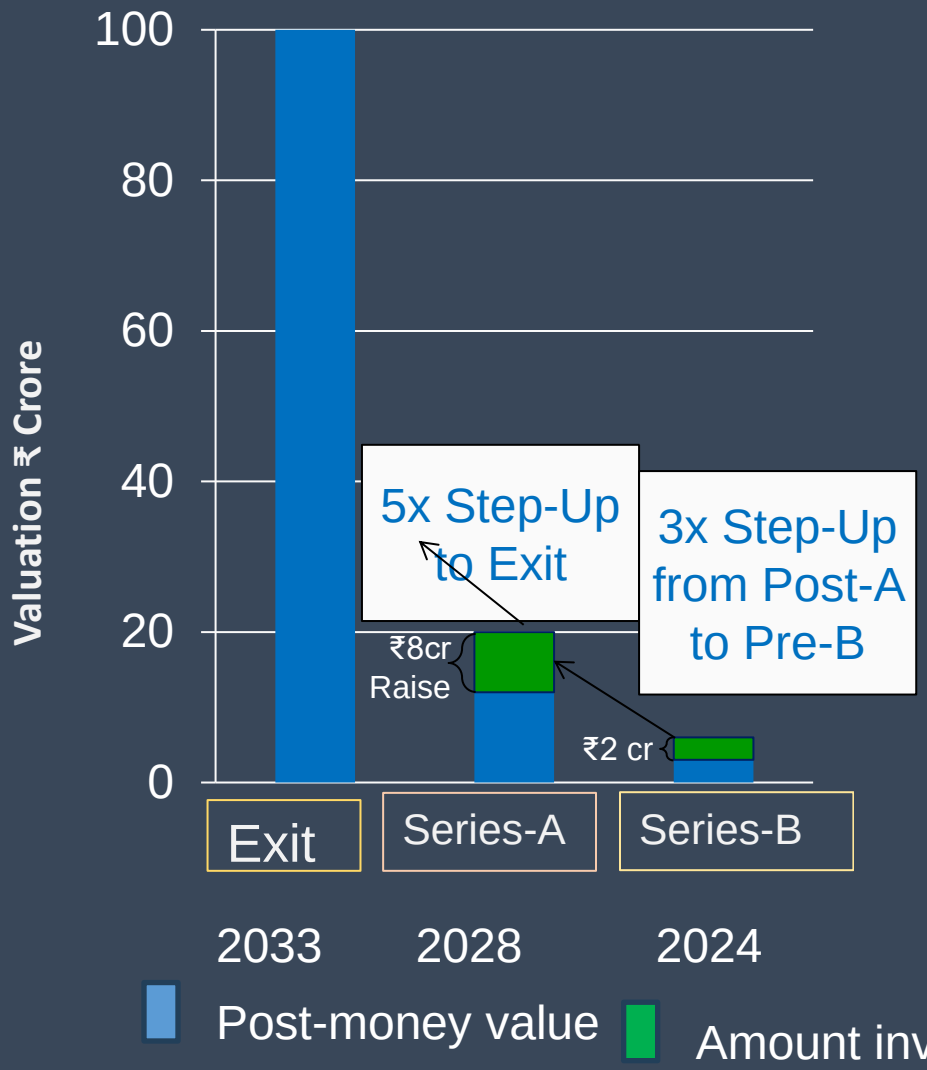
Syllabus up to this slide

Venture Capital Method – Working Backwards From Exit

- Estimate terminal value
- Project all financing rounds to exit
- Build in valuation step-ups for each round
- Work backward to determine initial pre-money

Venture Capital Method of Startup valuation – Working Backwards From Exit

The estimation process starts from the expectation of valuation at exit. This valuation is expressed as a multiple of the present post-money value.



Example: Estimating pre-money value

In a series-B funding round a VC uses PE method to estimate the value at exit, say after 5 years (say from 2028 to 2033).

Turnover or sales after 5 years = ₹50 cr, Net profit @ 10% = 5cr.

Assume, price to earning ratio is 20.

Expected value in 2033 = 20*5 = ₹100 cr.

It wants to invest ₹8cr now (in 2028).

If it expects valuation to increase 5X. What is the present pre-money value?

From the given data, the present (i.e. in 2028) post-money value = 100cr/5 = 20cr. Therefore, pre-money value = 20 – 8 = ₹12cr

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The same VC invested ₹2cr in the startup 4 years ago (say in 2024), in Series-A funding round, expecting a 3x valuation by 2028. What was the original pre-money valuation in 2024?

The post-money value in 2024 = ₹12cr/3 = 4cr.

Pre-money value = ₹4cr – ₹2cr = ₹2cr.

Scorecard Method

- Determine median value for pre-revenue companies in your space in your region (recent deals)
- Assign % weighting on each critical issue
- Calculate the weighted average of each issue
- Multiply median value by weighted average

Valuation Factors

- Management 30%
- Size of Opportunity 25%
- Products /Services 15%
- Marketing/Sales 10%
- Competition 10%

Calculate Weighted Average Multiple

% Compared to median value

FACTOR	ANALYSIS	WEIGHT	RESULT	INPUT
Management	On board except sales	30%	120%	36%
Opportunity	Large	25%	130%	33%
Product	Disruptive	15%	130%	20%
Sales	No channels	10%	50%	5%
Competition	No big layers	10%	110%	11%
Other	Need partners	10%	80%	8%
	Weighted Average			112%

Calculate Pre-Money Valuation

Median Value	₹ 2.0 crore
Weighted Multiple	1.12
Pre-Money Valuation	₹2.3 crore

Risk Factor Method

- Determine a starting valuation point
- Consider and assess risk
- Assign positive or negative values to each
- Pre-money valuation = Sum

Risk Types

- Management
- Stage of Business
- Legislative/Political Risk
- Manufacturing Risk
- Sales & Marketing Risk
- Funding/Raising Capital Risk
- Competition
- Technology Risks
- Litigation Risks
- International Risk
- Reputational Risk
- Potential Lucrative Exit

Assign Values to Each Risk

- Maximum/Minimum = +3/-3
- i.e., “Stage of Business Risk”
  - 0 for pre-revenue
  - +1 for beta
  - +3 for paying customers
- +1= ₹10 lakh added to pre-money valuation
- -3 = $-300k subtracted from pre-money

Example

Management	+2	: 10X2 = ₹20 lakh added
Stage of Business	+1	: 10X1 = ₹10 lakh added
Legislative/Political Risk	0	Neutral.
Manufacturing Risk	–1	:10X(–)1 = (–) ₹10 lakh subtracted
Sales & Marketing Risk	–3	: 10X(–)3 = (–) ₹30 lakh subtracted
Funding/Raising Capital Risk	–1	:10X(–)1 = (–) ₹10 lakh subtracted
Competition	+1	:10X1 = ₹10 lakh added
Technology Risks	+2	: 10X2 = ₹20 lakh added
Litigation Risks	0	Neutral.
International Risk	+1	: 10X1 = ₹10 lakh added
Reputational Risk	0	Neutral.
Potential Lucrative Exit	+1	: 10X1 = ₹10 lakh added

Risk Factor Summary Example

Base Valuation	₹200,00,000
Total value of plusses (8)	+ ₹80,00,000
Total value of minuses (5)	– ₹50,00,000
Pre-Money Valuation	₹2,30,00,000

Concluding Truths

- Returns drive investment decision
- Calculations generally did not include dilution events such as the impact of subsequent investments
- Valuation is an art not a science
- More important to calculate it rationally and not emotionally
- Use multiple methods
- Estimated valuations are fine to get the conversation started

- Stephen Thau, PARTNER, PALO ALTO/WASHINGTON D.C., STHAU@MOFO.COM
- www.upcounsel.com › startup-valuation-methods
- www.startups.com › library › expert-advice › startup-valuation-methods
- **https://masschallenge.org/article/how-to-value-a-startup-company-with-no-revenue**
- www.angelventureforum.com › mofoavfpresentationthaupptx
-

- https://unsplash.com/s/photos/background for images
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- www.startups.com › library › expert-advice › startup-valuation-methods
- https://slidebean.com/templates/investor-deck-template
- Various Wikipedia pages
- https://www.linkedin.com/in/aniruddhamalpani/?originalSubdomain=in

- Valuation is subjective
- Investors make postures through low valuation. Be mindful and do hard bargain.
- It is not necessary that higher valuation is good for the startup since maintaining expectation may be difficult.
- Use multiple method when in doubt and have a optimistic, realistic and pessimistic perspectives.