VC Mathematics and it's role in Startup creation

Venture capital mathematics

Stage	Valuation
Seed	$ 2 Mn
Series A	$ 16 Mn
Series B	$ 130 Mn
Series C	$ 500 Mn
Series D	$ 1 Bn

Transition	Growth	Success rate	Net Growth	Net Success
Seed → Series A	8X	1/7	8X	14/100
Series A → Series B	8X	1/2	64X	7/100
Series B → Series C	4X	4/5	256X	5/100
Series C → Series D	2X	4/5	512X	4/100

Average time for each transition = 2 years
From Seed to Series D (Unicorn), total transition time = 2*4 = 8 years

If 100 units of seed capital is invested into the Public market with the financial institution for 8 years, 30% annual return at max, = $100 * 1.3^{8} = 600$ units.

If 100 units invested into venture capital, = 4 * 512 = 2048 units,

Investing 100 units of seed capital into Public Market over 8 years can give 6 times but investing into Venture capital can give 20X return.

Advise for Angel investors with the data collected,

Finding right startup which can go to series A or finding 14/100 is exceptionally difficult.

Angel investor must need to stick to their domain if possible. Say 70% in your domain and 30% others if founder is very talented or idea sounds really great.

Angel investor must not behave like Bill Gates if he doesn't have extra money to finance 20 units of seed capital in upcoming 8 years otherwise money will be lost for sure.

Help founders find the right Venture Capital firm and if possible invest 50% money of Venture Capital even in the seed stage if possible and support founders and company from seed to Series A.

Advise for Venture Capital with the data collected.

Getting the deals done with right startup in series A or finding and getting the deal from 14/100 is really difficult even with the money. It will reduce the minimum profit to 6X instead of 20X which is still bigger than maximum profit from stock market 5X which is not the purpose of VC firm. That's why Indian VC investors are really bad at supporting startups who are trying to solve real problems.

Invest in as many startups in early stage and prevent them from long term failure by creating incubators, accelerators and angel networks.

References for VC Mathematics from Sabestian Quintaro (based on 50+ years of data from Silicon Valley's Startups)

https://medium.com/journal-of-empirical-entrepreneurship/making-sense-of-startup-valuations-with-data-science-1dededaf18bb

https://medium.com/journal-of-empirical-entrepreneurship/how-much-runway-should-you-target-between-financing-rounds-478b1616cfb5

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Limitations of Pitch Deck in context of truly revolutionary ideas.

Explaining any revolutionary or innovative idea is fairly difficult in 5 minutes because "Understanding something isn't a very simple process like you tell something and other person will understand it easily".

All revolutionary ideas consists of 3-4 sub ideas and not necessarily the other person whom you are presenting your idea has knowledge and understanding of all 3-4 sub ideas which makes validation of ideas more difficult especially for normal investor who isn't very knowledgeable.

For example, explaining iPod was fairly difficult at the time of radio, because one need to understand the concept of internet, music streaming websites like iTunes, cloud storage etc. and making sense out of each requires more than 5 minutes or more according to reader's knowledge. It requires good imagination ability and knowledge of these sub domains in order to validate the correctness of ideas which most people don't have so as investors.

Let's take an example of Uber's Pitch Deck in 2008.

Imagine you are in 2008, just 2 years ago iPhone was launched, very few people knows about app/play store, no one knows whether live Geo-location tracking on moving car is practical or not, no one knows whether an unknown/untrained cab driver can help people reach destination safely or not without getting into accident. No one knows how to position Cabs on city map in order to keep the car available throughout the city without getting Cabs crowded at a particular place where fare price's are higher, how to incentivize cab drivers, calculate traffic and fare prices at real time. Imagine, Travis (founder of Uber) came to you showing this pitch deck, it will sound 100% Gibberish ..

link to Uber's pitch : shorturl.at/yIR12

Same case for all the revolutionary apps or tech company's pitch deck we know, almost all pitch decks are wrong (in context of having capability to explain itself in 5 minutes to layman) according to their timeline.

If VC firm makes the criteria as 5 minutes, maybe it works in Silicon Valley for finding genuinely great and revolutionary ideas because people are already living in high tech lifestyle and making sense out of new ideas is relatively easy but for India doing such things is very difficult.

That's why all creative founders with great ideas have hard time convincing VC firms and VC firms also have hard time finding genuinely creative entrepreneurs who can build the Unicorn for them. Maybe that's why most billionaires like Elon Musk reads a lot so that they can validate and invest in revolutionary ideas as early in order to increase their wealth enormously.

Dropping Off college and doing start up with revolutionary ideas only makes sense only in Silicon Valley because "number of good and great technologists/researchers exceed number of entrepreneurs"

If we take the example of Uber, Travis hired 3 Nuclear scientists in order to create the heat maps, pricing, prediction models and algorithms for the cities which help Uber know where to position the car at what time so that car remain available throughout the city.

This can't be done in India because finding such people is quite difficult because of lack of research labs and Universities of higher technical education and other than that if we take example of Ola in India the problem lies at the infrastructure level as well. The Urban area isn't big enough and traveling is cheaper due to M.R.P. system and lower wages, so optimizing travel cost doesn't make that much sense in comparison to US that's why Ola is fairly limited to Tier 1 cities of India only and going into loss as well.

That's why most of the revolutionary technological work are done in Silicon Valley.