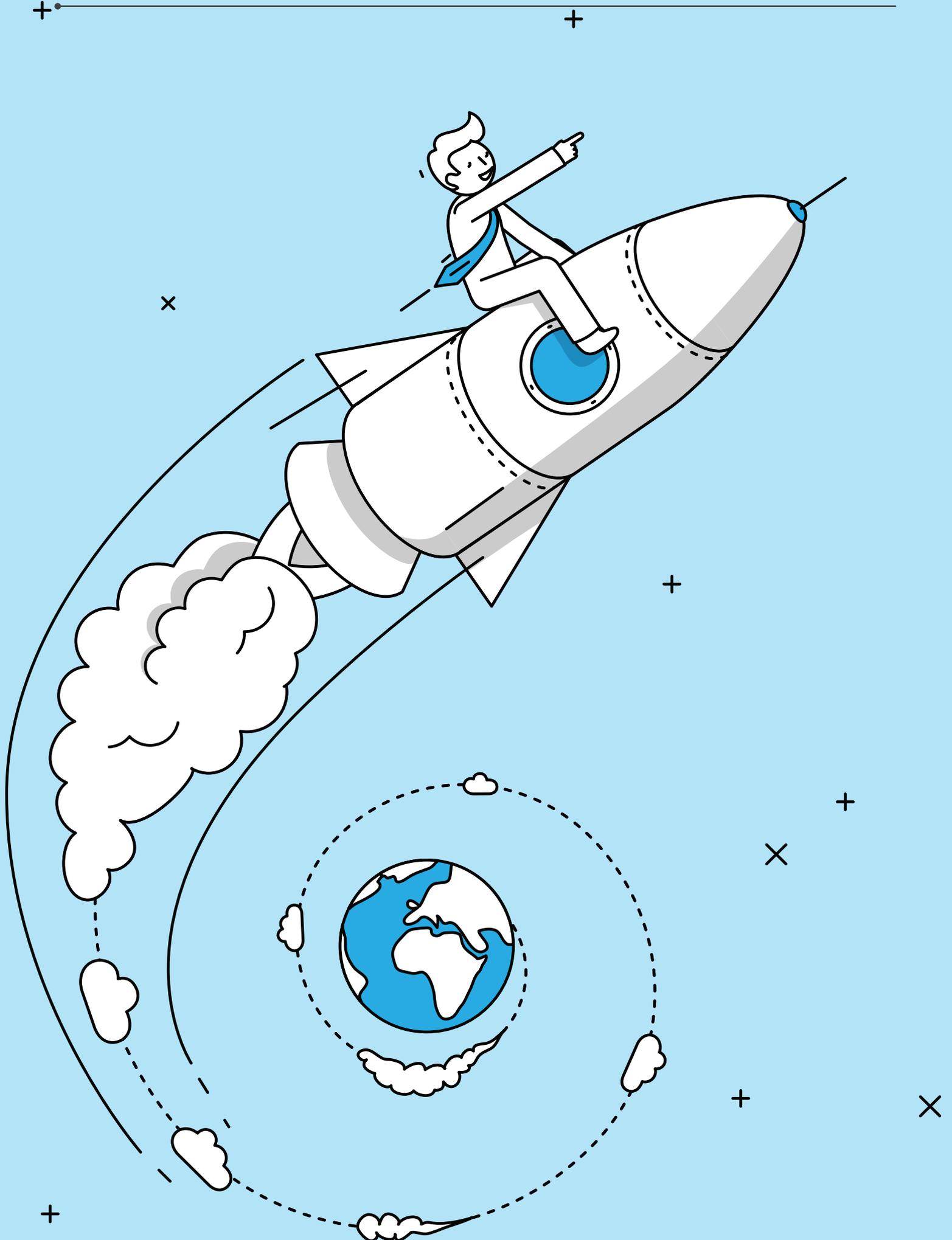




Start-up valuations - A craft or shots in the dark?



home.kpmg/in



Foreword

A great deal of attention today is focused on the valuation of start-ups in India, which has emerged as the third largest start-up ecosystem¹ in the world. The topic has come into even greater focus following Walmart's acquisition of Flipkart at a valuation of USD21 bn², which set a new benchmark for the start-up ecosystem.

The discussions on valuation comes in the backdrop of rapid growth in India's start-up ecosystem. Several factors have contributed to India's eye-catching growth as a start-up hub in recent years. With nearly half of its population under the age of 25³, India is a young country and has a vast pool of highly skilled professionals. Among the other key factors shaping India's start-up landscape are a growing digital consumer market, increasing penetration of the Internet and smartphones as well as a rapidly evolving technology landscape. The growth story of India's start-up ecosystem can be categorised into three distinct phases, stretching back four decades.

The initial start-up phase can be traced back to 1980s with the wave of IT and IT-enabled services that turned a handful of Indian IT companies into global giants and helped place India on the world economic map (example, Infosys). With almost a non-existent venture funding industry back then, most of these businesses were bootstrapped and focused on services.

With the internet era in the late 1990s and early 2000s came the second phase of growth for Indian start-ups. The widespread emergence of the internet and rapid development in telecom technology encouraged local entrepreneurs to set up new businesses and scale up fast. This period gave rise to many online start-ups such as Naukri.com, Bookmyshow.com, Matrimony.com. However, sophisticated investors such as private equity and venture capital were still cautious and relatively unavailable.

Today, the start-up ecosystem in India has entered its third phase of growth with the advent of the smartphone era. This period has led to tremendous growth in the number and variety of start-ups, especially with the rise of technology start-ups. Models around e-commerce, specialised retail, marketplaces, hyper-delivery networks and organising the unorganised sector are emerging as strong bets. The third phase has triggered a strong wave for entrepreneurial activity in India. This has not only led to the entry of large consumer-focused brands like Amazon and Uber into India, but also the emergence of more than 24 home-grown unicorns (like Ola, Nykaa, Paytm among many more). Another factor fueling this new phase of growth is the significant investment from the government, as well as private investors such as private equity funding or venture capitalists, and other financial institutions.

Financial inflows have increased substantial investment in the Indian tech start-up industry alone totaling USD 44 bn during 2014 to 2018, across 3,968 deals⁴, while around 8,900 to 9,300 start-ups were founded during 2014 to 2019⁵.

1. Start-up ecosystem in India – Growing or matured? by KPMG in India (December 2018)
2. Walmart's Press Release dated 9 May 2018. (Investment of USD16 bn for 77 per cent stake, translating to a valuation of USD21 bn)
3. Sample Registration System 2018, Registrar and Census Commissioner of India
4. Indian Tech Start-up Funding Report by Inc42 (2018)
5. Indian Tech Start-up Ecosystem by NASSCOM (2019)

With the flurry of recent investments and increased involvement of marquee investors, the focus on valuation has intensified. However, we have seen valuers or market participants follow two traditional approaches:

- Discounted cash flows to value a business
- Purely benchmarking the business with most recent transactions in the sector and following the herd, without understanding the value of the business and its prospects.

Both these approaches have major limitations and do not adequately assess a start-up's true value, thus resulting in a misleading valuation and incorrect business decisions. For example:

- Most of the start-ups generate negative cash flows during their early stages. If they are valued employing the traditional discounted cash flow model with a simple five-year forecast, chances are that they will never achieve the valuation they command at various funding stages.
- If the valuation of every e-commerce player was based on the Flipkart-Walmart transaction, then the value assigned would not have taken into consideration a number of key merits like performance level, ability to generate cash flow, and to reach a higher scale. It can be compared to giving the same bonus to every sales representative, without evaluating individual performances, which is ultimately unfair and inaccurate.

Start-ups differ significantly not just in terms of their business model, but also in profitability expectations, scalability, and funding profile. Hence, start-ups cannot be valued in the way a traditional business, such as a steel manufacturer, is valued.

In this paper, KPMG in India has critically evaluated different methods of calculating a start-up's valuation and summarised the conceivable process and approaches. Indeed, calculating the true value of a start-up is a challenging exercise and several factors need to be taken into consideration. To this end, it is important to take a step back and re-evaluate the questions that are fundamental to the valuation process:

- Understanding the business or asset profile and most importantly, how we can define such businesses?
 - Can you call Ola, with its huge operations, a start-up?
 - Or it is just a company incorporated in last one to three years with minimal size and employees?
- Reviewing and understanding the dynamics of the ecosystem, industry, sector in which the business operates:
 - What are the key performance metrics in the sector?
 - Are there any start-ups that succeeded or failed?
 - What was the timeline of events for such comparable businesses?
 - Have they raised funds? If yes, at what valuation?
- To establish, what is the stage of the business and how it impacts its functioning and its cash flow generation potential
 - Is the product ready? If not, then at which stage is the product?
 - Is it generating revenue? If yes, what is the business and revenue model?
- To estimate, what are the chances of success and failure:
 - Is the business scalable?
 - What is the current and expected cash burn and funding sources?
 - Can it sustain competition? And what is the USP that will help?
- To understand what data is available to evaluate the business:
 - Do we have historical financial information to benchmark?
 - Do we have a realistic business plan in place that can lead to financial projections?
 - Do we have a comparable company or transaction set to benchmark?
- To arrive at the most suitable valuation approach or method to value the business:
 - Are there any industry specific metrics that needs to be tracked and valued?
 - Is it possible to apply traditional models?
 - How will investors or market participants value such a business- on a long-range profitability expectation or based on return expectations?

These questions need to be answered in order to determine the worth of any asset, whether a traditional business such as a steel manufacturer or a high growth start-up. However, evaluating them from the perspective of a start-up is the key to finding the right approach and value.

Background and conceptual understanding



At the heart of every conversation on the start-up space are three fundamental, or even existential, questions:

- What is a start-up?
- What are the most common business models followed by start-ups?
- What are the various life stages of such businesses?

The idea, in this section, is to attempt to answer these questions, while setting the path to establish an approach to value a start-up.

What is a start-up?

The dictionary defines it as a – “a newly established business”

The term has acquired several definitions from different stakeholders:

- The Department of Industrial Policy and Promotion (DIPP), Government of India, inter alia, requires “innovation, development or improvement of products or processes or services” as a prerequisite to claim the exclusive status of a ‘start-up’.
- Steve Blank, author of *Four Steps to the Epiphany* (2005), puts it another way: “A start-up is a temporary organisation used to search for a repeatable and scalable business model.”
- “Properly defined, a start-up is the largest group of people you can convince of a plan to build a different future.”, writes Pay-pal co-founder Peter Theil in his book *Zero to One: Notes on Start Ups, or How to Build the Future* (2014)

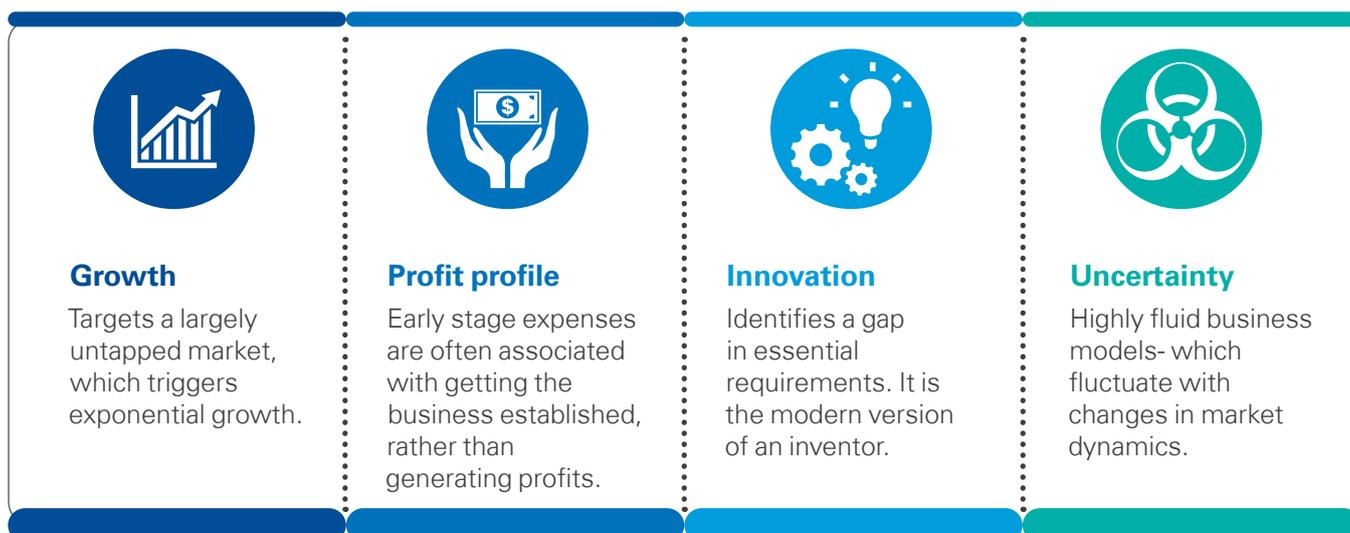
Before we go any further, let us pause for a moment and answer a very important question:

Can a business incorporated last year with just 10 employees be termed as a “start-up”?

We need to look beyond the textbook definition of start-up as the ecosystem itself has evolved, giving rise to a new category of business, which neither fits into the traditional definitions of a start-up nor forms a part of large corporations. These businesses can be termed as “corporate Teenagers” or “Young Companies”, which need to be critically evaluated before terming them as start-ups.

From an entrepreneur burning the midnight oil in his/her garage while developing a brainchild creation to a team of founders strategising their next move in hope to dominate the marketplace or a global ride hailing giant such as Uber, the interpretation of “start-up” is extremely broad.

We have moved away from a macro view of “start-up” and attempted to understand the specifics of a start-up and pinpoint its components. Every minor detail can help us in differentiating between a start-up, a small traditional business setup and a large corporation.



Examples:

| | |
|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1</p>  | <p>Bounce, a bike sharing business, operated 7,000 dock less scooters in Bengaluru, which is home to over 7.6 mn private vehicles, making it one of the world's fastest growing bike-sharing start-ups.</p> |
| <p>2</p>  | <p>Online grocery players, Big Basket and Grofers, are suffering losses in order to capture the grocery segment and create customer convenience, which will be monetised at later stages.</p> |
| <p>3</p>  | <p>Innovation is not limited to just the product. It could also involve the delivery model. The likes of Oyo are meeting customer needs by changing the method of delivery.</p> |
| <p>4</p>  | <p>Ola, the ride sharing aggregator, entered the food delivery service first in 2015. While OlaCafe could not deliver results as expected, another attempt was made in late-2017 by acquiring Foodpanda, and profitability in this venture remains uncertain.</p> |

Using these simple parameters can help us distinctly identify what could be included in our definition of 'young company' or a start-up. For example, while most people wouldn't put Ola, Flipkart and OYO in the same category as a novice game and service application, based on our definition all of them may be referred to as start-ups. The reason is:

- These businesses have a fluid business model
- They have identified the need gap and target to close it while exhibiting growth

- Incur losses in the initial phases to capture maximum market share, before their competitors
- Innovating and prototyping on the product, services or the delivery model itself

While these parameters help us classify a business as a start-up, they also make the task of valuing these businesses more challenging and complicated.

It is, therefore, important to keep in mind the "true nature" of a start-up, while estimating the valuation.

Business model: An entrepreneur's master plan

Start-ups bring about innovation in ways vastly different from traditional businesses. For a valuer, this becomes tricky and arguable, as the age-old understanding of how a business operates and generates revenue undergoes a significant transformation. Start-ups strive to build strategies that not only make them distinctly different from others, but also support their growth objectives. This distinctiveness makes it important for a valuer to clearly understand the start-up's profit-making plan: its business model.

The business model is a comprehensive blueprint which captures the way a company would generate revenue and profits from its operations. It details specific business aspects, such as revenue streams, target customers and markets, to name a few. Gross profit is a commonly used metric to compare the efficiency and effectiveness of a company's business model.

The following business models are being commonly adopted by start-ups today:

| No. | Business Model | Description | Why this model? | Example |
|-----|-------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 1 | Marketplace | Charging transaction fee via a platform for buyers and sellers | <ul style="list-style-type: none"> • Low cost to run server • Avoids managing inventory | Online retailers like Amazon, Flipkart, Cab aggregators like Uber, Ola |
| 2 | Sponsorship | Promotion from sponsors, where the customers /user traffic is attracted | <ul style="list-style-type: none"> • Popular products attract user attention • Users do not mind unobtrusive ads or logo placements | YouTube channels like The Viral Fever (TVF) |
| 3 | White Labelling/ Private Labelling | Model allowing 'agents' to use their own brand | <ul style="list-style-type: none"> • Lower risk of damaging your own brand. • Improved focus on core product development | MatchMove, an enterprise payments solutions provider |
| 4 | Disintermediation | Model cutting out the middlemen | <ul style="list-style-type: none"> • Reduces cost for the end-user • Competitive advantage over traditional model (that rely on middlemen) | Online supermarkets like BigBasket |
| 5 | Subscription | Model selling products on subscription basis rather than one-offs | <ul style="list-style-type: none"> • Stable, recurring cash flows throughout the customer lifecycle creating a financially healthy business • Flexibility in payments makes it customer friendly | Digital music streaming providers: Spotify, JioSaavn Music OTT platforms: Netflix, Amazon Prime |
| 6 | Leasing | Model renting out costly assets at high margins | Enables end-users to use expensive assets such as homes, cars, or yachts, without buying them | Car leasing like Zoomcar |
| 7 | Freemium | Model offering low-tier product for free and requires users to pay for higher-tier products or upgrades | Free-tier products are the incentive to get users to sign up, to self-learn about the product, and get accustomed with the product | Real estate search portals like NoBroker. OTT applications like Disney Hotstar, SonyLiv, Zee5 |

As better technology, smaller and more agile competitors and environmental factors rapidly change the business landscape, the need to better understand a company's business model has become vital. Therefore, a valuer should understand how the:

- business models are responding to market trends
- strategy supports the key components of the business model and drives value

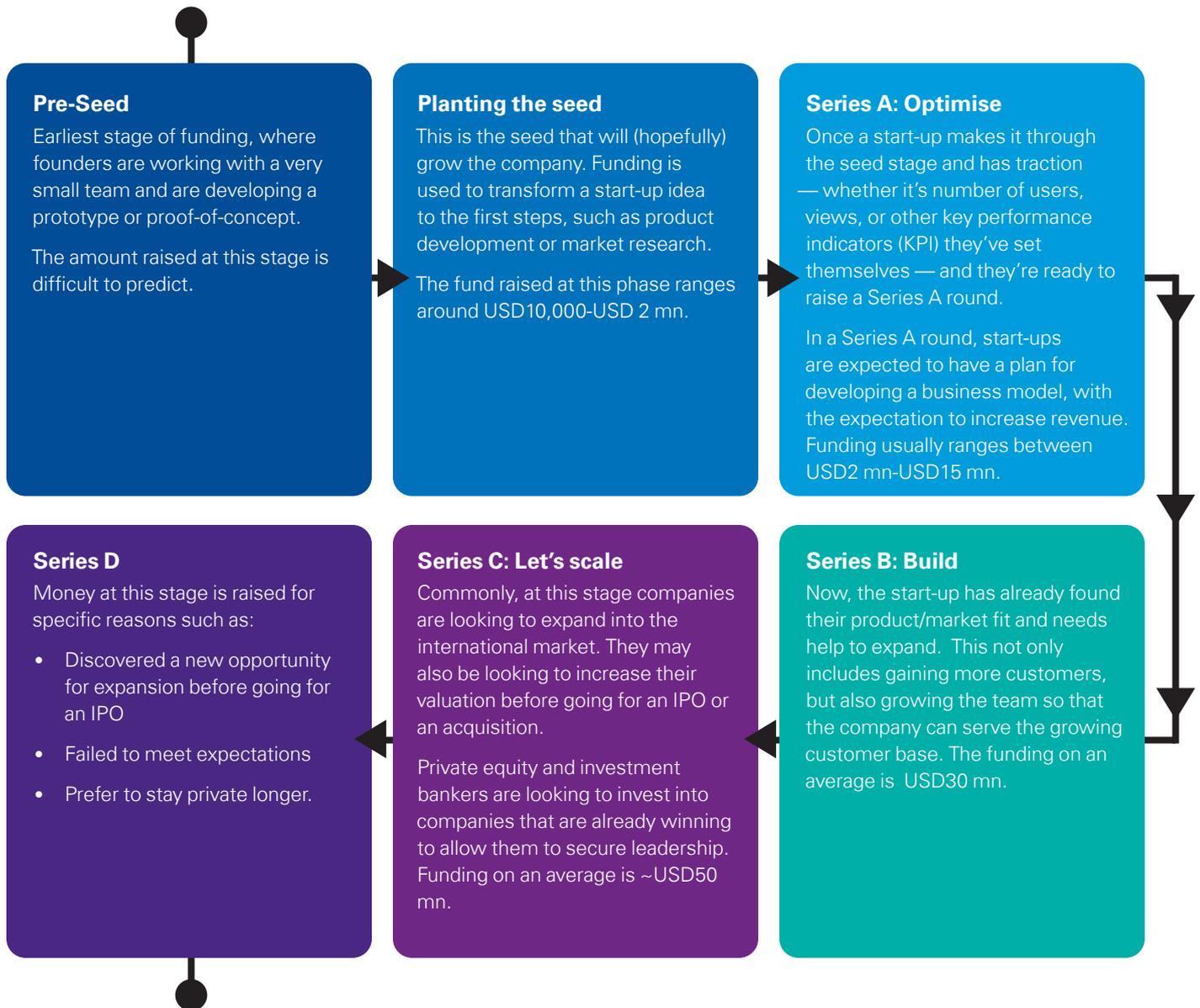
- management is considering risks and opportunities across their business model
- KPIs reflect the key components of the business model
- impact on key resources and relationships is measured
- business model is sustainable and scalable.

Elevating to the next level: investment rounds

Once the start-up demonstrates the success of its business model, it will immediately start attracting the attention of investors. With the backing of its investors, the start-up is now ready to embark on a growth journey. Typically, value is created as an enterprise advances through the various stages of its development or different rounds of investments. This raises yet another

significant consideration to be evaluated by a valuer: the risk and return profile varies across the life cycle of a start-up.

Each phase of the life cycle of a start-up is supported by certain funding depending on the mutual needs of the investors.



Over time, a start-up may achieve certain milestones, resulting in correspondingly diminished uncertainty and perceived risk and thereby, enhancing the value of the enterprise. If, however, progress slows, ceases, or reverses, and the enterprise fails to progress through the “normal” stages of development, the value would likely be diminished. A valuer can gauge the stage based on the subsequent round of funding.

While conducting the valuation exercise, a valuer can keep the following factors in mind:

- Identify the life-cycle stage of a start-up
- Based on the phase, critically examine the forecast of the industry and the start-up
- Milestones achieved by the start-up since the last funding round
- Evaluate the start-up's valuation in the previous rounds, if any.

Reed Hastings and Marc Randolph start a DVD rental business- a video library of approximately 900 titles, with a 7-day maximum rental policy

Introduces subscription model at \$15.95 per month, allowing members to rent up to four movies at a time

Replaces rental model with a monthly subscription plan priced at \$19.95 per month. Also, introduces a personalized movie recommendation system, to accurately predict choices. Ended the year with ~6x revenue growth



Crossed \$1Bn revenue, while also introduced online streaming services, enabling members to watch television shows and movies on their personal computers

Announced 1 million subscribers in the United States, recording profits for the first time of \$6.5 mn with a 78% revenue growth over a year

Files for IPO on 22 May 2002, with shares valued at \$15.



2007



2003



2002

Announces its partnership with premium American cable TV network Starz, which gave subscribers access to more than 2,500 movies and TV shows

Launched in Canada. Later, it started expanding the streaming service to the international market, ending the year with a ~30% revenue growth Y-o-Y and ~15% EBITDA margin

Hike in subscription plan (~60%) leading to loss of 800K subscribers, while increasing revenue by ~49%



2008



2010



2011

With 183 million customers, generated a net income of \$709 million, more than double from a year earlier with the share price trading at ~\$490 and expecting to record a stable 21% revenue growth

Netflix buys Millarworld, a comic publishing company. This is followed by acquisition of TV & production facility ABQ studios, New Mexico.

Dived into original programming with House of Cards, followed by first original featured film Beasts of No Nation released in 2015



2020



2017



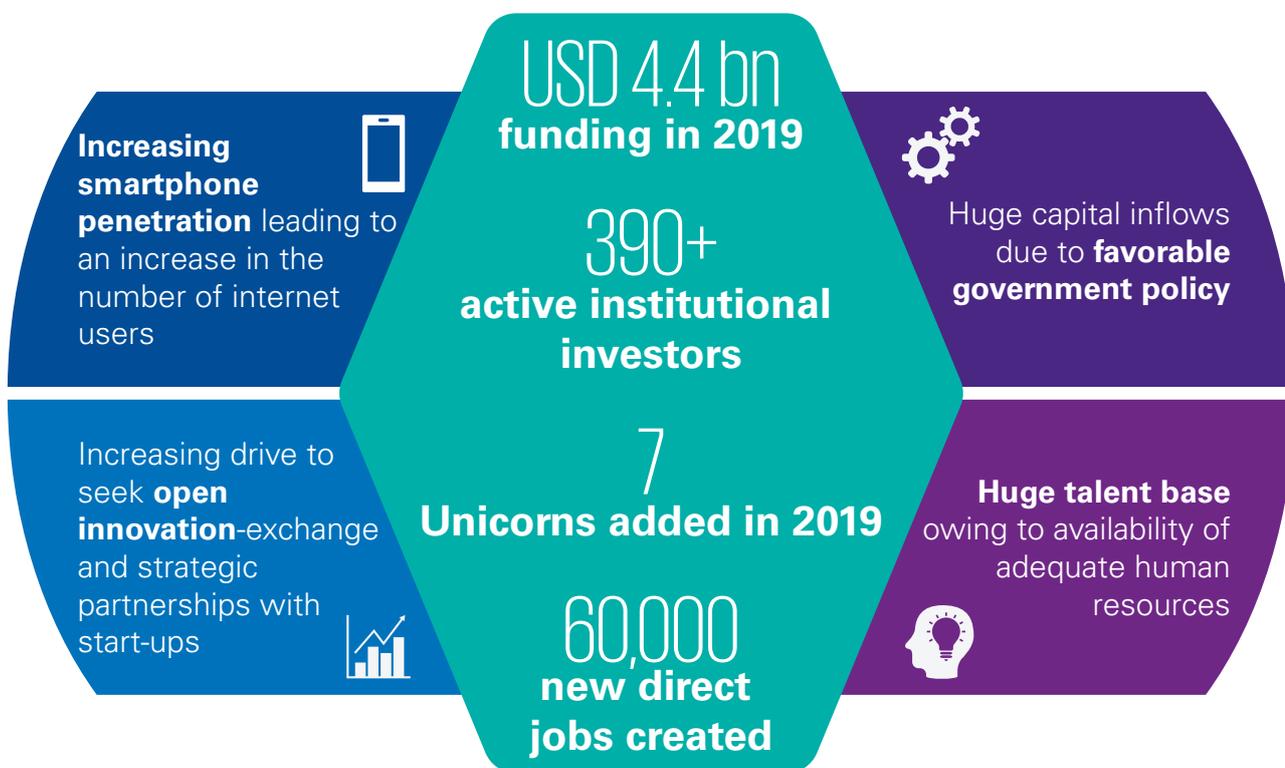
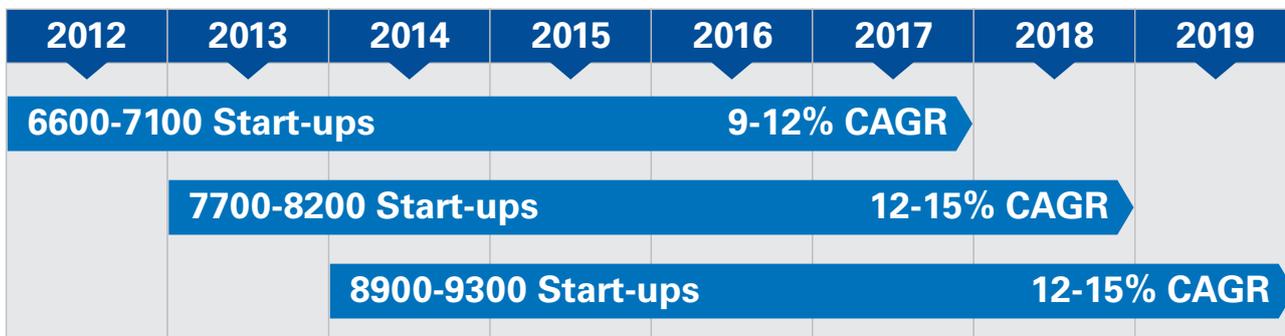
2013

Source: Company Annual Report and various Internet articles

Is start-up valuation a significant concept in an emerging market like India?

The concept has always been crucial and will just become more critical in the future owing to the growing numbers over the past few years.

1300+ new Tech start-ups added in 2019



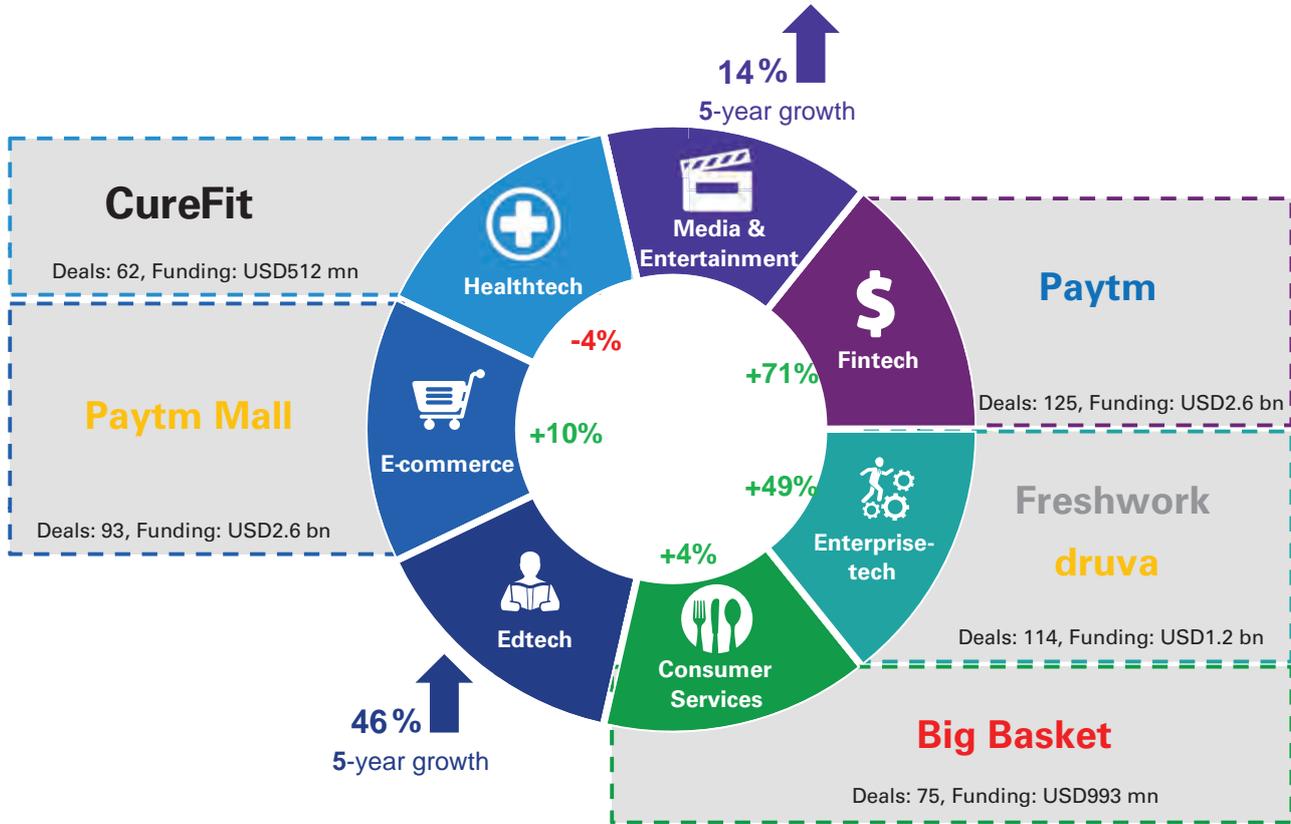
- The cumulative valuation of start-ups in 2019 stood at USD56-62 bn
- In 2019, the share of unicorns in total funding, was only 21 per cent against 48 per cent in the previous year – reflecting the depth of the Indian ecosystem
- By 2025, the Indian start-up ecosystem can realise 4X growth potential



Source: Indian Tech Start-up Ecosystem by NASSCOM (2019)

Sector Highlights

Outlined below are the major sectors that have delivered in the recent past and could pave way for more transactions in the future.



Source: Indian Tech Start-up Funding Report by Inc42 (2019), numbers inside the exhibit demonstrate year-on-year increase in fundig amount

Acquisitions by Indian start-ups

Given the strong growth in the start-up ecosystem, the significance of start-up valuation will likely increase remarkably. Further, as the global start-up ecosystem expands, cross-border acquisitions would significantly increase in the coming future. This will increase the number of transactions a company would enter into, hence, increasing the relevance of valuation.

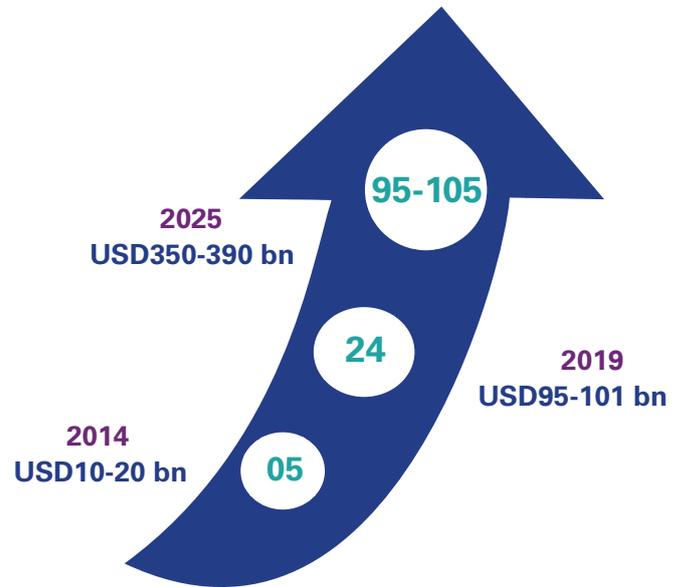
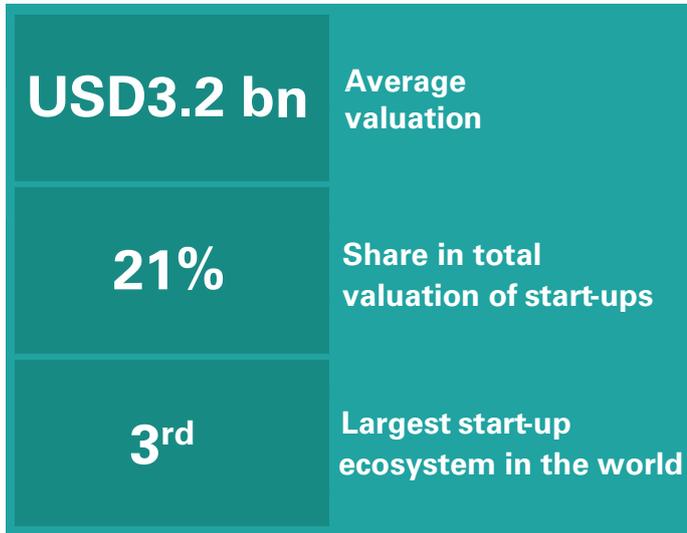


Source: Indian Tech Start-up Ecosystem by NASSCOM (2019)

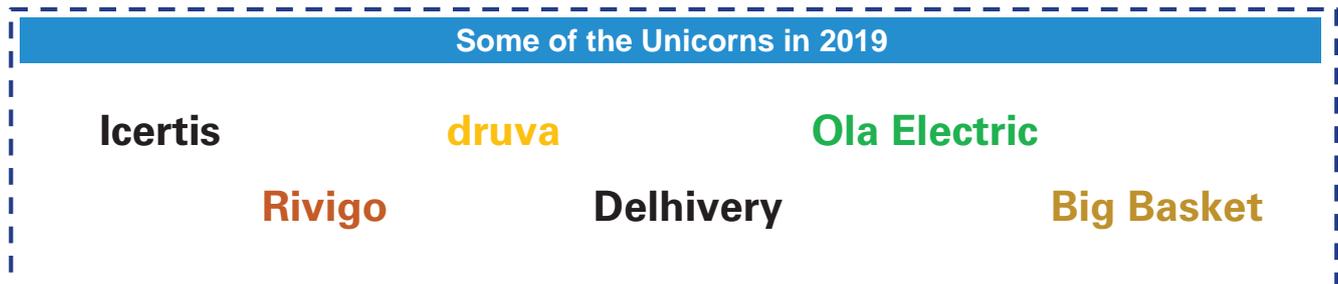
The billion-dollar dream: Unicorns

Unicorns were mythical creatures famous for the horn on their heads. Fast forward to the 21st century, the myth comes to life in the form of businesses that manage to reach a valuation of USD1 bn.

But how significant are these in India? There’s still a long way to go.



| | Number of Unicorns | Average Valuation | Average Time to Unicorn |
|--------------|--------------------|-------------------|-------------------------|
| India | 24 | ~USD3.2 bn | 6-8 years |
| U.S. | 203 | ~USD3.5 bn | 6-8 years |
| China | 206 | ~USD3.8 bn | 4-6 years |



Source: Indian Tech Start-up Ecosystem by NASSCOM (2019)

India has one of the largest pipeline of potential unicorns. This is mainly owing to the following factors:

- The pace of investment start-ups founded in 2014-19 are scaling quicker than their older peers
- These start-ups constitute almost approximately 41 per cent of the total pool of all companies with greater than USD50 mn in cumulative funding⁶.

It is more important than ever for valuers to pay special attention and exercise adequate diligence while performing the valuation of such unicorns.

6. Indian Tech Start-up Ecosystem by NASSCOM (2019)

The survival rate assessment- reality or myth?



The importance of entrepreneurship to an economy has been well-established, with innovation and job creation seen as major drivers to economic growth.

While the significance of start-ups in wealth creation may seem obvious, if those start-ups don't survive then it seems counter-productive. It could, however, be argued that even failed start-ups are an investment in the entrepreneurial capacity of their founders, which could lead to future success and an improvement in the country's entrepreneurial culture. Thus, it is clearly in everyone's best interest – entrepreneurs, employees, investors and society at large – for more new ventures to survive.

This raises many questions:

- Why do some start-ups survive while others do not? How many start-ups survive to become successful firms?
- It is said that majority of start-ups fail and such a high failure rate is often accounted for in the valuation exercise. The key questions are:
 - Is the failure rate really so high?
 - Is it applicable to all the start-ups or vary based on stage or industry?

Why do start-ups fail?

When the founder of a start-up company shuts down the business, it's customary to pen an essay, known as a 'failure post-mortem', that tells the rest of the community what went wrong. The failure post-mortem has become so common that it's practically a Silicon Valley cliché. Some of these essays are honest, enlightening, and brave. Others point fingers or issue backward non-apologies.

Based on a research conducted by CB Insights⁷ on the post-mortem essays by start-up founders to pinpoint the reasons, they believe their company failed because of the following reasons:



How many start-ups survive?

Through this paper, we are attempting to break down this argument in detail. To do this:

- we first analysed a few data points from developed markets to see the inferences we could draw
- we looked at the primary Indian data and what it implies on the survival rate for Indian start-ups

We noted that none of these reports highlighted the exact definition of success, failure or survival. Some say a start-up has failed if they have not raised a new round. Others claim that if a start-up has not reached the stage of IPO/M&A/Unicorn, they have not succeeded.

7. The Top 20 Reasons Startups Fail by CB Insights (6 November 2019)

However, to be sure, raising a follow-on round of VC money is not the best measure of a start-up's success. Some start-ups like the e-commerce giant Snapdeal have been gobbled up by peers at a much lower valuation despite bagging late-stage VC money⁸.

Then again, there are examples where, some start-ups did not need to raise a late-stage VC funding round before hitting the big league. For instance, gaming firm Nazara was backed by WestBridge Capital Partners before scaling up enough to plan a potential initial public offering (IPO)⁹.

Hence, we looked at key sources of such assessments and evaluated in detail:

Survival rate as per Prof. Aswath Damodaran

Prof. Aswath Damodaran, in his start-up valuation white paper¹⁰, talks about arriving at the value of a young company based on going concern concept and then adjusting it for survival rate. The survival rate table presented by him assumes that by seventh year only 32 per cent firms survive, and annual failure rate is 9 per cent.

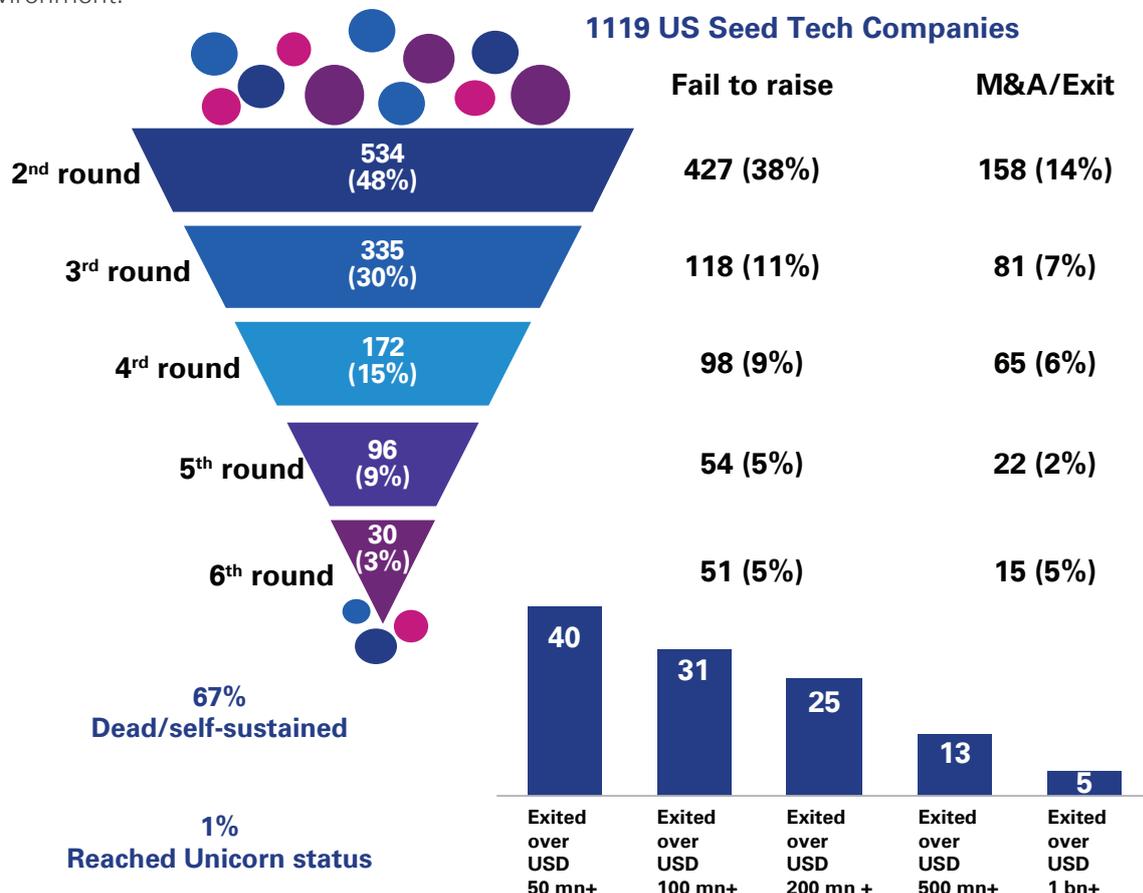
- The data is pertaining to Australian firms and dates to 1998. Markets and businesses, with sources of finance have evolved over time and this could significantly impact the survival rates in current environment.

- Additionally, the term 'survival' has not been clearly defined.
- This could be a generic survival rate and does not categorise the rate based on the stage of the business, which makes it difficult to apply to any company. Example, a company that is making huge losses in seventh year and another company which has reached a profitability milestone cannot be evaluated in the same bracket.

Venture capital funnel by CB Insights

In 2018, CB Insights have released a primary research based on start-ups that raised funds between 2008-2010 and how they evolved over time. Some of the findings are:

- Only 1 per cent of the start-ups that raise seed funds (out of 1100 start-ups) reach a stage of Unicorn
- 67 per cent of companies end up either dead or self-sustained. It is hard to know the exact breakdown for these companies as funding announcements get a significant amount of fanfare, but cash flow positivity or profitability does not. Also, some companies stumble on as zombie companies for years before calling it quits. Not to mention, the death of companies generally happens without any official announcement, i.e. there is no such thing as a "start-up death certificate".



8. Moneycontrol (12 November 2019)

9. The Economic Times (25 April 2018)

10. Valuing Young, Start-up and Growth Companies: Estimation Issues and Valuation Challenges (May 2009)

However, looking at the data in detail, we noted a few interesting trends:

- 30 per cent of seed funded companies exited through an IPO or M&A. This clearly does not tally with the assumption of 90 per cent of all start-ups fail.
- If not exited, about 16 per cent of them raise Series C-E rounds, which could be taken as an indication of survival.
- The 67 per cent of start-ups tagged as dead or self-sustaining, does not have a clear breakup of how many are dead? Out of this if we assume one-third to be self-sustaining, it can be inferred that only 44 per cent of the total set are dead.

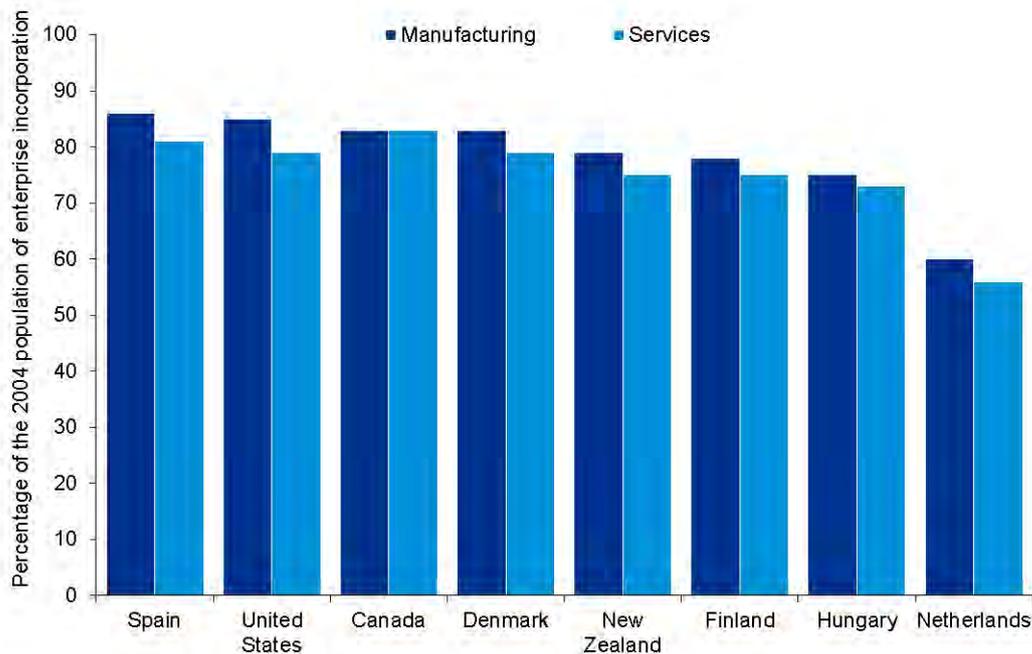
Adding all these categories of surviving start-ups could lead to a survival rate of 70 per cent, which is way higher than the survival rate considered for the whole start-up eco-system. However, there is a possible reason for such a difference in this study and the market perception:

- A lot of start-ups don't reach the stage of fund raising, which is identified to be a key reason for failure. By raising funds, these start-ups (part of the research) cross a key milestone. Hence, the survival characteristics of start-ups differs significantly from those of start-ups without one.

Survival rate study by Fisher & Reuber 2010

According to a report on the state of entrepreneurship in Canada (Fisher & Reuber, 2010), between 85–87 per cent of new Canadian businesses survive past their first year of operation, while 62 per cent exist after three years, and 51 per cent make it past their fifth anniversary, and most important 30-50 per cent survive after 10th year.

As shown below, survival rates appear to be remarkably consistent among many developed nations.



90%

Average survival rate in Canada after one year

30-50%

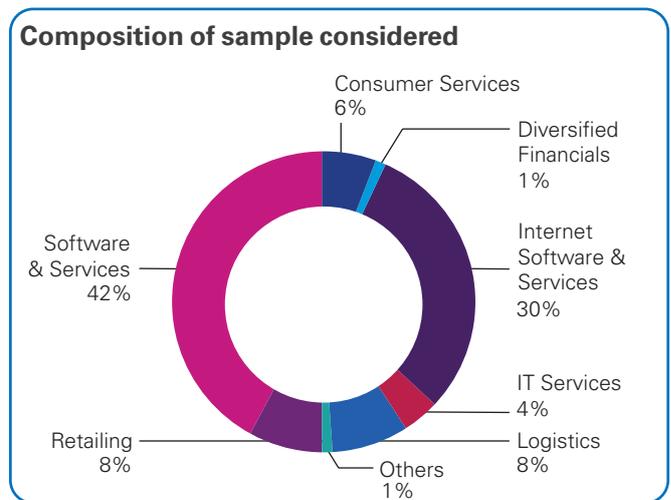
Survival rate after 10 years

However, all this analysis is for developed markets. We did our own primary analysis for Indian start-up ecosystem.

Indian start-up survival rate

The Indian start-up ecosystem is comparatively young as compared to U.S. and other developed markets and therefore, the availability of relevant data is scarce. Hence, we evaluated the survival rates of start-ups in India using historical data on Indian companies that received one or more investments from PE or VC funds (~2700 companies) over a period of 10 years from 2009 to 2019¹¹. This data was supplemented with additional data collected from several sources to create a unique dataset.

To assess and perform the analysis with meaningful resources, we limited our research to just a few sectors across industries like Internet and software services, logistics, edtech, fintech and e-commerce.



Each company was verified as operational from multiple sources including the Ministry of Corporate Affairs (MCA) data, annual reports and company’s websites.

To summarise, if a company has not reported its financials, not listed on MCA website as active, does not have an active website and is not mentioned in any news articles, the company is assumed to be closed. Rest of the companies are assumed to be surviving for that year. This analysis was repeated for each year and the result is presented below:

| Consolidated | Incorporation year | | | | |
|--------------|--------------------|--------|--------|--------|--------|
| | 2009 | 2010 | 2011 | 2012 | 2013 |
| 2009 | 99.21% | | | | |
| 2010 | 99.21% | 96.39% | | | |
| 2011 | 99.21% | 94.58% | 97.37% | | |
| 2012 | 97.64% | 93.37% | 94.74% | 93.17% | |
| 2013 | 96.06% | 88.55% | 92.11% | 90.99% | 94.74% |
| 2014 | 95.28% | 87.35% | 89.10% | 89.44% | 92.98% |
| 2015 | 92.13% | 84.34% | 86.84% | 85.71% | 90.18% |
| 2016 | 88.98% | 82.53% | 82.71% | 82.61% | 83.16% |
| 2017 | 84.25% | 80.12% | 78.95% | 77.33% | 80.35% |
| 2018 | 82.68% | 77.11% | 70.30% | 74.53% | 75.44% |

Source: VCC Edge, KPMG in India’s analysis 2020

Based on the above, it can be inferred that the average survival rate from 2009-13 is about 75 per cent, which is way higher than the survival rate considered for the whole start-up eco-system of just 10 per cent. There are few possible reasons for such a difference:

- A lot of start-ups in India imitate the successful models in U.S. or China. This is evident from the fact that in 2015, Indian companies filed for ~1,423 international patents, while China filed 29,846¹². This may imply that Indian businesses are not innovating enough and are not taking enough risks. This may lead to a higher

survival ratio. However, this may also lead to lower number of successful businesses, such as unicorns (24 unicorns in India vs 206 in China).

- As mentioned previously, most of the start-ups don’t reach the stage of a fund raise, which is identified to be a key reason for their failure. Hence, upon crossing this milestone, the survival rate increases significantly.

While performing valuation for a start-up, the survival analysis should consider the stage and milestones achieved by the start-up and should not get influenced by the generic survival rates suggested by media sources.

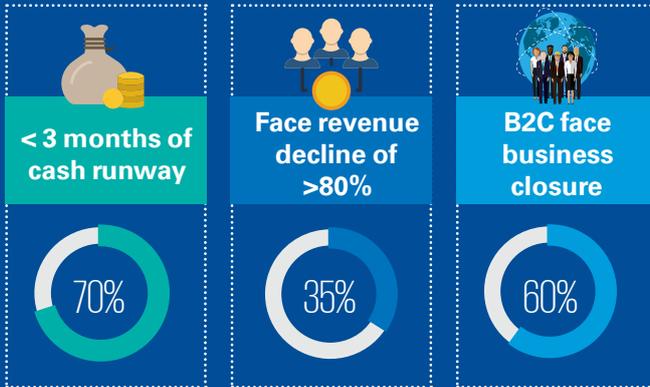


11. VCC Edge Database

12. Livemint (21 March 2016) /World Intellectual Property Organization

COVID-19: Are Indian start-ups ready for their biggest challenge?

Crisis makes survival difficult

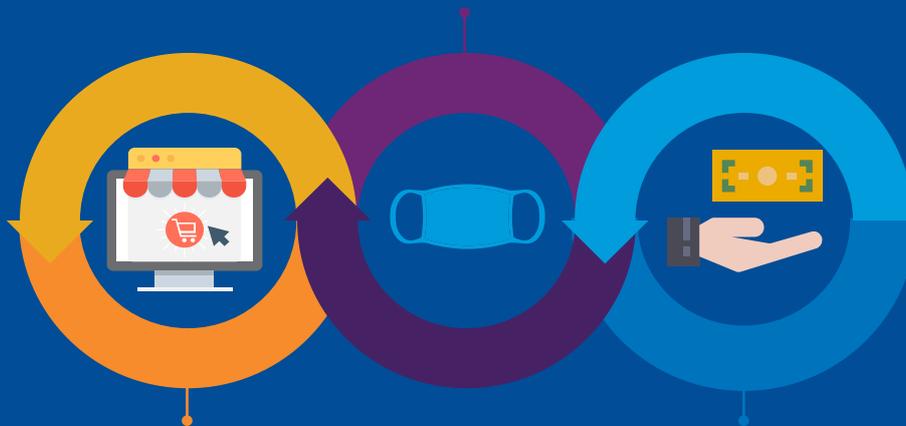


...but are the Investors here to their rescue?

- Q1 2020 saw the **lowest** private capital investment in the past five quarters
- About **80 per cent** of the VC firms do not want to make investments in the short term
- A recent FDI mandate requires every Chinese investment to have the **Government's prior approval**, disrupting the emergency funding

Adapting to the changing circumstances

Start-ups like The Souled Store are becoming future-ready by **selling designer face masks and comfort wear (boxers)**



Many e-commerce aggregators like Amazon have started the **supply of essential items** through their platform

Emergence of venture debt as start-ups wary raising equity on distressed valuations

For these start-ups, COVID-19 has been a blessing in disguise

Vedantu

Ed-tech platform, Vedantu added 250,000 new users in just 15 days (as against previous 50,000 p.a growth).

Toppr

Toppr saw 100 per cent m-o-m growth in number of paid users. Further, it saw 50% surge in traffic even after the exams were over.



Source: NASSCOM Start-Up Pulse Survey – Q1 2020: Reviving The Indian Tech Start-Up Engine During COVID 19, Yourstory (21 April 2020), The Economic Times (27 April 2020)

Valuation methodologies and common approaches



“How do we value a start-up or so-called corporate teenagers?”

Before we address this question, let us first broadly outline the crucial challenges in valuing these young companies.

Key Challenges

Assumptions

Limited historical information to benchmark forecast performance.

Discount rate

Most companies are not publicly traded, making it challenging to assess the risk profile.

Comparable companies

Limited comparable companies and transactions to benchmark performance and value.

Terminal value

Existing assets represent a small proportion of the overall valuation.



As a result, many of the standard methods, such as the ‘discounted cash flow’ method, either do not work or yield unrealistic numbers leading to a deadlock.

What do the experts say?

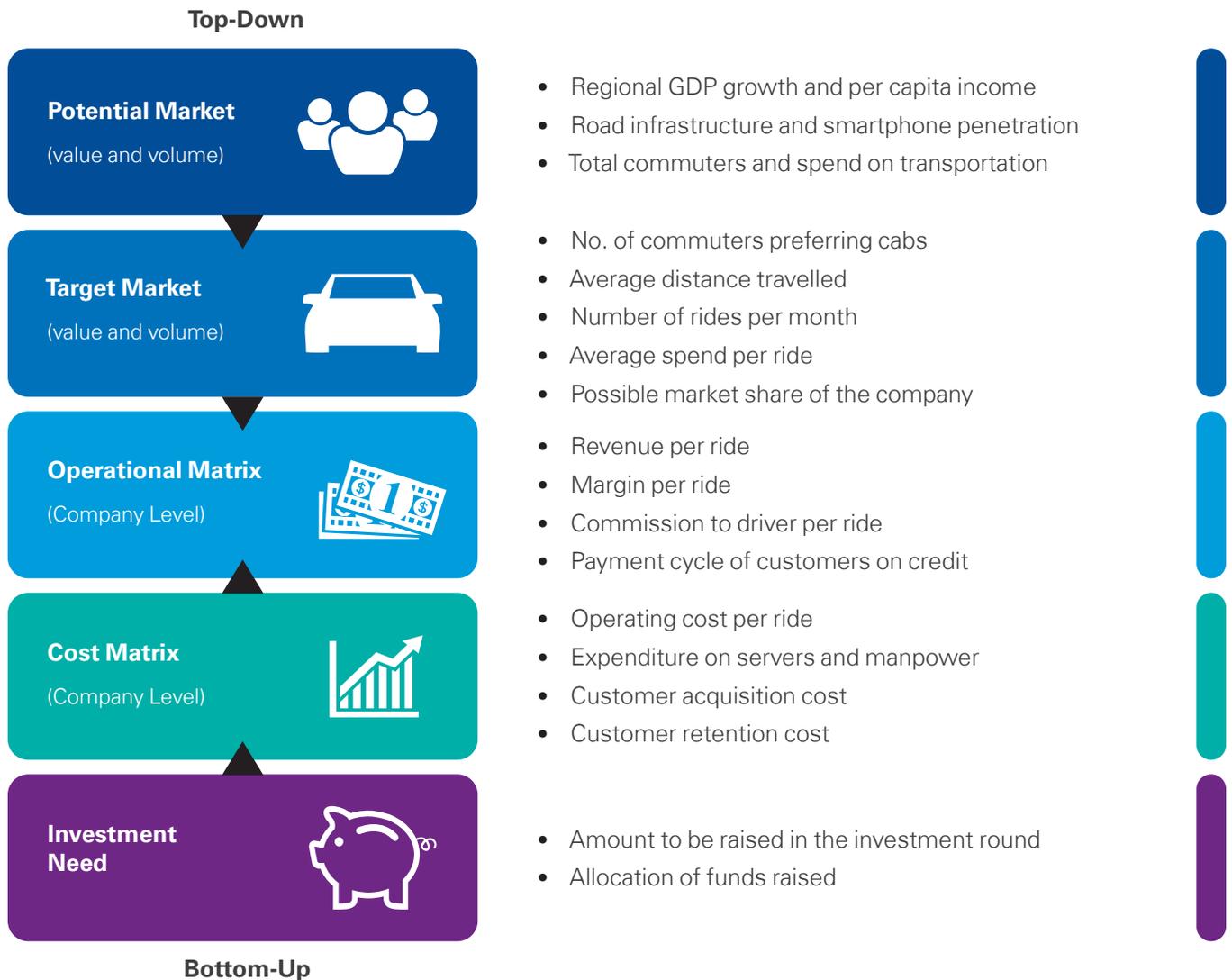
We examined various research papers and well-accepted standards issued by various sources (e.g. Prof. Damodaran) and institutes (including, AICPA and IPEV guidelines). In the ensuing paragraphs, we have summarised the central themes of such research papers, while addressing the possible tweaks to the traditional valuation methods in order to align them with our requirement.

Discounted Cash Flow method (DCF)

A. Estimating the cash flows:

When it comes to applying DCF for a start-up, one of the most challenging assumption is that of estimating the cash flows during forecast period.

There are two ways in which we can approach the estimation process: using top-down or bottom-up approach. Let us understand the same with the help of an example of the ride-sharing aggregator, Ola.



This technique serves as an effective tool to estimate cash flows, based on available market data and basic logical analogies. Further, one can benchmark key assumptions with the market and industry, which are easily available. However, this requires an in-depth understanding and knowledge of key drivers for the business.

The valuer can also conduct a scenario and sensitivity analysis, in order to achieve a reasonable level of assurance on the key revenue and cost drivers. In cases of extreme volatility, weights can be assigned to different scenarios to arrive at more realistic cash flows.

Another significant aspect to be considered is to evaluate the long-term margin of the business. One may impulsively say that a traditional brick-and-mortar store and an online marketplace will have significantly different margins. In the short-to-moderate term, this proposition is certainly apt given that both have different delivery models, and hence, the nature of expenses is bound to be different. But, can we guarantee this trend to last in the long run? Maybe not.

Both the models are essentially offering the same product/service. Hence, it is imperative to state that there will eventually be the need to be omnichannel to expect the margins to converge.

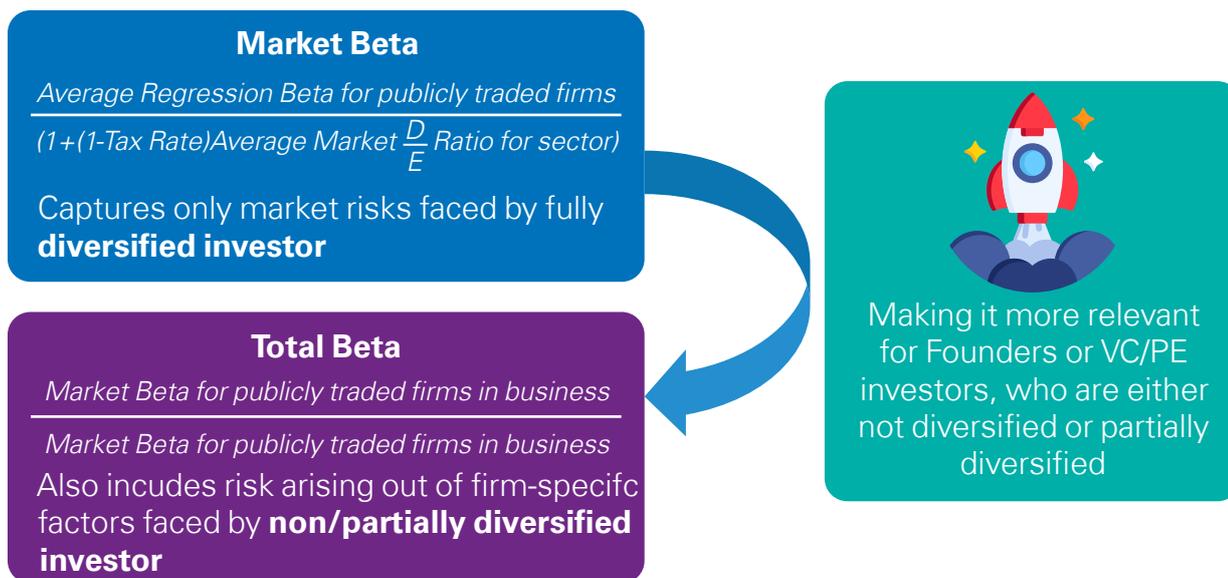
B. Discount Rates

The discount rate is the next critical component in conducting the valuation exercise. This is essentially the rate of return used to discount the forecasted cash flows to its present value. This metric is most commonly computed using the Capital Asset Pricing Model (CAPM) approach.

Since the discount rate is closely associated with the risk of the investment under consideration and profile of investors, the concept becomes highly relevant in case of a start-up. So how does one adjust this discount rate while valuing a start-up?

While we address this question, it is important to highlight that the CAPM approach makes an implicit assumption of the investor holding a diversified portfolio. Most of the start-ups are backed by either friends and family or sophisticated venture capital or private equity investors and none of them can be categorised as fully diversified investors.

This elicits an adjustment to the approach by fine-tuning the beta, which regresses the market to the business. The following graphic further elaborates about the said adjustment.



At the initial phase and low correlation with markets, the total beta will be much higher than the market beta, resulting in an uplift in the cost of equity to reflect a founder's rate of return. However, as a start-up climbs the growth ladder, it attracts investments from venture capitalists who tend to be slightly more diversified through their stake in multiple companies. Such investments portfolio will be more correlated with the market than an individual company, and the resulting total beta to a venture capitalist will be relatively lower. Eventually, upon maturing to a stable business with high correlation with market, market and total beta is expected to converge.

Typically, discount rates considered by venture capitalists are set high enough to capture both the perceived risk in the business and the likelihood of a possible failure. Here below is the usual highlighted range of discount rates based on lifecycle, considered by venture capitalists¹³.

| Stage of development | Typical discount rates |
|----------------------|------------------------|
| Start-up | 50-70% |
| First Stage | 40-60% |
| Second Stage | 35-50% |
| Bridge/IPO | 25-35% |

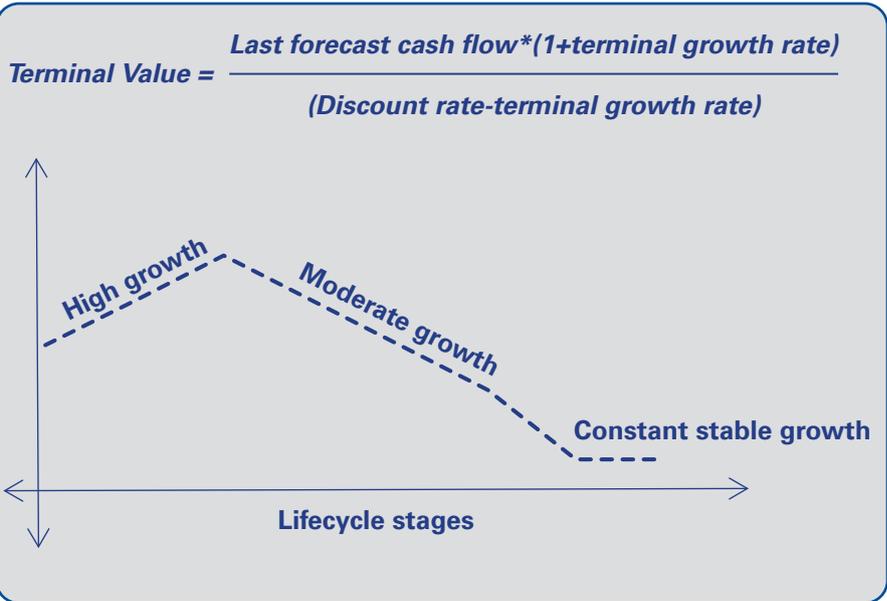
The ingrained survival risk keeps these discount rates way above their publicly listed peers. But as discussed in the previous section, a generic survival rate is not appropriate to be applied. Hence, these rates should be used with caution and after in-depth understanding of the business, its stage and comparison with the slabs mentioned above.

13. Valuing Young, Start-up and Growth Companies: Estimation Issues and Valuation Challenges- by Prof. Aswath Damodaran (May 2009)

C. Terminal value

The final piece to the DCF puzzle is terminal value. An assumption that a business will continue to operate for the foreseeable future, or as a going concern is typically made. However, given the uncertainty with which a start-up lives, this assumption needs to be revisited and should be analysed in much deeper detail.

One of the most common methods is to extend the forecast period to account for multiple growth rates (multi-stage model), relevant to the stages of business captured until the business reaches the phase of constant growth (also called terminal growth).



A terminal growth rate is usually in line with the long-term rate of inflation, but not higher than the long term expected nominal GDP growth rate.

Another frequently used method involves arriving at the terminal value by using an exit multiple. The value is determined by multiplying the terminal year financial metric, say revenue, EBITDA or industry-specific metric by the exit multiple.

For the purpose of arriving at the exit value, a simple yet conservative assumption could be, that the business will be sold at the end of the forecast period and the realisable value of the assets accumulated over life is the terminal value. Let us also have a look at the possible ways of evaluating a start-up’s survival for arriving at the terminal value.

- 

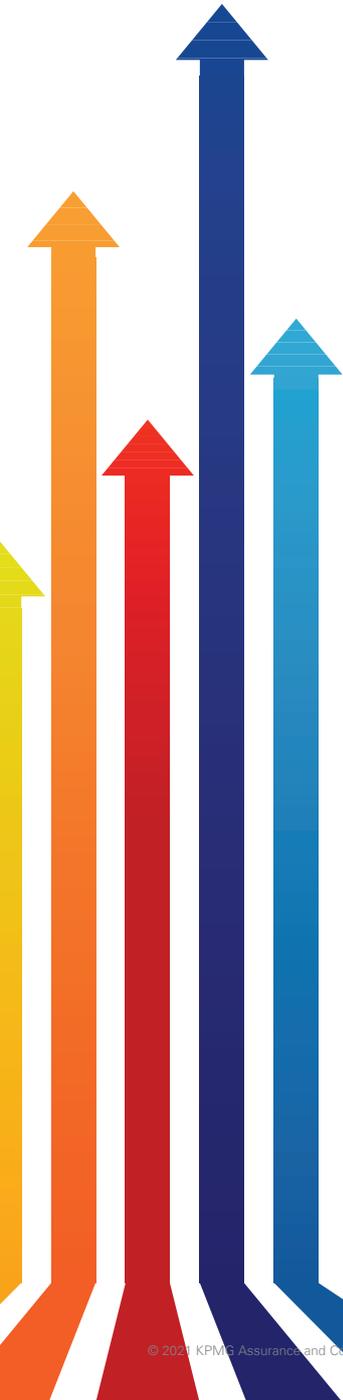
Use the sector averages as the probability of survival for individual firms in the sector.
- 
 - Analyse the firms that have succeeded and failed over a time period.
 - Build a model to predict the probability of failure as a function of firm specific characteristics-age, founders, the business it is in, debt it owes.
- 

With the probability of failure (pf) estimated, value of the firm can be simulated as an expected value of the two scenarios:

 - A. Intrinsic value under the going concern scenario
 - B. Distress value under the failure scenario.

Expected Value= $A * (1 - pf) + B * (pf)$

A collective look at the pillars of a discounted cash flow method, makes it clear that there are significant adjustments to be factored while arriving at the value. From estimating the cash flows to arriving at the terminal value, a high-level of judgement and subjectivity is involved. Hence, this method is often not preferred as a primary method to value start-ups.



Private transaction multiples

Since we are valuing a young, private business, it is only logical to look at what others have paid for similar businesses in the recent past. The usual steps to apply this method are as under:

- 1 Gather dataset of other similar young, private businesses (similar business, size and lifecycle), that have been bought/sold and the respective transaction values.
- 2 Scale these values to a common variable (revenues, earnings or sector specific metric) and compute a typical multiple that acquirers have been willing to pay.
- 3 Applying this multiple to the same variable for the company being valued should yield an estimated value for the company.

One of the drawbacks of using the above transactions is that most of them are not at an arm's length price. Private business transactions are infrequent and reflect the fact that the same private business will not be bought and sold dozens of time during a period. There are multiple differences in accounting and operating standards across private companies, making the metrics incomparable at times.

To address the first issue, a valuer can always start with a large dataset of companies and collect all transaction data. This will then facilitate to screen the data for transactions that look suspicious (and are thus likely to fail the arm's length test). While this is highly dependent on the valuer's judgement, it offers a reasonable resolution. As a counter to the problem of wide differences in accounting and operating standards, one can focus on metrics such as revenue/sales, which have low or nil chances of being affected by changing accounting standards.

In addition to the traditional metrics, several industry specific variables are often used to value start-ups.

Annual Recurring Revenue (ARR)
focuses on committed or fixed component of the revenue, rather than one-time fees. Number of subscribers is another common metric.

TVF Play

CureFit

Zoho

Monthly active users (MAU)
indicates the number of unique customers who interacted with a product or service within a month.

TikTok

Bumble

Shiprocket

Flipkart

Gross Merchandise Value (GMV)
refers to the aggregate value of the services sold through a marketplace over a certain time frame. Revenue is a component of GMV

There can be several such variables based on the industry and peculiarity of the product/service offering of the start-up. Application of these EV multiples requires a high-level of judgement and knowledge of the relevant industry.

Public transaction multiple

While private company data is difficult to obtain, public company data is widely available. However, does this data hold the same utility as that of a private company?

This brings us to address a fundamental question – whether the young start-ups are comparable to a listed company? One may say that they belong to the same industry, meet the same customer needs, and are even dependent on similar macro-factors.

There are different facets of a start-up, and the most prominent and relevant one is the risk factor: the high probability of failure. This significantly differentiates a start-up from a listed company. Moreover, factors such as ill-liquidity and scale of operations further make this method unsuitable for valuing the start-up.

There are numerous methods suggested by experts and used exclusively to value start-ups. Let us evaluate each of these methods and understand if they are relevant in today's start-up ecosystem.



Valuation methods for start-ups



Below, we highlight various methods proposed by industry participants from around the world to value start-ups. For ease of understanding and suitability, we analyse the possible merits, demerits of each method and illustrate it with an example.

1. Berkus method

This method, developed by David Berkus, is meant to value companies in their pre-revenue stage, with a potential to reach USD20 mn in revenues in the next five years.

It is based on an assessment of five key success factors for building a business. The method assigns a value of up to USD0.5 mn based on the strength of each factor/element of risk.

| Criteria | Max value allocated (USD mn) | Deciding criteria |
|-------------------------------------------------------------|------------------------------|----------------------------------------------------------------------------|
| Sound Idea (basic value) | 0.5 | Uniqueness and utility of the product/service |
| Prototype (technology risk) | 0.5 | Nature and complexity of the technology used |
| Quality Management Team (reducing execution risk) | 0.5 | Skills possessed by the management and their experience in similar sector |
| Strategic Relationship (reducing market risk) | 0.5 | Supply chain strength and strategic partnerships |
| Product rollout and sales (reducing production risk) | 0.5 | Risk of production, inventory management, stock out and revenue generation |
| Total amount | 2.5 | |



Illustration

| Thunder Car Pvt Ltd | Max value allocated (USD mn) | Value allocated (USD mn) |
|-------------------------------------------------------------|------------------------------|--------------------------|
| Sound Idea (basic value) | 0.50 | 0.50 |
| Prototype (technology risk) | 0.50 | 0.33 |
| Quality Management Team (reducing execution risk) | 0.50 | 0.27 |
| Strategic Relationship (reducing market risk) | 0.50 | 0.29 |
| Product rollout and sales (reducing production risk) | 0.50 | 0.40 |
| Company valuation | 2.50 | 1.79 |



Merits

- Sets out basic fundable characteristics which have been widely regarded as key value drivers in a start-up.
- Suitable to value pre-revenue stage companies or where financial inputs are not available, and revenues are difficult to forecast.



Demerits

- Limited value attribution to an individual criterion. For instance, WhatsApp reached a bn-dollar valuation by faring in quality management team and ideation, while still not making any revenue.
- High level of judgement is involved in assigning value to the parameters.
- Puts a cap to the valuation (USD2.5 mn).

Some risk elements may be missing from the analysis.

- What is the level of competition in the sector of the target company?
- How significant is the opportunity for the investors considering funding this target company?
- How essential is the depth of intellectual property and market differentiation to the target company?

2. Scorecard valuation method

This method, developed by Bill Payne, focuses not only on the valuation of the recently funded pre-revenue start-ups, but also critically evaluates key factors that influence the valuation.

The valuation exercise can be brought down to four simple steps:

- Compute the average/median pre-money valuation of pre-revenue start-ups in the region and business sector of the target start-up
- Now, evaluate the weights to be allocated to the key drivers for the target start-up, using the following scorecard

| Criteria | Weight |
|---------------------------------------|-----------|
| Strength of the management team | Up to 30% |
| Size of the opportunity | Up to 25% |
| Product/technology | Up to 5% |
| Competitive environment | Up to 10% |
| Marketing/sales channels/partnerships | Up to 10% |
| Need for additional investment | Up to 5% |
| Other | Up to 5% |

- The next step is to assign a factor to each of the above qualities by comparing them with the other funded start-ups (considered in the first step). For instance, if the target start-up has a more experienced team than the other funded start-ups, a factor of 1.5 could be allocated.
- The final step is to calculate the sum of the factors adjusted with respective weights and subsequently multiply it with the average pre-money valuation as per the first step.



Illustration

Valuing Company 'Thunder Car Pvt Ltd'

| Comparable company | Pre-money valuation (USD mn) |
|-------------------------|------------------------------|
| Thunder Lorry Pvt Ltd | 289 |
| Thunder Blunder Pvt Ltd | 375 |
| Thunder Pulley Pvt Ltd | 313 |
| Average (A) | 326 |

| Factor | Weight (A) | Factor (B) | (A*B) | Deciding criteria |
|------------------------------------------------|-------------------|------------|-------------|--------------------------------------------------------------------------------|
| Strength of management team | 0.30 | 1.5 | 0.45 | Skills possessed by the management |
| Size of opportunity | 0.25 | 1.3 | 0.33 | Scalability of the product/service and estimation of the potential market size |
| Product / Technology | 0.15 | 1.8 | 0.27 | Nature, complexity, utility of the technology |
| Competitive Environment | 0.10 | 1.6 | 0.16 | Density of the market and edge over competition |
| Marketing / Sales Channels Partnerships | 0.10 | 0.7 | 0.07 | Supply chain strength and strategic partnerships |
| Need for additional Investment | 0.05 | 0.7 | 0.04 | Chances of company going for a further round of funding |
| Others | 0.05 | 1.0 | 0.05 | Usual adjustment |
| Total (B) | | | 1.36 | |
| Valuation (A*B) | (326*1.36) | | 443 | |



Merits

- Considers qualitative aspects along with focusing on financial inputs from comparable companies.
- Flexible method as it enables a valuer to increase the total adjustment to a qualitative factor by making comparison with peers.
- Highly suitable for pre-revenue companies where minimal data points are available.

Demerits



- The scorecard elicits high-level of subjectivity as weights assigned to qualitative factors may significantly differ from case-to-case.
- High-level of judgment to assess the differentiating factor – that is, the level at which the target start-up is at an advantage/ disadvantage to its peers.

However, we still feel this method covers both the market inputs and company specific characteristics, which is ideally likely to be among the best way to value any business. We understand subjectivity and viewpoint bias can impact the value using this method. However, for a pre-revenue company, this method appears to be the most suitable way to value.

3. Risk factor summation method

This method uses base-value of the comparable companies (using transaction multiples) for the valuation of the target start-up. Subsequently, this base-value is adjusted for 12 standard risk factors by comparing the target start-up with its peers in terms of the level of risk.

Like one would recall, this method is similar to the scorecard valuation method, the only difference being that the latter focuses more on qualitative adjustment factors (forming part of a scorecard), instead of identified risk factors.

The factors are:

Management
.....
Stage of the business
.....
Legislation/Political risk
.....
Manufacturing risk
.....
Sales and marketing risk
.....
Funding/capital raising risk
.....
Competition risk
.....
Technology risk
.....
Litigation risk
.....
International risk
.....
Reputation risk
.....
Potential lucrative exit

Each element is assessed as follows:

| Criteria | Weight |
|----------------------|--------|
| Very positive | +2 |
| Positive | +1 |
| Neutral | - |
| Negative | -1 |
| Very negative | -2 |

The base-value is then adjusted positively by USD250,000 for every +1 (+USD500K for a +2) and negatively by USD250,000 for every -1 (-USD500,000 for a -2).



Merits

- Considers qualitative aspects along with focusing on financial input from comparable companies.
- Holistic evaluation of risk factors vis-a-vis comparable companies, making it much more informative than scorecard evaluation method.
- Highly suitable for pre-revenue companies where minimal data points are available.



Illustration

| Comparable company | Pre-money valuation (USD mn) |
|--------------------------------|------------------------------|
| Thunder Lorry Pvt Ltd | 289 |
| Thunder Blunder Pvt Ltd | 375 |
| Thunder Pulley Pvt Ltd | 313 |
| Average (A) | 326 |

| Risk element | Factor assigned | Adjustment value (USD mn) |
|-----------------------------------------|-----------------|---------------------------|
| Management | 2 | 0.50 |
| Stage of business | -1 | (0.25) |
| Legislation/Political risk | -2 | (0.50) |
| Manufacturing risk | 0 | - |
| Sales and marketing risk | 1 | 0.25 |
| Funding/Capital raising risk | 1 | 0.25 |
| Competition risk | -1 | (0.25) |
| Technology risk | -2 | (0.50) |
| Litigation risk | 2 | 0.50 |
| International risk | 2 | 0.50 |
| Reputation risk | 2 | 0.50 |
| Potential lucrative exit | 0 | - |
| Total value adjustment (A) | | 1.00 |
| Pre-money valuation (USD mn) (B) | | 326 |
| Total valuation (A+B) | | 327 |

Demerits



- High-level of subjectivity as allocation of weights (+1 or -1) assigned to risk factors may significantly differ from case to case.
- Attribution of +1 point to different risk factors may not be contributing the same amount of value to the business.

4. Gross profit X competitor's multiple method

As the name suggests, this method is simply a product of the gross profit of the target start-up and multiple derived from the comparable companies.

Gross profit is an indication of product market acceptance, company health, and market penetration. It is useful specifically in case of start-ups as most of them aren't profit optimised and consistently invest back into their business.



Illustration

Valuing Company 'Thunder Car Pvt Ltd'

| Comparable company (Listed) | GP per share for LFY | GP per share for LFY-1 | Average | Average MPS for LFY | Average MPS for LFY-1 | Average | P/GP ratio |
|-----------------------------|----------------------|------------------------|---------|---------------------|-----------------------|---------|------------|
| Surrender Car Ltd | 19 | 22 | 21 | 90 | 110 | 100 | 4.9 |
| Blunder Car Ltd | 17 | 14 | 16 | 34 | 45 | 39.5 | 2.5 |
| Splendor Car Ltd | 21 | 28 | 25 | 34 | 17 | 25.5 | 1.0 |
| Median | | | | | | | 2.5 |

| Particulars | USD mn |
|---------------------------------------------------|-------------|
| Gross profit for Thunder Car Pvt Ltd | 4.0 |
| Number of shares (In mn) | 3.5 |
| GP per share {In USD} {A} | 1.2 |
| Industry P/GP ratio (determined above) {B} | 2.5x |
| Price per share {In USD} {A*B} | 2.9 |
| Number of shares (In mn) | 3.5 |
| Equity value of company | 10.2 |



Merits

- Suitable for start-ups where financial data is difficult to forecast.
- Suitable to value start-ups incurring losses at the EBITDA / PAT level or the companies that can at least cover their variable costs.



Demerits

- Inconsistent method, as gross profit as an income belongs not only to the equity stakeholders, but also debt and preference stakeholders.
- This method can become misleading when costs are not appropriately categorized as cost of sale.
- Not suitable for start-ups operating in the services industry.

5. First Chicago Method

The First Chicago method is a hybrid approach that employs multiples to derive a terminal value and discounts future cash flows to arrive at the valuation. This method involves the evaluation of three possible valuation scenarios.

- “Best case” is based upon performance that exceeds expectations
- “Base case” is what the majority believes to be the future performance of the company
- “Worst case” forecasts company performance if many contingencies go off-track.

This method can be divided into the following steps:

- Projecting future cash flows in the above three scenarios. The best case can assume aggressive top-line growth coupled with higher than historical EBITDA margin. In the worst case, the thought process would work opposite.
- The final year’s cash flows are multiplied by a comparable company multiple to project a terminal valuation for each scenario.
- Discount the cash flows using the required return and arrive at the valuation under each scenario.
- Assign probability weight to each of the scenarios. Now, by multiplying the individual values with respective probability weights, arrive at the final valuation.



Illustration

Valuing Company ‘Thunder Car Pvt Ltd’

| Forecast (USD mn) | 2021 | 2022 | 2023 | 2024 | 2025 | Terminal Value |
|-------------------|------|------|------|------|------|----------------|
| Best case | 460 | 529 | 608 | 700 | 805 | 6,436 |
| Base case | 440 | 484 | 532 | 586 | 644 | 5,154 |
| Worst case | 420 | 441 | 463 | 486 | 511 | 4,084 |

Other inputs:

- Comparable Company multiple = 8x (Can also be adjusted based on scenario)
- Required rate of return= 25 per cent

| Risk element | Best (A) | Base (B) | Worst (C) |
|-----------------------------------------------|--------------|----------|-----------|
| Equity value after adjustment (USD mn) | 3,677 | 3,074 | 2,560 |
| Probability of scenario | 30% | 50% | 20% |
| Equity value (weighted average) | 1,103 | 1,537 | 512 |
| Total equity value (A+B+C) | 3,152 | | |



Merits

- By evaluating a range of outcomes, this method extensively accounts for the uncertainty involved in case of a start-up.
- High level of flexibility in terms of selection of method to compute values under each scenario.

Demerits



- High-level of judgement involved in assigning probability to different scenarios.
- To compute multiple scenarios, the valuer needs to have good level of industry knowledge and understanding of key value drivers.

6. 5x Your Raise Method

This method, devised by Ajay Anand (Founder, Rare Carat), focuses more on the funding raised from an investor for the purpose of conducting the valuation.

With a rule of thumb that investors will desire around 20 to 25 per cent return, the value can be simply computed by multiplying the funding raised by five.



Illustration

Valuing Company 'Thunder Car Pvt Ltd'

The company raises a funding of USD80 mn. The method estimates the company's value at 5x the funding, i.e. USD400 mn.



Merits

- Highly intuitive method (just multiply the last funding with five).
- Suitable for start-ups where financial data is difficult to forecast.



Demerits

- Fails to consider qualitative aspects of the business (management team, product/service, competition)
- Does not analyse any financial metric (revenue, EBITDA) relevant to the start-up for the purpose of conducting the valuation
- Does not consider comparable companies or transactions for the purpose of benchmarking the value.



7. Venture Capital method

The venture capital method (VC Method) is one of the most common methods for computing the pre-money valuation of start-ups.

The valuation exercise is a simple three-step process:

- Derive the terminal value of the business in the final forecasted year. This is the most commonly computed by multiplying the projected financial metric (revenue/EBITDA/sector-specific) by the comparable companies' transaction multiple.
- The terminal value is then discounted by using the desired ROI of the investors.
- Finally, the present value as per the second step is reduced by the investment value to arrive at the pre-money valuation.

$$\text{Pre- Money Valuation} = \frac{\text{Terminal Value}}{(1+\text{ROI})^{\text{forecast years}}} - \text{Investment Value}$$



Illustration

Valuing Company 'Thunder Car Pvt Ltd'

Assumptions

| Particulars | Value |
|----------------------------------------------------------|-------|
| Required rate of return for the investors {A} | 20% |
| Exit year {B} | 5 |
| Projected revenue in year 5 (USD m) | 500 |
| Projected PAT in year 5 | 50 |
| Industry average P/E ratio | 20 |
| Exist value (USD Million)- Terminal value {C} | 1,000 |
| Existing stake of founders (%) | 100% |
| Funding required (USD Million) {D} | 25 |
| Existing number of shares held by founders (Million) {E} | 2 |
| Stake offered for fund raising | 20% |

Valuation workings

| Particulars | Value |
|------------------------------------------------------------------------|---------------|
| Present value of exit value (Post money valuation) $\{F=C/(1+A)^B\}$ | 402 |
| Pre money valuation $\{G=F-D\}$ | 377 |
| Stake for investor $\{H=D/F\}$ | 6% |
| Number of shares to be issued to investors (Million) $\{I=E/(1-H)*H\}$ | 0.13 |
| MPS $\{D/I\}$ | 188.44 |



Merits

- Suitable for start-ups where key financial variables can be reasonably estimated

Demerits



- Fails to consider qualitative aspects of the business (management team, product/service, competition).
- Value is highly influenced by subjective assumptions on projected revenue/EBITDA and investor's required rate of return.

8. Valuation by stage method

The valuation by stage method is often used by angel investors to understand the broad range of a start-up's valuation. The stage of development acts as an intuitive indicator of the level of risk involved in the start-up, hence, directly impacting its valuation.

A valuation range can be determined by using the following:

| Stage of development | Value assigned (USD) |
|------------------------------------------------------------------------|----------------------|
| Has an exciting business idea or plan | 250,000-500,000 |
| Has a strong management team to execute the plan | 500,000 -1 mn |
| Has a final product or technology prototype | 1 mn -2 mn |
| Has strategic alliance or partners, or signs of a customer base | 2 mn-5 mn |
| Has clear signs of revenue growth and obvious pathway to profitability | >=5 mn |

Start-ups with just a business plan will receive a small valuation, but that will substantially increase as developmental milestones are achieved.



Illustration

| Stage of development | Check |
|------------------------------------------------------------------------|---------|
| Has an exciting business idea or plan | ✓ |
| Has a strong management team to execute the plan | ✓ |
| Has a final product or technology prototype | ✓ |
| Has strategic alliance or partners, or signs of a customer base | Partial |
| Has clear signs of revenue growth and obvious pathway to profitability | X |

In this case, valuation should ideally translate between USD 2-5 mn



Merits

- Highly objective method as one can clearly determine the stage of development by conducting a simple analysis.
- Suitable for start-ups where financial data is difficult to forecast.
- Stage of development as a parameter to ascertain the level of risk has been widely accepted amongst the angel investors.

Demerits



- Generalises the range of valuation across different sectors.
- Does not analyse any financial metric (revenue, EBITDA) relevant to the start-up for the purpose of conducting the valuation.

9. Cost to Duplicate/Replacement Cost Method

This approach involves looking at the hard assets of a start-up and working out how much it would cost to replicate the start-up. The idea is that an investor wouldn't invest more than it would cost to duplicate the business.

For instance, if we wanted to find out the cost to duplicate a software business, we would look at the labour cost for programmers and the amount of programming time that has been used to design the software.



Illustration

Valuing Company 'Thunder Car Pvt Ltd'

| Business Components | Value (USD mn) | Remarks |
|------------------------|----------------|--------------------------------|
| Tangible assets | 200 | Replacement value taken |
| Employee cost | 95 | Present value of employee cost |
| Working capital | 27 | For operational requirements |
| Total valuation | 322 | |



Merits

- Considers a realistic approach of pooling all the resources needed to start a similar business.
- Factors the fair values (instead of historical values).
- Suitable for start-ups where financial data is difficult to forecast or the ones in the pre-revenue phase.



Demerits

- Not forward looking as it does not factor the potential value increase due to milestones to be achieved.
- Fails to factor intangible assets like brand value, reputation in the market.
- Computation of value derived through employees is based on several assumptions such as future salary cost, attrition rate, which brings in subjectivity.



10. Comparable Company Transaction Method

While this method is frequently applied in valuing a traditional well-established business, it also holds significant utility in determining the value of a start-up. It becomes effective only when a start-up has other comparable start-ups operating in the same market. Given the phase of their lifecycle, it is likely that these comparable start-ups attract VC/PE investment. Hence, the multiples in such transactions can be a useful benchmark to value the target start-up.



Illustration

Valuing Company 'Thunder Car Pvt Ltd'

| Targets in Comparable transactions | Revenue growth (3 yr CAGR) | Average EBITDA Margins (3 years) | GMV (Latest in INR mn) |
|------------------------------------|----------------------------|----------------------------------|------------------------|
| Thunder Car Pvt. Ltd | 46% | 29% | 100 |
| Storm Cars Pvt. Ltd | 38% | 28% | 88 |
| Car Zone Pvt. Ltd | 49% | 33% | 76 |
| Fast Cars Pvt. Ltd | 45% | 31% | 120 |
| Car X Pvt. Ltd | 42% | 35% | 111 |

Detailed analysis of key metrics of comparable Start-ups

| Targets in Comparable transactions | Enterprise Value (INR mn) | LTM Revenue (INR mn) | EV/ Revenue |
|------------------------------------|---------------------------|----------------------|-------------|
| Storm Cars Pvt. Ltd | 350 | 77 | 4.55 |
| Car Zone Pvt. Ltd | 223 | 50 | 4.46 |
| Fast Cars Pvt. Ltd | 300 | 83 | 3.61 |
| Car X Pvt. Ltd | 490 | 79 | 6.20 |
| Median | | | 4.50 |

Computation of equity value of Thunder Car Pvt. Ltd

| Particulars | INR mn |
|--------------------------------|--------------|
| LTM revenue | 377 |
| Median EV/revenue multiple | 4.50 |
| Enterprise Value | 1,697 |
| Less: Debt | 400 |
| Add: Cash and cash equivalents | 300 |
| Add: Surplus assets | 24 |
| Equity Value | 1,621 |



Merits

- Highly relevant in cases where the target has comparable start-ups operating in the market (with similar growth and margins).
- Traditionally backed method with lowest subjectivity.

Demerits



- Not relevant in cases where a start-up is operating in altogether different market (with no comparable companies or transactions).

11. Discounted cash flow method

The good old cash flow-based approach and sometimes termed as one of the few methods that lead us to the world of intrinsic value, is as useful to value a young business as it is to value a stable traditional business.

It is obvious that the method will not change. However, the assumptions, such as cash flow forecast,

discount rate and terminal value will see substantial modifications. We have already discussed this at length in the preceding sections and hence, at this point, we shift our focus on illustrating the same through an example.



Illustration

XYZ Limited, an e-commerce portal serving the lifestyle needs of senior citizens. The company has the following historical numbers and projections estimates (in INR mn)

| Financial Profile ('000s) | FY 18 A | FY 19 A | FY 20 E | FY 21 E | FY 22 E | FY 23 E | FY 24 E | FY 25 E |
|---------------------------|-------------|-------------|-------------|-------------|-------------|------------|------------|------------|
| Net Sales | 21,600 | 55,200 | 88,000 | 202,400 | 404,800 | 728,400 | 1,165,800 | 1,632,200 |
| Growth % | | 156% | 59% | 130% | 100% | 80% | 60% | 40% |
| EBITDA | (15,800) | (46,200) | (53,600) | (59,200) | (52,000) | (7,800) | 78,400 | 140,600 |
| Margin % | -73% | -84% | -61% | -29% | -13% | -1% | 7% | 9% |

We have the following questions to address:

- When is the growth expected to stabilise?
- Can we support the long-term margin profile of about 9 per cent?
- Is the growth suggested by the business supportable?.

To answer these questions, we can perform the following assessment:

- Analyse the long-term expectations for the segment based on key industry metrics. This will help us out in establishing the life of cash flows and model to be considered (multi-stage or single stage)
- Examine the margin of retail players in the said geography and specifically those for senior citizens. This shall enable us to arrive at the long-term margin profile.
- Assess the time taken by similar businesses to reach similar level of revenue. This shall assist in assessing the achievability of the risk attached.
- How much cash is required basis the capital expenditure and working capital benchmarking of similar players? This will help us out in assessing the capital requirement and potential risk of failure.

Obviously, each firm has a different path and trajectory, but such analysis will help in understanding whether the forecasts are achievable and if not, will force one to think - does the management or the product have such differentiation to chart divergent growth.

Other forms of benchmarking can also serve to be useful:

- Expected population of senior citizens in the geography
- How many of them are expected to be tech savvy?
- By this, we can arrive at the potential target market
- Basis the numbers from the forecast, one can compute the implied market share and again, address the same question, whether the same appears to be attainable, basis the benchmark data available and product/ management profile.

Once the forecast is ready, we need to assess the discount rate to be factored. As previously discussed, basis the stage of the business and the riskiness of the forecast, the discount rate can be built up using modified CAPM. However, one needs to ensure that the discount rate captures the execution risk attached.

The remaining steps to this exercise are same as the original FCFE calculation and subsequently computing the value, which is relatively straight forward. The important aspect is to understand the difference in approach to arrive at the assumptions required to value a young business as compared to a traditional business.



Merits

- Detailed analysis of key value drivers gives reasonable confidence over the valuation range.
- Traditionally backed method with relatively lower subjectivity.

Demerits



- At times, forecasting can get complicated, especially when the start-up is operating in an altogether new market.

The Bottom Line

As pointed out by author in the field, Prof. Aswath Damodaran, the value of an asset and its pricing can be different. The determinants of value are very straightforward, however, they are not easy to estimate. Whether we are valuing a start-up or a traditional business, the values are driven by expected cash flows, growth, and risk.

The determinants of price are purely demand and supply. While, the fundamentals of business do affect both, market mood and price momentum are also strong forces in pricing. In the world of start-up valuation, pricing an asset usually involves finding similar businesses that are priced in the market.

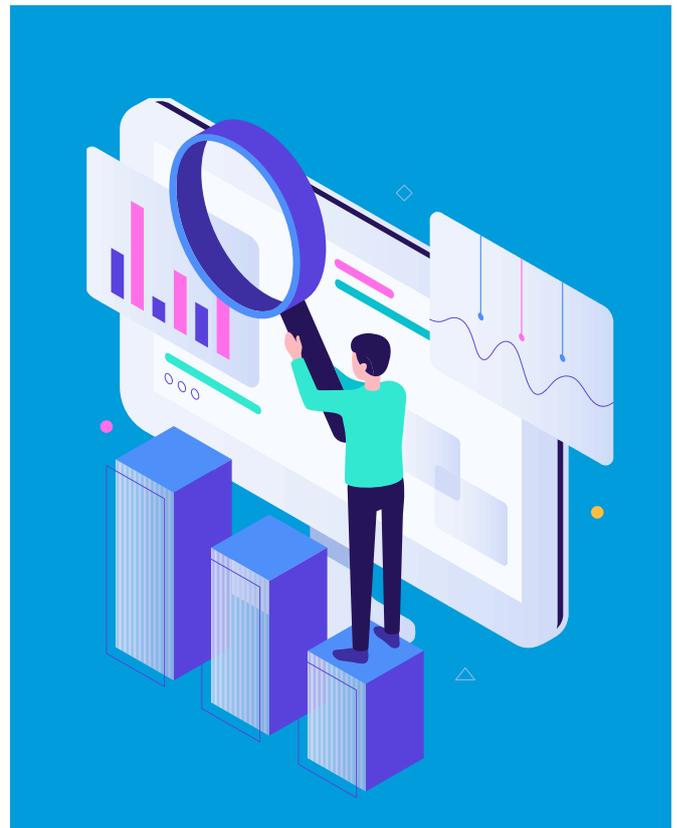
For example: a start-up that was transacted in January 2020, may have limited impact on cash flows and hence, on intrinsic value. However, the price can change significantly due to change in market mood post COVID-19.

Hence, it is important to understand if the method we are using will lead us to the value of the asset or the price of the asset. As one may observe, most of the methods discussed above require high-level of judgement and reasonable understanding of key levers that influence a start-up's valuation.

Hence, it is imperative to note that such valuation methods are still crude and do not clearly fit into a valuation method category. However, some of these methods, such as score card and reproduction cost, could be very helpful in doing pricing analysis in number of cases. With an in-depth review and discussion with industry/domain expert, an EV/Multiple analysis and top down DCF can be used to support pricing conclusions to arrive at the value of the asset.

Start-up valuation is an evolving concept, and certainly with the growing innovation in the business models, modern and novel valuation methods are bound to emerge.

In the ensuing space, we have specifically categorised the methods discussed above into multiple categories and have classified them as per lifecycle stages.



| Method | Key focus area | Type of Value | Judgement /Subjective | Supportable Evidence |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------|----------------------|
| Berkus Method | Allocation of weight (USD 0.5 mn) to five key success factors that contribute to value | - | High | Low |
| Scorecard Valuation Method | Adjusting comparable start-ups' valuation against differences in weighted qualitative metrics | Pricing valuation | High | Medium |
| Risk Factor Summation Method | Adjusting comparable start-up's valuation by assessing the level of risk of the target against its peers | - | High | Low |
| Gross profit X Competitor's Multiple Method | Multiplying comparable companies' P/GP multiple to target's gross profit. | - | High | Low |
| First Chicago Method | Weighted average (probability) of three valuation scenarios using DCF and multiples approach | Pricing valuation | Medium | Medium |
| 5x Your Raise Method | Follow rule of thumb by multiplying the funding amount by five | - | High | Low |
| Venture Capital Method | Valuation arrived at by reducing the present value of terminal (exit value) with the investment value | Pricing valuation | Medium | Medium |
| Valuation by Stage Method | Arriving at the valuation range by gauging the target against certain pre-defined milestones | - | High | Low |
| Cost to Duplicate/ Replacement Cost Method | Evaluating the hard assets of a start-up and working out how much it would cost to replicate the start-up | Pricing valuation | Medium | Low |
| Comparable Company Transaction Method | Multiplying the comparable start-up's recent transaction multiple with the respective target's metric | Pricing valuation | Medium | High |
| Discounted Cash flow Method | Usual discounting of forecasted cash flows by conducting a detailed benchmarking of projections against industry variables | Intrinsic value | Medium | High |

Evaluation of lifecycle stage to identify the appropriate method...



Our idea of valuing a start-up



Valuing a start-up requires rigorous effort, a focused approach, and in-depth knowledge of industry and subject business. Start-ups pose many challenges for a valuer, making the entire exercise highly intricate and judgmental. Variations in the external environment and internal dynamics severely impact a start-up, which is the very reason behind the aggressive shifts in valuation.

From “pricing” a start-up...

- Cash flows analysis based on scenarios as benchmarking is tricky
- Offbeat business model, making it difficult to find comparable companies
- Valuation is often arrived at a range
- Domain expert’s validation of assumptions highly relevant
- Scorecard, risk summation method, transaction multiple, VC method often employed



- Cash flows are benchmarked against peers in a matured market
- In-depth comparison with similar companies and relevant transactions
- Valuation is often arrived at a point-estimate
- Expert’s validation required on case-to-case basis
- DCF, Multiple approach often applied



...to “Valuing” a company

Established corporate



- Cash flows forecasted based on historical performance
- WACC computed using pure CAPM
- Traditional multiples such as EV/Revenue, EBITDA applied
- Deeper perspective drawn from global and local comparable companies and transactions

Start-up



- Cash flows estimated using Top down/ Bottom up approach
- WACC often based on adjusted CAPM or VC's required rate of return
- Industry metrics such as GMV, ARR are also evaluated
- Comparable transactions, if available, employed

Valuing a start-up, this report argues, is a craft and not a shot in the dark. While it does not exactly require a new method, it does need a new way to look at how we select the appropriate method and how we build our assumptions set to reduce uncertainty.

The focus is primarily on a valuer's understanding of business and the relevant industry, the confidence on the financial forecast, and ultimately, judgment on the most appropriate methods and assumptions. Obviously, the ideal approach is more tilted towards the right story than the pure mechanics of numbers.

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