

Project Dissertation Report On
STARTUP VALUATION: SHARK TANK
PERSPECTIVE

Submitted By:

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CERTIFICATE FROM THE INSTITUTE

This is to certify that **Ms. Surabhi Choudhary (2K20/DMBA/134)** has satisfactorily completed the Project Report titled “**Startup Valuation: Shark Tank Perspective**” in partial fulfillment of the requirements for the award of the degree of Master of Business Administration from Delhi School of Management, Delhi Technological University, New Delhi during the academic year 2020-2021. The contents of the report, in full or part, have not been submitted to any other university or institution for the award of the degree.

Project Guide

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STUDENT DECLARATION

I, **Surabhi Choudhary**, Roll Number **2K20/DMBA/134** hereby declare that the project work entitled “**Start-up Valuation: Shark Tank Perspective**” was submitted to Delhi School of Management, DTU towards partial fulfillment for the award of Master of Business Administration. It is my original work and the dissertation has not formed the basis for award of any degree, associate ship, fellowship or any similar title to the best of my knowledge.

Date:

Place:

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ACKNOWLEDGEMENT

At the outset, I express my heartfelt thanks & gratitude to those who sincerely helped and supported me throughout the project & without their active support & help it would not have been possible for me to complete the venture. As such, I once again extend my sincere thanks & gratitude to all of them.

To this effect, at first, I take the opportunity to express my profound gratitude and deep regards to my professor, Mr. Chandan Sharma, and Mr. Yashdeep Singh for their active guidance and constant supervision together with time to time providing necessary information connected with the project and their active support in completing the project.

Finally, I would like to express my earnest gratitude to my friends and family members for their constant support & encouragement without which the assignment would not have been completed.

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APPROVAL

EXECUTIVE SUMMARY

The original start-up era can be traced back to the 1980s, when a surge of IT and IT-enabled services transformed a handful of Indian IT businesses into global behemoths, putting India on the global economic map (example, Infosys). The second phase of growth for Indian startups began with the internet era in the late 1990s and early 2000s. A large investment from the government, as well as private investors such as private equity funds or venture capitalists, and other financial institutions, is powering this new era of growth. If the value allocated to every e-commerce operator was based on the Flipkart-Walmart deal, a lot of essential criteria such as performance level, capacity to create cash flow, and ability to attain a bigger size would have been overlooked.

- What was the sequence of events for similar businesses?

-Is there a comparable firm or transaction that we may use as a benchmark?

The majority of start-up valuation discussions take place behind closed doors. As a result, we have little understanding of how entrepreneurs and investors negotiate valuation. To investigate this issue, a content analysis has been done to take advantage of the unique characteristics of ABC's Shark Tank, a prominent business pitch television show being run in various countries with a little audience specific modification. The data implies that entrepreneurs who first offer investors a smaller percentage of their firm are more likely to obtain investment bids. It has also been identified that, rather than the amount of money invested, startup valuation talks tend to focus on the relative equity percentages each party obtains. Finally, while investors are more likely to benefit from negotiations, entrepreneurs who effectively set sharks against one other are more likely to secure conditions that are closer to their initial request.

The study provides a detailed methodology for valuing a start-up while also examining topics that are critical to the process:

- Recognizing a start-distinct up's business and asset characteristics
- Examining and comprehending the ecosystem, industry, and sector dynamics in which the company works
- To determine the stage of the company and how it affects its operations and cash flow generation capabilities.
- To calculate the likelihood of success and failure.
- In order to analyse the business, grasping what data is accessible.
- To determine the best appropriate valuation technique or method for the firm

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INTRODUCTION

Shark Tank is a reality television show that airs the drama and new-age entrepreneurs who wowed us with innovative ideas had us all captivated by our television screens. Shark Tank is a show where "aspiring entrepreneurs pitch their company concepts to a panel of investors and persuade them to invest money in their idea," according to the show's description. The show has numerous seasons and runs in different countries, one being India. The show also introduced us to the shark panel, which includes some of the country's most successful business people and women.

The aim of this paper is to present a literature review on startup valuation and understand the perspective of Shark Tank for the same before they invest.

To begin, a start-up must be defined. There is no agreed-upon definition in the literature. Startups, according to Birley & Westhead (1994), are tiny, fresh, independent firms started by people who want to work for themselves. Other authors (Granlund et al., 2005) created a startup definition that takes into account fast-growing or already-growing companies in the information and communications technology (ICT) and biotech (life sciences) industries (also called New Economy Firms, NEF). A startup, according to David & Foster (2005), is a firm with the following characteristics: (1) 50 to 150 people, (2) less than 10 years old, (3) self-sufficient, and (4) located in a specific geographic region. Startup firms, according to Kollmann et al. (2016), must be under 10 years old, have highly innovative technology and/or business models, and have (or aspire for) considerable employment and/or revenue growth. Steve Blank, a well-known entrepreneur, characterised a startup as a transient organisation in pursuit of a scalable, repeatable, and successful business model (Blank, 2020). To summarise, while multiple definitions of startups exist, Kolvereid & Isaksen (2006) provided a simple and widely accepted definition of startup: "new firms that are formed from the ground up."

The significance of proper startup valuation is directly proportional to the prominence of this type of business in today's market (Akkaya, 2020). The global startup economy created 2.8 trillion dollars in economic value in 2017 and 2018. This statistic was a 20% rise over the previous two-year period (Stangler, 2019). Furthermore, startups are the primary drivers of technical innovation (Cho et al., 2020). Furthermore, startups play a significant role in employment generation. Young enterprises account for around 20% of employment but produce almost half of new jobs on average across OECD nations and across time. We point out that data on job creation is highly heterogeneous: just a small percentage of startups contribute significantly to employment creation, while the majority fail in the first few years or remain extremely small (Calvino et al., 2016). As a result, given the prevalence and relevance of startups in the market, it is critical to comprehend the proper methodologies for determining their worth (Sander & Komägi, 2007).

Traditional assessment methodologies (cost approach, income approach, market approach) have proven insufficient to estimate the worth of a business over time. As a result, academic research

and practitioners have developed new methodologies for startup valuation that should be more appropriate. In this work, a systematic literature review has been employed to examine the most widely used and significant of these creative valuation approaches, highlighting the one used by the sharks in Shark Tank.

What Is A Start-Up?

It is a -"newly founded business," according to the dictionary. Various parties have given their interpretations of the term:

- The Indian government's Department of Industrial Policy and Promotion (DIPP) stipulates that "innovation, development, or enhancement of goods, processes, or services" is a need for claiming the unique status of a "start-up."
- "A start-up is a transitory organization designed to seek for a repeatable and scalable business model," says Steve Blank, author of *Four Steps to the Epiphany* (2005).
- "A start-up, properly defined, is the greatest collection of individuals you can persuade to construct a different future."

Endeavour has been done to comprehend the details of a start-up and isolate its components, rather than taking a broad perspective of "start-up." Every slight distinction between a start-up, a small traditional business setting, and a major corporation can be useful.

Background And Conceptual Understanding

Is it possible to call a company that was founded last year and has only 10 workers a "start-up"? We must go beyond the textbook definition of a start-up as the ecosystem has developed, resulting in the emergence of a new type of business that neither matches the classic definition of a start-up nor belongs to huge businesses. These enterprises are referred to as "corporate teenagers" or "young companies," and they must be scrutinised severely before being labeled as start-ups.

Examples:



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.



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.

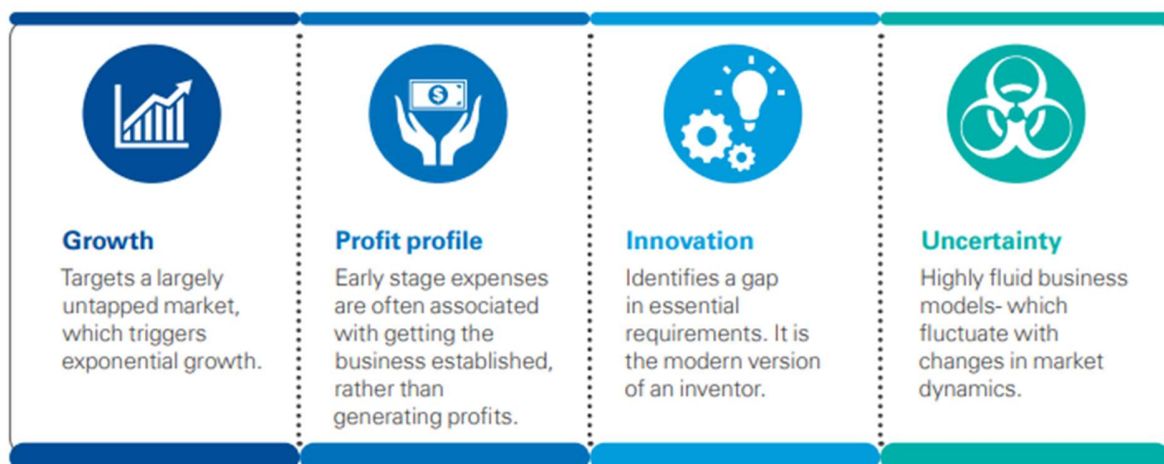


Innovation is not limited to just the product. It could also involve the delivery model. The likes of Oyo are meeting customer needs by changing the method of delivery.



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.

Bounce, a bike-sharing company, has 7,000 dockless scooters operating in Bengaluru, which has over 7.6 million private automobiles, making it one of the world's fastest-growing bike-sharing start-ups. It's not just about the product when it comes to innovation. It might also be related to the distribution method. Customers' requirements are being satisfied by companies like Oyo by modifying the delivery method. Big Basket and Grofers, two online grocery providers, are losing money in order to grab the grocery market and provide consumer convenience, which will be monetized later. While most people wouldn't place Ola, Flipkart, or OYO in the same category as a rookie game or service app, they may all be classified as start-ups under our criteria.



Growth

Focuses on a mostly untouched market with the potential for exponential growth.

Profit Profile

Early-stage costs are frequently linked with getting the firm off the ground, rather than with making money.

Innovation

Identifies a critical need that is missing.

Uncertainty

Business models that are highly flexible and alter with market circumstances.

Business Model : An Entrepreneur' s Master Plan

Traditional firms do not produce innovation in the same manner as start-ups do. As the age-old notion of how a corporation functions and earns money undergoes considerable upheaval, this becomes challenging and debatable for a valuer. A business model is a detailed design that outlines how a firm will create revenue and profit from its activities. It covers a variety of topics, including income sources, target consumers, and marketplaces, to mention a few. As a result, a valuer should be aware of how:

- ❖ business models respond to market trends;
- ❖ strategy supports the key components of the business model and drives value;
- ❖ management considers risks and opportunities across their business model;
- ❖ KPIs reflect the key components of the business model; and
- ❖ impact on key resources and relationships is taken into account.

The following business models are now being used by several start-ups:

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

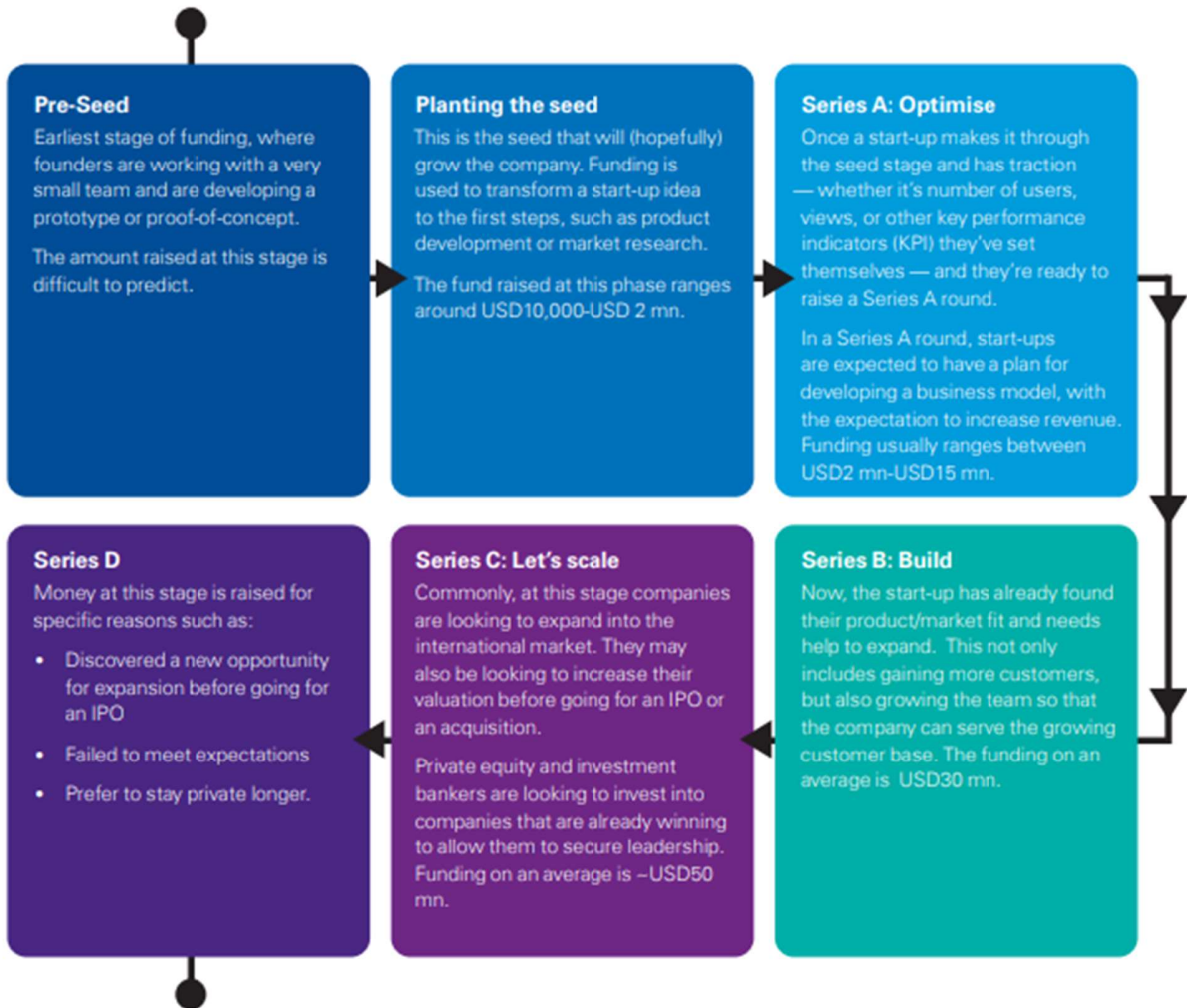
Investment Rounds: Moving to the Next Level

Once the start-up has shown the viability of its business concept, it will instantly begin garnering investors' interest. Value is often developed as a company progresses through several phases of development or multiple rounds of funding. A start-up may reach specific milestones over time, resulting in reduced uncertainty and perceived risk and, as a result, increasing the enterprise's value. Based on the next round of investment, a valuer can determine the stage. A valuer can keep the following elements in mind when doing the valuation exercise:

- Determine the stage of a startup's life cycle.
- Examine the industry and start-up forecasts critically based on the phase.
- The start-up's achievements since the last fundraising round

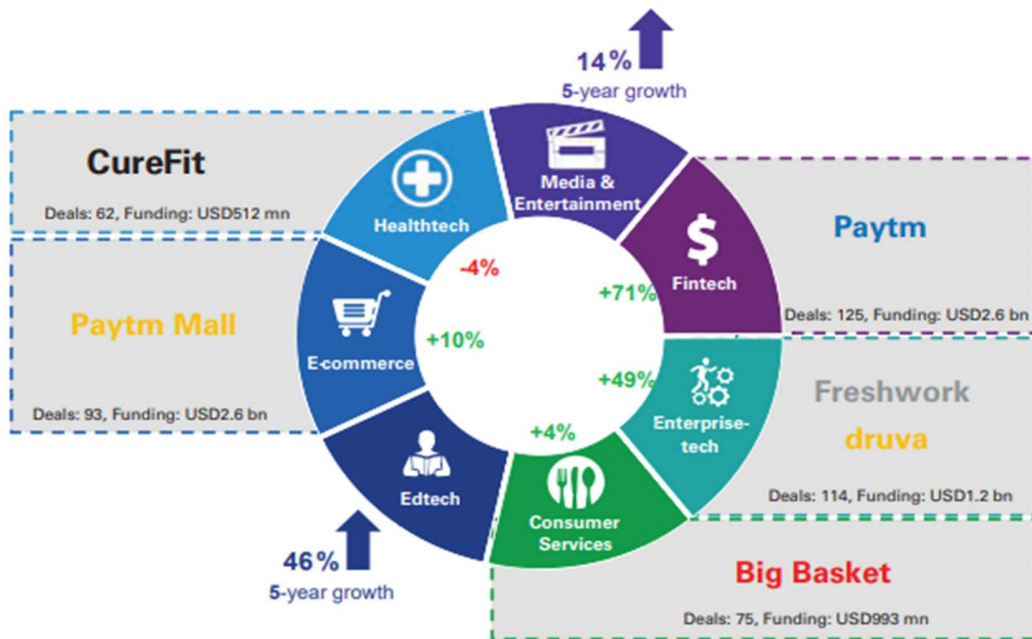
- If there were any prior rounds, assess the startup's valuation.

Depending on the mutual needs of the investors, each step of a start-life up's cycle is supported by specific funding. These are as shown below:



Sector Highlights

The primary sectors outlined below have delivered in the recent past and may pave the way for greater deals in the future.



Acquisitions by Indian Start-Ups

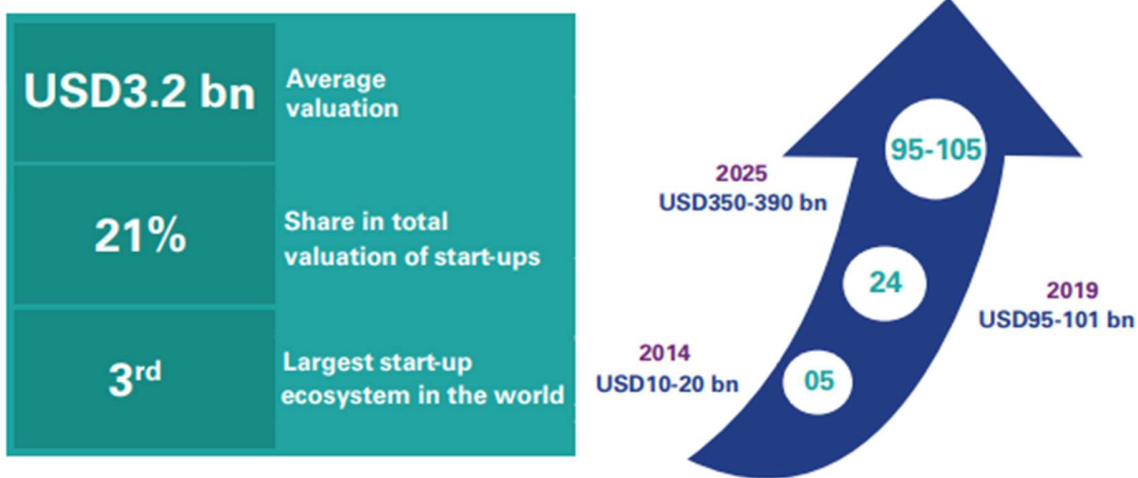
Given the rapid expansion of the start-up ecosystem, the importance of start-up valuation is expected to skyrocket. This will increase the amount of transactions a firm will engage in, making valuation more relevant.



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

The Billion-dollar Dream: Unicorn

Unicorns were legendary animals with horns on their heads. Fast forward to the twenty-first century, and the myth comes to reality in the shape of enterprises that achieve a \$1 billion value. India has one of the largest unicorn pipelines in the world.



	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

Some of the latest unicorns of India are mentioned below.



Start-up Survival Assessment

Entrepreneurship's relevance to an economy has long been recognised, with innovation and job creation viewed as key drivers of economic progress. While the importance of start-ups in wealth creation may be evident, it appears counter-productive if those start-ups do not survive. Even unsuccessful start-ups, it may be claimed, are an investment in the founders' entrepreneurial aptitude, which could lead to future success and an improvement in the country's entrepreneurial culture. As a result, it is plainly in everyone's best interest for more new businesses to succeed, including entrepreneurs, employees, investors, and society as a whole.

This builds in a curiosity, including: Why do some start-ups succeed while others fail?

Some of the research papers answer this. Some of these answers are courageous, honest, and insightful. Others point fingers or make insincere apologies. A dissection of this argument is discussed. This might be a generic survival rate that does not differentiate across business stages, making it impossible to apply to any organisation. The reasons are listed below for reference.



Survival rate as per Prof. Aswath Damodaran

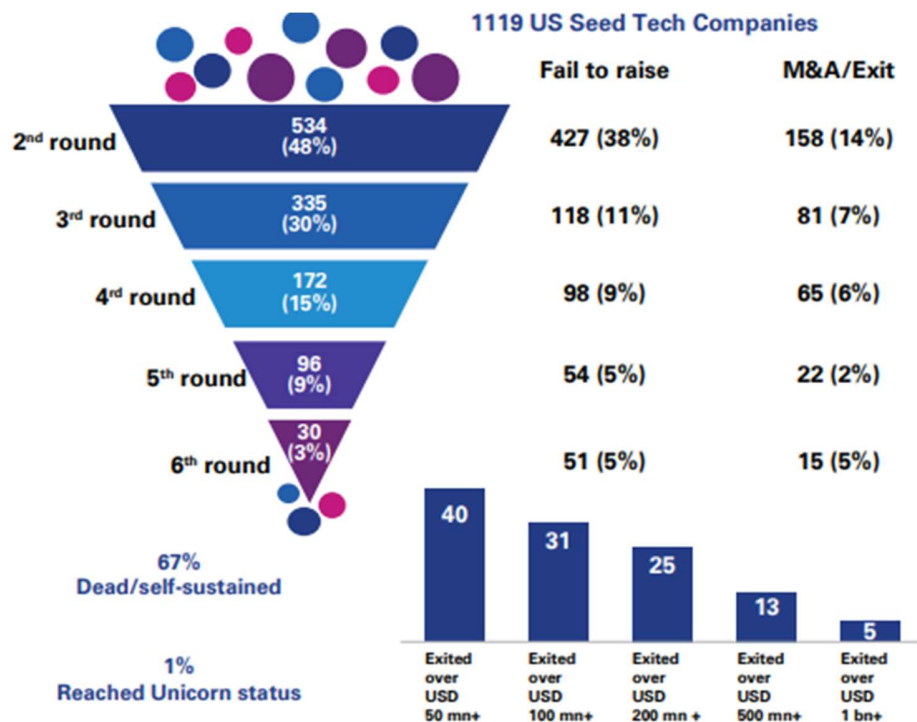
Prof. Aswath Damodaran discusses arriving at the value of a new firm based on the going concern idea and then modifying it for survival rate in his start-up valuation white paper¹⁰. According to the survival rate chart he gave, just 32% of businesses survive beyond the seventh year, and the yearly failure rate is 9%. The data is from 1998 and pertains to Australian businesses. Markets and enterprises have developed through time, and this may have a substantial influence on survival

rates in the present climate. Furthermore, the term "survival" has not been defined. This might be a generic survival rate that does not differentiate across business stages, making it impossible to apply to any organisation. For example, a firm that is losing a lot of money in its seventh year and another company that has hit a profitability milestone cannot be compared.

Venture capital funnel by CB Insights

CB Insights published a main study in 2018 that looked at start-ups that raised financing between 2008 and 2010 and how they changed over time. Also, some businesses linger as zombie businesses for years before shutting down. However, when we looked at the data more closely, we saw a few interesting patterns:

- An IPO or a merger and acquisition accounted for 30% of seed-funded businesses' exits. This strongly contradicts the widely held belief that 90% of all new businesses fail.
- If we assume one-third of the population is self-sustaining, we may deduce that only 44% of the population is alive. These start-ups (part of the study) have reached a significant milestone by obtaining financing. As a result, the characteristics of start-ups that survive range greatly from the ones without one.



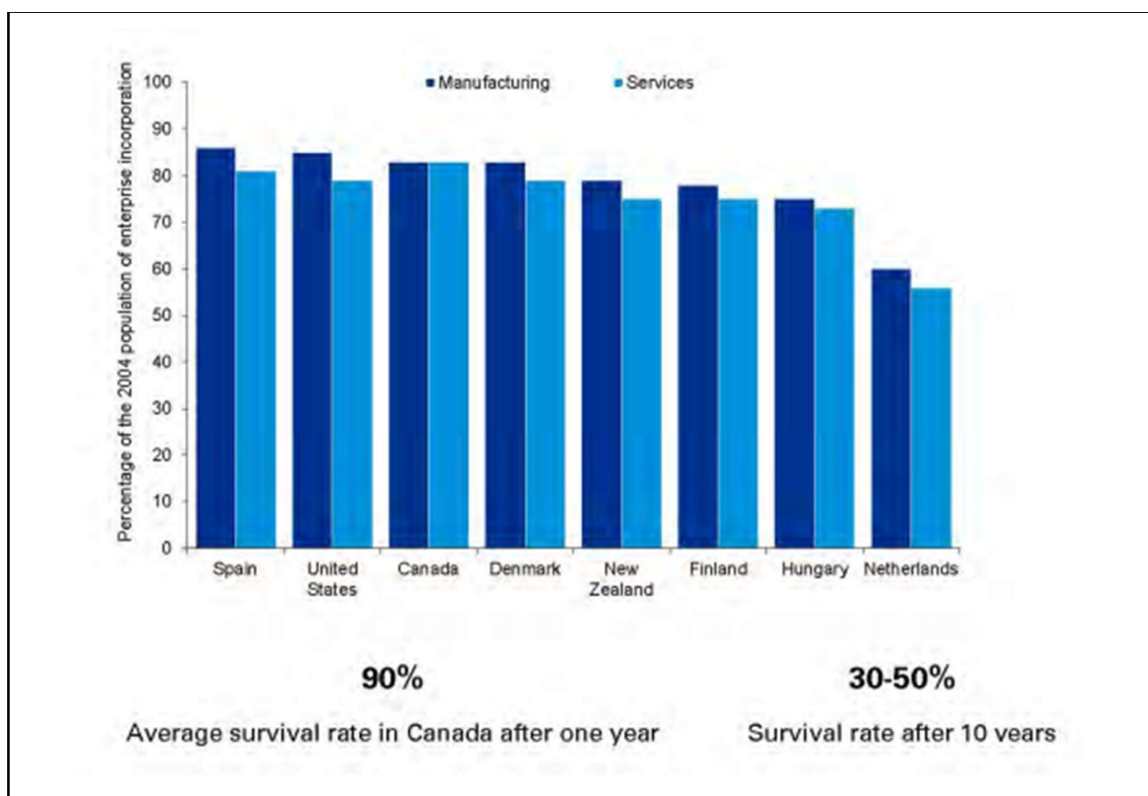
8. Moneycontrol (12 November 2019)

9. The Economic Times (25 April 2018)

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

Survival rate study by Fisher & Reuber 2010

According to a survey on the health of entrepreneurship in Canada (Fisher & Reuber, 2010), 85-87 percent of new Canadian enterprises survive through their first year, 62 percent survive after three years, 51 percent survive after five years, and the most critical 30-50 percent survive after ten years. As demonstrated in the graph below, survival rates in many wealthy countries appear to be fairly stable. All of this research, however, is focused on developed markets. For the Indian start-up ecosystem, KPMG has conducted research which will be discussed.



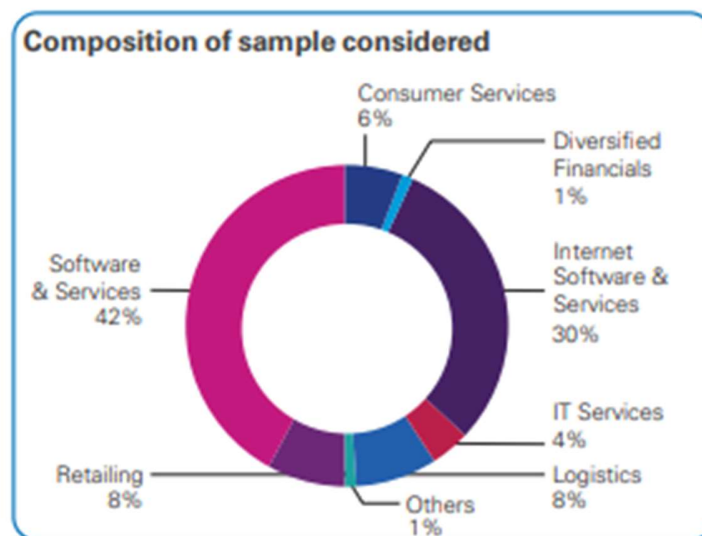
Indian Start-up and Survival Rate

Due to the ubiquity of IT and the internet, there is a distinct activity in the startup field in India, in addition to government initiatives. In the service sector, such as education, legal, retail, insurance, and health, a slew of new businesses are springing up. The popularity and feasibility of startups is no longer a challenging proposition for an entrepreneur, as clients become aware of the benefits and ease.

A number of venture capitalists and angel investors are bullish about Indian startups, seeing a lot of potential and expecting a few to become unicorns (highly valued firms) with huge returns. On the other hand, there are examples of a few firms that failed and finally shut down owing to a variety of concerns and obstacles.

According to a recent UN report, India has the biggest concentration of youth population, with 356 million 10-24 year-olds, who would be the driving force behind innovation and creation, with proportionate demand and consumption of products and services (Mittal, 2014)

Because the Indian start-up ecosystem is so new in comparison to the United States and other mature countries, there is a scarcity of useful data. As a result, we used historical data on Indian firms that got one or more investments from PE or VC funds (2700 companies) during a 10-year period from 2009 to 2019 11 to assess the survival rates of start-ups in India. This might result in a greater survival rate. When valuing a startup, the survival analysis should take into account the stage and milestones that the company has reached, rather than being affected by generic survival statistics offered by media sources. To summarise, a business is deemed to be closed if it has not disclosed its financials, is not listed as operational on the MCA website, does not have an active website, and is not referenced in any news items. This analysis was performed for each year, with the following results:



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

The biggest challenges for Indian Start-ups:

1. **Financial resources:** Financing is important for companies, and obtaining adequate funds is always a challenge. A variety of financing sources are accessible, including family members, friends, loans, grants, angel money, venture capitalists, crowd fundraising, and so on. As the company grows, the necessity grows as well. Scaling a business necessitates timely capital infusion. Skok (2016) and Pandita (2017) argue that proper financial management is important to the success of startups. According to a recent survey, 85 percent of new businesses are underfunded, indicating a high risk of failure (Iwasiuk, 2016).
2. **Revenue generation:** As a firm expands, many companies fail due to a lack of income creation. As operations expand, expenditures rise in tandem with lower sales, requiring companies to focus on the fundraising component and weakening their focus on the core of the firm. As a result, revenue creation is important, necessitating effective burn rate management, which is the pace at which companies spend money in their early phases. The problem is not only to raise sufficient funds, but also to develop and maintain growth.
3. **Team members:** Startups usually begin with a group of trustworthy people who have complementary skill sets. Each member is usually trained in a specific area of operation. The first and most important criterion is to put together a solid team; failing to do so can often lead to the startup failing (Skok, 2016).
4. **Supporting infrastructure:** Incubators, science and technology parks, business development centres, and other types of support mechanisms play an important part in the lifespan of startups. The lack of such support mechanisms raises the likelihood of failure.
5. **Creating awareness in markets:** Startups fail because they don't pay attention to market limits. Because of the uniqueness of the product, the environment for a startup is frequently

more tough than for an established company. For a new product, the situation is more complex because the company must create everything from the ground up.

6. **Exceed customer expectations:** The next most difficult task is determining the product's market demand, existing trends, and so on. Since the firm must fine-tune its product offerings to meet market expectations, innovation plays a crucial role (Skok, 2016). In addition, the entrepreneur needs to have extensive subject expertise in order to use effective techniques to resist competition. The problem of providing over and beyond a previous invention is relevant due to new technologies that are emerging.
7. **Tenacity of founders:** When the going gets rough, startup founders must be tough. The process of beginning a business is riddled with delays, failures, and challenges that go unsolved. The entrepreneur must be tenacious, convincing, and never give up until the intended outcomes are achieved.
8. **Regulations:** Starting a business needs a variety of government approvals. Even though there has been a noticeable improvement, forming a business continues to be difficult. In India, labour rules, intellectual property rights, dispute resolution, and other regulations are strict.
9. **Lack of mentorship:** One of the most serious issues in the Indian startup environment is a lack of competent advice and mentorship (Choudhury, 2015). Most companies have great ideas and/or products, but lack the necessary industry, business, and market knowledge to bring them to market. It has been demonstrated that a fantastic concept only succeeds if it is implemented quickly (Mittal, 2014). The most significant obstacle that might jeopardise a potentially brilliant concept is a lack of sufficient mentoring/guidance.
10. **Lack of a good branding strategy:** Another factor that stops companies from growing at a quicker rate is the lack of an effective branding plan. Hemant Arora, Times Network's Business Head-Branded Content, believes that branding is crucial since it establishes a brand identity and a place in consumers' thoughts (Choudhury, 2015).



- ...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



With new entries and investments in current companies, the startup business has risen many folds at this exceptional time when every industry is trying to survive. India is a developing economy with a sizable underserved/underserved market. The Indian startup ecosystem, which has been established through a number of government programmes, expects to expand at a rate of 10% to 12% each year. India has a functional and vibrant startup environment, backed by favourable demographics.

Despite the fact that the country's economy is suffering from the epidemic, India's startup environment is growing.

Fin-Tech Sector

Fintech continues to dominate the venture capital environment in India, according to BANKIT COO and Executive Director Amit Nigam, raising roughly 22% of allotted cash this year. To this point in 2021, the sector has raised more than \$2 billion, up from \$495 million in the first five months of 2020. Fintech has grown to be a significant element of the global economy. Because paper-based media was viewed as the safest, all monetary duties were accomplished only using papers.

However, as technology advanced, the internet became the primary venue for money transaction. In essence, it is a money industry made up of businesses that use technology to improve the efficiency of money services.

Ed-Tech Industry

Universities have no choice but to go online because of COVID-19. UGC has to restructure in order to make 40% of a conventional degree available online, and it's here to stay. Edtech startups have been evaluating their scene as firms modify their strategies to react to the chaos generated by COVID-19.

Health Technologies Industry

Covid expedited the digital transformation of the healthcare industry, particularly in the following areas: The COVID-19 outbreak is wreaking havoc on India's healthcare system. While the extraordinary crisis has focused attention on the country's shaky medical infrastructure, it has also created chances for a number of health-tech companies. As a result of the pandemic in health technology, entrepreneurs in the industry are once again drawing investors' attention.

The COVID-19 problem has highlighted the importance of seamless information exchange and increased collaboration among healthcare stakeholders. The pandemic has compelled hospitals of all sizes to improve their IT infrastructure by migrating from a single solution to the cloud in order to disperse data silos amongst departments and enable mobile healthcare and virtual assistance. KareXpert's disruptive platform-based solution, which combines a cloud-based, mobile-first, AI-ready approach, was envisaged years ago, but the epidemic has surely hastened our product's wider adoption. While the market is now stabilising due to emerging technologies/innovations to combat COVID-19, fundraising has escalated to the point where health tech startups have raised \$234 million.



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.

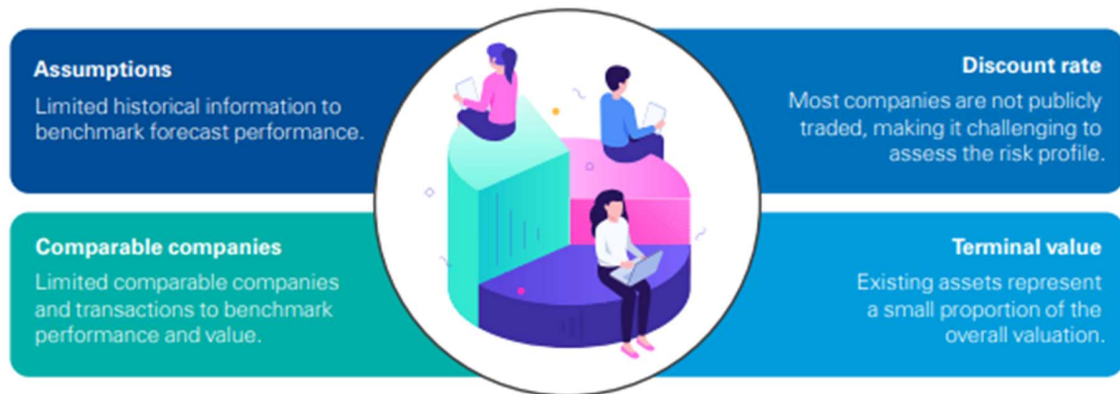
Source: NASSCOM Start-Up Pulse Survey – Q1 2020: Reviving The Indian Tech Start-Up Engine During COVID 19, Yourstory (21 April 2020), The Economic Times (27 April 2020)

The infographic features a blue background with a white rocket launching from the bottom right. The text is arranged in a clean, modern layout with bold headings and clear data points.

Valuation Methodologies and Common Approaches

Many traditional approaches, such as the "discounted cash flow" method, fail or provide implausible results, resulting in a deadlock pertaining to the various challenges that come in the way of valuation of a startup.

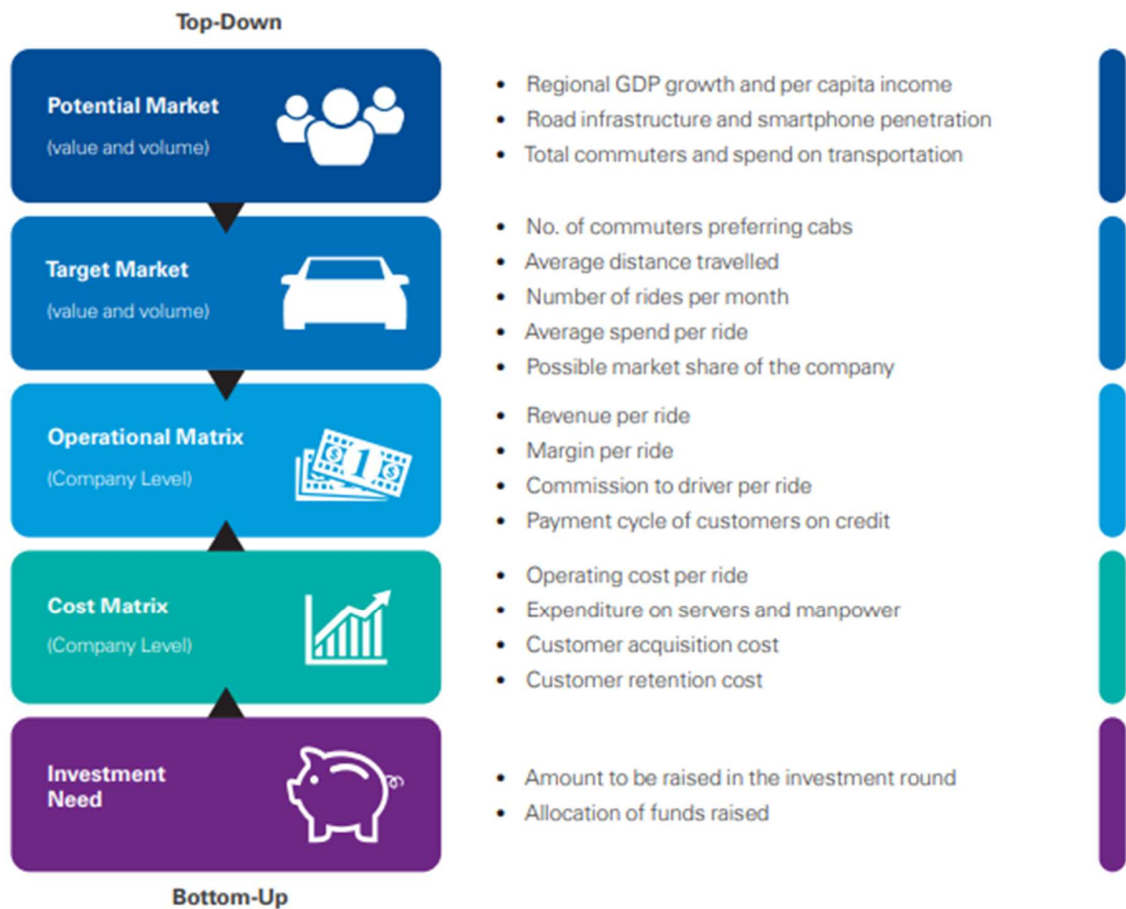
Key Challenges



A variety of research articles and widely acknowledged standards from a variety of sources (such as Prof. Damodaran) and institutes (including, AICPA and IPEV guidelines) were gone through. The primary elements of such research studies are summarised in the following paragraphs, along with proposed adjustments to existing valuation methods to match them with our requirements.

DISCOUNTED CASH FLOW (DCF) Method

A. **Estimating the cash flows:** One of the most difficult assumptions to make when using DCF for a startup is forecasting cash flows across the projected period. The estimating process may be approached in two ways: top-down or bottom-up. Let's look at an example of a ride-sharing aggregator, like Ola, to understand the same.



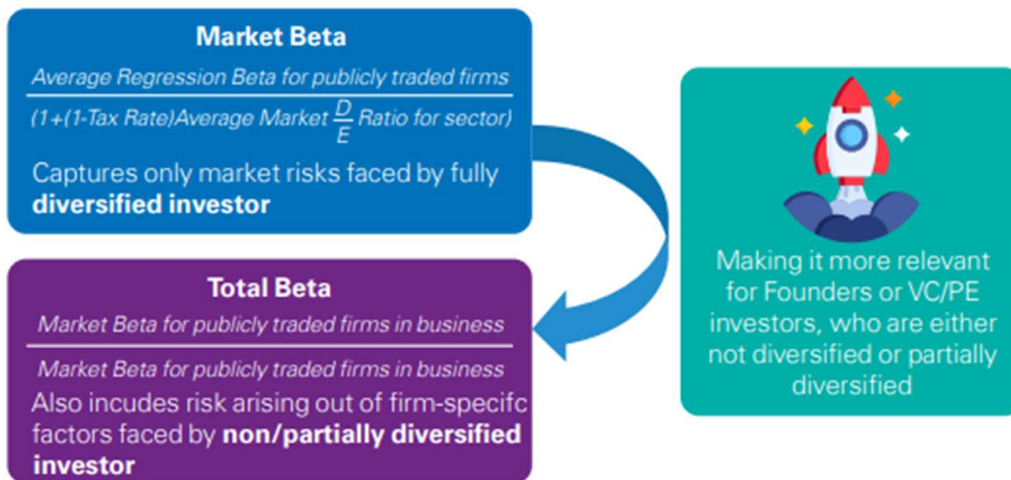
Based on existing market data and fundamental logical analogies, this approach is an excellent tool for estimating cash flows.

However, this necessitates a thorough awareness and knowledge of the company's primary drivers. One can rashly assert that the margins of a typical brick-and-mortar business and an internet marketplace are vastly different.

Both types effectively provide the same service or product.

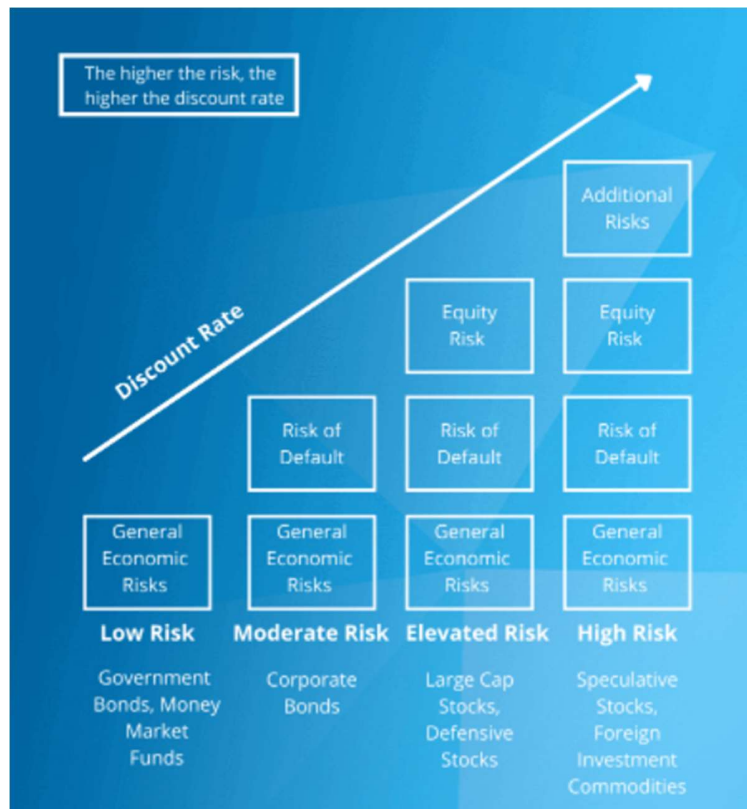
As a result, it is critical to highlight that omnichannel will be required at some point in the future in order for margins to converge.

B. Discount Rates: The discount rate is the second most important factor to consider when performing a valuation. In a company valuation, the discount rate is the rate of return that is employed. Using the discounted cash flow technique, it is utilised to convert the company's future projected cash flow to current value (DCF). The weighted average cost of capital technique is one of the most prevalent ways for calculating the discount rate (WACC). This method is based on a weighted average of the company's after-tax debt expenses as well as the cost of equity. The weighting is based on the company's goal debt-to-equity ratio, which is evaluated at market rate.

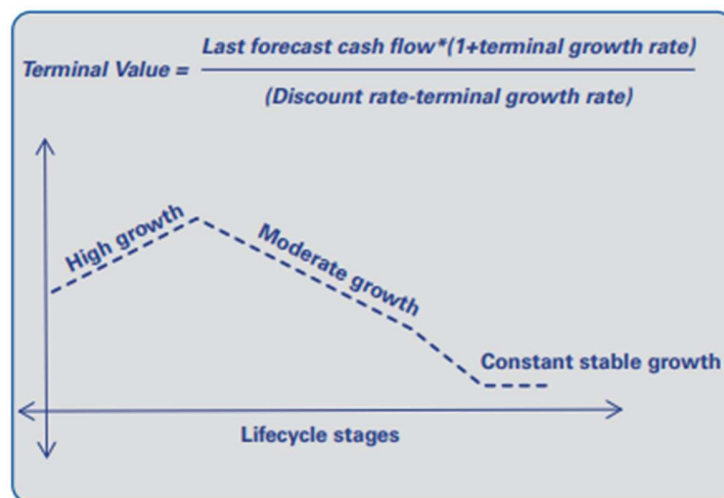


The typical highlighted range of discount rates based on the lifecycle that venture investors evaluate is shown below. These rates should only be utilised with prudence and only after a thorough analysis of the firm, its stage, and a comparison to the slabs listed below.

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



C. **Terminal value:** The terminal value is the final piece of the DCF jigsaw. One of the most typical approaches is to prolong the forecast period to account for several growth rates (multi-stage model), which is relevant to the stages of business captured until the firm achieves a constant growth phase (also called terminal growth). Another often used way is to utilise an exit multiple to get to the terminal value.



Methods for determining a startup's survivability in order to arrive at the terminal value:

- Use the sector averages to calculate the chances of specific companies surviving.
- Examine the success and failure of businesses throughout time.
- Create a model to estimate the likelihood of failure based on the age, founders, industry, and amount of debt owed to the company.
- The worth of the company may be simulated as an anticipated value of the two scenarios, with the probability of failure (pf) assessed.
 - A. In the case of a going concern, intrinsic value
 - B. The distress value in the event of a failure.
$$A*(1-pf) + B (pf) \text{ Expected Value}$$

A closer examination of the pillars of the discounted cash flow technique reveals that major changes must be made when determining the value. From predicting cash flows to determining the final value, there is a lot of subjectivity and judgement involved. As a result, this strategy is rarely used as the principal tool for valuing start-ups.

Private Transaction Multiples

Because we're evaluating a young, privately held company, it's only natural to compare it to what others have paid for comparable companies in the recent past. The following are the typical steps for using this method:

1. Compile a list of other comparable young, private firms that have been bought/sold, as well as the transaction prices.
2. Calculate a typical multiple that acquirers have been ready to pay by scaling these numbers to a common variable (revenues, earnings, or a sector-specific statistic).
3. When this multiple is applied to the same variable for the firm being evaluated, the result should be an estimate of the company's worth.

One of the disadvantages of using the transactions listed above is that the majority of them are not at arm's length. While this relies heavily on the valuer's judgment, it is an acceptable approach. To combat the issue of broad variances in accounting and operational standards, one should concentrate on indicators like revenue/sales, which are unlikely to be influenced by changing accounting standards. Several industry-specific characteristics are frequently employed in the valuation of start-ups in addition to standard measures.

For example,

- Annual Recurring Revenue (ARR): TVFPlay, Zoho, CureFit
- Monthly active users (MAU) : Bumble, TikTok
- Gross Merchandise Value (GMV): Flipkart, Shiprocket

These variables need to be much deliberated upon before their employment for valuation purposes.

Public Transaction Multiple

While data on private companies is harder to get by, information on public companies is readily available. There are several aspects to a startup, the most visible and important of which is the risk factor: the high likelihood of failure. This distinguishes a startup from a publicly traded corporation. This technique is also inadequate for evaluating a startup due to issues such as illiquidity and size of operations.

Valuation Methods for Start-ups

Startup values reveal a company's potential to employ extra cash to expand, fulfill consumer and investor expectations, and achieve the next goal. Unicorn values, or companies worth \$1 billion or more, now number in the hundreds. These computations, while remarkable, aren't as objective as you may believe. It's fair to argue that evaluating a startup is a science as well as an art. It helps in grasping the numerous company valuation approaches, whether it is in the pre-seed stage or merely giving stock options to your staff.

Listed below are ten startup valuation methods. They are:

1. **Berkus method:** The Berkus approach is a useful tool for pre-revenue businesses since it allows them to rapidly assign value to their company's traits and compare them to those of others to evaluate what prospects are available. By evaluating these numbers, the approach based its measurements on the startup's idea:
 - Technology
 - Execution
 - Fundamental value.
 - Relationships of strategic importance
 - Production

This provides a simple approach for investors who want additional information about these elements to evaluate firms that haven't yet produced money or established themselves in the sector.

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	

2. **Book value method:** The book value technique correlates the net worth of your new firm with its valuation. Because a startup's book value is equal to its total assets minus liabilities, the book value approach, also known as asset-based valuation, is calculated by dividing the company's total equity by the number of outstanding shares.
3. **Cost-to-duplicate approach method:** The cost-to-duplicate method examines a startup's assets and determines how much it would cost someone else to create the same firm elsewhere. To calculate the worth of a startup using this technique, sum up the fair market value of the company's tangible assets. You can include the costs of patents, product development, and research in your budget.
4. **Comparable transactions method:** The comparable transactions technique determines a company's worth by looking at how many other firms similar to yours have been purchased in recent years and using that data as a benchmark. You can identify a suitable value range by looking at these comparable deals. If you're comparing two startups that make similar products or provide similar services, this strategy can be the best option.
5. **Discounted cash flow method:** This strategy uses market analysis to forecast a company's future growth and how it would impact overall earnings. This technique of valuing may be an excellent option for a fledgling firm that has just debuted. This approach can offer a forecast for the potential of the firm since it evaluates what the startup could make using an estimated investment return rate.
6. **First Chicago method:** The First Chicago technique generates a business prediction with many outcomes. The valuation process includes assessing the company's potential in the best, average, and worst-case scenarios. This strategy might provide an investor with insight about a company's development prospects.
7. **Future valuation multiple method:** This approach of valuation is based on an assessment of the return on investment that investors might expect over time. You may, for example,

evaluate the firm based on its expected growth over the next 10 or 20 years and present an estimate of how much money investors can anticipate to make after that time period. Growth or sales estimates are examples of these projections.

8. **Risk factor method:** The risk factor summing approach helps you to determine the likelihood of your startup's success. It employs a list of 12 variables that might influence ranking, such as management risk and competition risk. You begin with an average value and then deduct or add based on the number of hazards in each area.



9. **Scorecard valuation method:** The scorecard valuation technique is a unique approach to determining the worth of your business. You may compare it to other companies in the same area or location and evaluate various elements of its value. The management team's strength or marketing activities are examples of such categories. A comparative percentage is assigned to each category, which might be less than, equal to, or more than 100 percent. For example, if a company's management team was just hired and is still learning the ropes, it may get a perfect score.

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%

10. **Valuation by multiples method:** The profits of a startup firm are used to help build value in the valuation by multiples technique. Investors can estimate the value based on the present state of the firm by using EBITDA (earnings before taxes, interest, depreciation, and amortisation). An investor may calculate that the company is worth five times its entire EBITDA.

11. **5x Your Raise Method:** Ajay Anand (Founder, Rare Carat) established this strategy, which focuses more on the financing collected from an investor for the value. With a rule of thumb of 20 to 25% return on investment, the value may be easily calculated by multiplying the amount raised by five. 'Thunder Car Pvt Ltd' is a prestigious company. A total of USD80 million is raised by the firm. The technique calculates the company's worth to be 5 times the financing, or USD400 million.

The worth of an item and its pricing might differ, as Prof. Aswath Damodaran, an expert in the topic, has pointed out. The determinants of value are simple, but they are difficult to evaluate. Expected cash flows, growth, and risk dictate the value of a start-up or an established corporation. Price is solely determined by supply and demand. However, due to a shift in market sentiment following COVID-19, the price might fluctuate dramatically. As can be seen, the majority of the approaches outlined above need a high degree of judgement and a fair awareness of the important factors that determine a startup's valuation.

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

METHODOLOGY

Research methodology used in this paper is descriptive in nature and primarily qualitative in nature. The paper adds to past research by summarising and critically examining existing research on the issue of startup valuation, which is one way of contributing conceptually to the literature. This literature review tries to synthesise research that bears on a specific subject using systematic, transparent, and repeatable techniques at each step in the process to discover, in our instance, contributions in the field of startup business valuation.

A systematic review was done by adopting the following steps involving majorly of secondary research methodology:

- The research question, databases, proper websites were identified
- Various keywords were chosen to identify the works on startup valuation
- Various published research papers were identifiers for literature review
- Various transcripts or articles were identified for understanding the methods used on Shark Tank show

The identified sources were then screened and the final content that needed to be analysed was put into effect for developing this research. A content analysis has also been employed to understand the keywords involved in the valuation in the TV show Shark Tank for valuing startups before funding them.

Content analysis is a research method for determining the existence of specific words, topics, or concepts in qualitative data (i.e. text). Researchers can measure and evaluate the existence, meanings, and correlations of certain words, themes, or concepts using content analysis. Researchers, for example, can assess the language used in a news story to look for prejudice or partiality. The meanings within the texts, the writer(s), the audience, and even the society and historical period surrounding the work can all be inferred by researchers.

The source of data is blogs, newspaper articles and transcript snippets used in articles based on Shark Tank show for analysis. A meaningful conclusion is sought after for understanding the knick knack involved in the show that has captured the attention of all the budding entrepreneurs all across the world.

LITERATURE REVIEW

A total of nine research papers were gone through and analysed to understand the various startup valuation methods that have been employed till date and the idea behind the usage of the same. Apart from that various articles of finance firms and standard publishing were gone through to develop further understanding of the same.

A summary of the literature reviewed has been presented in the tabular form in this section going forward. Focus has been on the methodology employed in the paper, the valuation methods employed and the variables mentioned in the process of valuation. Based on the understanding a conclusion has been developed along with remarks wherever necessary.

Paper Title	Paper Methodology (survey, interview, LR etc)	Valuation Variables mentioned	Valuation Methodology	Conclusion	Remarks
Startup Valuation by Venture Capitalists: An Empirical Study	Quantitative Research, data from 187 rounds of early stage VC investments, relation between strategic management methods and value	dependent variable:- premony valuation. independent variables:- Industry structure differentiation, Industry growth, Founder/TMT Industrial experience, Management Experience, Startup Experience, Social Network Size, TMT completeness, Control Variables:- Market size, Profitability, Stock Index, Firm Age, Developmental Stage.	This study uses an exploratory approach and the objective is to understand the influence of explanatory variables identified in the strategic management literature from the fields of research on the valuation of startups.	positive relationship between the factors and the pre money valuation.	This should be considered because the accounting information of most of the startups is unavailable. The use of valuation criteria from the strategic management provides a long-term vision of both the venture and of the funding provided after the venture valuation.
The impact of corporate venture capitalists' investment motivation on startup valuation	Explorative Research- combination of CAIA and Cluster Analysis to understand the types of CVC investment motivation. Analysis of 52 CVC mission statements and 147 Startup Valuations.	Dependent Variable:- Startup Valuation, Independent Level 1- startup financing round, industry, location, age, Level 2- CVC reputation, industry, Strategic Motivation, unfocused motivation, Analytic motivation, Financial motivation.	.	Specifically, we found empirical evidence that when all other factors are equal, CVCs with a strategic motivation pay significantly lower purchase prices for startups than their counterparts with an analytic motivation, supporting our hypothesis about the value-adding role of highly strategically motivated CVCs. For CVCs with a financial motivation, on the other hand, we did not find a significant valuation impact. However, we illustrated that entrepreneurs extract higher valuations from CVCs with an unfocused motivation, underscoring our notion that these CVCs have a liability of vacillation owing to their potential lack of a tangible investment motivation and entrepreneurs' moral hazard concerns.	Research does not fully capture CVC's real investment behaviour. front stage investment might differ from their actual back stage actions.
Startup Company Valuation: the state of art & future trends	Literature review of multiple papers to identify the startup valuation methods used.	emphasizes on qualitative aspects of the company, understanding the business model & future forecasts.	A. Traditional Methods: 1) Cost Approach 2) Income Approach 3) Market Approach B. Other Methods: 1) Real Option Method 2) The venture capital method 3) The first Chicago method, 4) Modified DCF Method C. Empirical Methods: 1) The rule of thirds 2) The replacement & the value based balance sheet 3) Berkus Method 4) The Scorecard Method 5) The Risk factor summation method 6) Automatic Web Valuations	Traditional methods cannot be used to value a startup because of lack of historical data & the fact that they do not take in account the qualitative aspects of the company. Attention should be given to the future forecasts instead of past data. Probability should be considered for different scenarios. Understanding the business model is more important than the data on comparable companies.	.

Paper Title	Paper Methodology (survey, interview, LR etc)	Valuation Variables mentioned	Valuation Methodology	Conclusion	Remarks
The determinants of startup valuation in the venture capital context: a systematic review and avenues for future research.	systematic review of current empirical literature available	A. Determinants related to startups 1. Startup Characteristics 2. Founder and team Characteristics 3. Intellectual Property and Alliances 4. Financial Information B. Determinants related to VCs 1. VC Investor type 2. Reputation and value add 3. Valuation Methodologies C. Determinants related to external environment 1. Market Factors 2. Institutional and Cultural Factors		Startup Valuations are determined within a complex setting because the interplay and dynamics of the different factors concerning startups, VCs, and the external environment all contribute to the final outcome. Avenues for future research 1. Excessive reliance on the commercial VC databases, which only state the final valuations, hence the processes are unknown. 2. Determinants should be studied and their relevance should be compared in different time periods. 3. Researchers prefer the US context for examining the determinants, hence they need to expand the geographical scope to understand the influence of the external factors. 4. VCs should be considered as an heterogeneous group. 5. Determinants leading to the undervaluation and overvaluation of startups can also be researched.	
Valuation Methodologies for business startups: A Bibliographical Study and Survey.	literature review, Survey		A. Economic Result: Multiples of sales, Value of the profits, Value of Dividends, Other Multiple B. Balance Sheet: Book Value, Adjusted Book Value, Liquidation Value, Substantial Value C. Discounted Cash Flow: Cash Flow of the Partners, Free Cash Flow, Capital Cash Flow, APV D. Value Creation: EVA, Economic Profit, Cash Flow Return on Investment, Other E. Options: Black Scholes, Investment Option, Project Expansion, The Expansion Project- Alternative uses F. Mixed (Goodwill): Classic European Union, Accounting Experts, Abbreviated Income, Other	Most respondents used many parameters of monetary and financial nature in the process of valuation of startup companies, no considering the innovative factor, positioning in the competitive sectors and projection of future growth.	
Start-up valuations: A craft or shots in the dark	report by KPMG	Startup idea Prototype Intellectual Property Management & founders Risks	Berkus Method Scorecard valuation Method Risk Factor Summation Method Gross Profit X Competitor's multiple method First Chicago Method 5x Your Raise Method Venture Capital Method Valuation by stage method Cost to duplicate/ Replacement Cost Method Comparable Company Transaction Method DCF	Startups work in an dynamic environment, hence valuing them is a difficult task. Key challenges we face: 1. Assumptions 2. Discount Rate 3. Comparable Companies 4. Terminal Value	

Paper Title	Paper Methodology (survey, interview, LR etc)	Valuation Variables mentioned	Valuation Methodology	Conclusion	Remarks
Mixed Signals: Why investors may misjudge first time high technology venture founders	Interview	management technology patents market potential ideas execution		<p>1. Investors seek exits rather than early survival and growth, and the former has precedence in assessment, thus technological expertise may not be comprehensively assessed given time constraints but assumed from high level signals such as academic status;</p> <p>2. Investors rely on both gut feeling and rational criteria;</p> <p>3. Investors are subject to their own biases and heuristics; they recognize these as inevitable constraints and not necessarily only negative constraints;</p> <p>4. Founders send signals which misrepresent their effective human capital resources and thus mislead investors</p>	
VALUATION OF INTERNET STOCKS - AN IPO PERSPECTIVE	Quantitative research involving data of 150 internet companies over a period of 42 month period	The tests evaluate the ability of five financial variables—earnings per share (EPS), operating cash flow per share (CFOPS), sales per share (SALESPS), book value per share (BVPS), and the annual sales growth (SGR)—to explain the cross-sectional variation in IPOPRICE and ENDPRIE. The tests also consider one non-financial variable, FLOAT, for IPOPRICE, and for ENDPRIE two non-financial variables serving as signals for the unobservable (superior) information of the entrepreneurs (FLOAT) and underwriters (PARTIAL).	Regression analysis for IPO Price and End Price	<p>A contrast valuations of Internet IPO firms and non-Internet, but otherwise similar, IPO firms (i.e., a control sample), as well as valuations in early (1995-1998) and late (1999) time periods, and document the differences.</p> <p>From the viewpoint of the underwriters the important value drivers underlying IPO Internet firms are the relative size of the offering, sales, sales growth, and both positive and negative cash flows. For non-Internet firms, the relative offering size, sales, and positive cash flows are important drivers.</p> <p>From the viewpoint of investors, the important value drivers of Internet firms are book values, sales growth, the relative size of the offering, and a variable reflecting the information gathered by the underwriter during the IPO period. For non-Internet firms, the value drivers are sales growth, relative offering size, and the information gathered by the underwriter.</p>	

Paper Title	Paper Methodology (survey, interview, LR etc)	Valuation Variables mentioned	Valuation Methodology	Conclusion	Remarks
The Impact of Fundamentals on IPO Valuation	Literature review	Choice of Dependent Variables: Price-earnings Ratio, Offer Price, or Total Offer Value Three components: the replacement cost of the firm's physical capital, the net present value of the firm's expected future cash flows from assets in place, and the value of growth options associated with future technological upgrades. Seven variables comparison with a dummy (INTERNET): INCBRD, BV, SALES, R&D, INDPS, INSRET, and IBPREST	The valuation model of Abel and Eberly (2005), Regression Analysis	The data suggest that IPOs with negative earnings are correlated differently with value than IPOs with positive earnings; for example, whereas income of IPOs with positive earnings is correlated positively with valuations, income of IPOs with negative earnings is correlated negatively. The replacement cost of physical capital (book value) is correlated with IPO valuation during the crash period, consistent with the notion that tangible or physical assets became more important after the IPO bubble popped. For expected future cash flows, we find that income of IPO firms is associated with higher valuations and sales are associated with smaller valuations in the boom period compared to the late 1980s. Investment bankers and first-day investors assign different weights to post-IPO ownership and changes in ownership around the IPO of different classes of shareholders (CEOs, VCs, other blockholders, and officers and directors) when pricing the IPO.	

SHARK TANK: UNDERSTANDING THE CONCEPT

“It's a unique idea there's no question, the question is it a good idea, and if the Sharks hear a good idea, they'll fight each other for a piece of it.” - Phil Crowley on Shark Tank

Entrepreneurs can get funding and coaching through business pitch contests. In this research, we examine data from ABC's Shark Tank, the most watched and high-stakes pitch competition in the United States and other countries. This section is based on anecdotal evidence from shark interviews (with outlets such as Inc., Business Insider, and Entrepreneur Magazine) and facts observed during show episodes, as details about Shark Tank's behind-the-scenes process are restricted.

Shark Tank has been a hit since its premiere in 2009. The programme has averaged 6.72 million viewers in the United States every season, with lows of 4.81 in Season 1 and highs of 9.13 in Season 6. In the 18-to-49-year-old category, it's the most-watched show on Friday evenings. 5 Open casting calls hosted by the show's producers at colleges, accelerators, co-working spaces, and hotels have also had a constant amount of applications/auditions. According to Inc. Magazine, less than 1% of the 45,000 people who applied for a spot on the programme in 2014 were chosen,

making Shark Tank more exclusive than most prominent US institutions and their accompanying contests.

The process leading up to the pitch presentation in Shark Tank are as follows(as per the USA format):

1. Hundreds of entrepreneurs submit an application and show up to present a quick pitch to members of the team at open casting calls posted. The producers often use crowd-funding sites like Kickstarter and trade exhibitions to find companies. As they cut down the list for a specific season, they keep favourites in mind.
2. During the summer and fall, a whole season is shot in 15–17 days. The sharks travel to Los Angeles on many occasions to film marathon days in which about 20 entrepreneur applicants pitch. These parts are then combined and matched throughout many episodes, each lasting an hour and containing six pitches. Given that episodes show between late August and mid-May, there might be a time gap of a few weeks to nine months between production and broadcast.
3. The pitch/negotiation process can last anywhere from 30 minutes to 2.5 hours, depending on the quality of the idea. A normal pitch is an hour long, however it is cut down to 10 minutes to fit the episode. Everything that is broadcast is authentic; none of it has been re-taped. The tape editors, on the other hand, remove nitty gritty financial data and other sexual content. Despite this, the televised episode includes all components that are critical to the result (intention-to-fund).
4. Entrepreneurs compete against a panel of five judges who have been relatively consistent throughout time. The sharks have no prior knowledge of the entrepreneur-contestants or their products before entering the tank, therefore the viewers learn about them as well. A pitch consists of an introduction of the entrepreneur(s) and the concept/idea, followed by an initial ask (money and percentage ownership) and a question-and-answer session. The latter is designed to be a harrowing session, thus the name Shark Tank, because the judges are out for blood, just like sharks.
5. Interested sharks might compete for entrepreneur-contestants/firms or make combined offers throughout the negotiating phase. They have the right to withdraw bids at any time if they are no longer interested. Entrepreneur-contestants, on the other hand, have the option of pitting sharks against one another or declining proposals at any moment. According to the authors' findings, the median number of offers and sharks making such offers is one, with a median value of \$120,000.
6. After pitching on the show, entrepreneurs are prohibited from disclosing any details about the final product. If you don't, you'll probably end yourself in court.
7. Prior to 2013, Shark Tank (the producers) would receive a piece of the entrepreneur-business contestant's (5%) or profits (2%) in perpetuity even if no agreement was struck. Mark Cuban lobbied for the removal of this rule in 2013, claiming that it influenced the sort of entrepreneurs that auditioned for the programme.

8. Approximately 60% to 80% of the transactions struck on the show result in funding. After a contract is completed, the handshake is a good faith agreement that starts the due diligence process. If everything seems good, the sharks will see if the entrepreneurs are still interested. As a result, the show's funding decision is an intent-to-fund decision.
9. Approximately 20% of pitches are not broadcast. The producers evaluate if the failing ideas have enough drama to earn show time.
10. Sharks pitch update segments for future airing on the show based on the entrepreneur-contestants/firms they have decided to fund.

Given the foregoing, it is evident that the Shark Tank pitching process is similar to, but distinct from, day-to-day competitions such as those mentioned by Howell (2016). As a result, the pool of entrepreneurs under examination is likely to be chosen, and no declaration of absoluteness is made in this study of the findings that are indicative of pitch contests across various countries airing Shark Tank. Instead, Shark Tank is considered as a unique type of high-stakes pitch competition, and this research aims to present a fairly internally accurate story about the effects of financing after the valuation of a startup in this setting and the methods by which they occur. Data source is articles and discussions of various episodes of Shark Tank that have been aired in countries like the USA and India.

UNDERSTANDING HOW "SHARK TANK" VALUES A BUSINESS

The basic idea of the TV show "Shark Tank" is for either the Sharks (investors) or the entrepreneurs (pitchers) to persuade the other side to accept their business appraisal and negotiate a transaction based on it. The Sharks usually reply with lower valuations when the entrepreneurs come in with high valuations.

Entrepreneurs and the Sharks assess firms in different ways, but a decent valuation of a company considers elements including sales, profitability, and the worth of similar businesses in the same sector.

Investors (or Sharks) listen to proposals from entrepreneurs seeking finance. The Sharks usually want a stake in the firm in exchange for their money, which is normally a percentage of ownership and a cut of the earnings. The entrepreneur receives financing in exchange for giving up an interest in the firm, but they also gain access to the Sharks, their network of connections, their suppliers, and their experience.

Forecasting revenue, profitability, and applying a valuation to the firm are all important factors in determining the amount to invest and the percentage of ownership that each is prepared to contemplate.

Revenue Multiple: In most cases, an entrepreneur will request a monetary payment in exchange for a share of ownership. An entrepreneur, for example, may ask the Sharks for Rs1,00,00,000 in exchange for a 10% stake in the firm. The Sharks then try to figure out if it's worth what it's worth.

Typically, the Sharks will confirm that the entrepreneur values his or her company at Rs 1 crore in sales. Because 10% ownership equals Rs 10,00,000, one-tenth of the firm equals Rs 10,00,000, and ten-tenths (or 100%) of the company equals Rs1,00,00,000, the Sharks would arrive at that figure.

If the firm is worth Rs 1 crore in sales, the Sharks will inquire about the previous year's revenues. If the response is Rs 2,50,000, the company will reach Rs 1 crore in sales in four years. The Sharks would doubt the owner's Rs 1 crore valuation if the answer was Rs 75,000 in sales. However, if sales were Rs 2,50,000 last year, but the entrepreneur recently signed a sales agreement with XYZ company to sell Rs 6,00,000 worth of its products the Sharks would be more interested in the valuation based on the sales projection. To put it another way, the value takes into account not just the previous year's sales and revenue, but also the company's sales pipeline.

Earnings Multiple: The businesses featured on "Shark Tank" are not publicly listed, which means there are no stock shares or earnings multiples for investors to consider. However, the Sharks may still calculate an earnings multiple by comparing the company's profit to its value based on sales revenue.

If a firm is worth Rs 1 crore and the owner makes Rs 10,00,000 in profit, the company has an earnings multiple of ten, or (Rs1 crore / Rs10,00,000). However, we have no notion whether a 10-fold earnings multiple is beneficial to the firm.

Comparative analysis is useful in this situation. Assume the firm is a clothes shop, like in our previous example. The Sharks might compare the multiple to other businesses in the similar industry.

Let's imagine the entrepreneur is presenting a clothing line with yearly sales of Rs 1 crore and earnings of Rs10,00,000. The entrepreneur might use the specialised retail apparel sector's earnings multiples to apply the sector's KPIs. Assume the industry has a 12-fold average earnings multiple.

This would put the company's worth at Rs1.2 crore, or (12 x Rs 10,00,000). The entrepreneur may justify the arrangement for a 10% ownership in the company in exchange for a Rs10,00,000 investment from the sharks based on this value.

Future Market Valuation: The sales and profit multiples might potentially be used to generate a future valuation. The main disadvantage is that the figures are estimates and may be wrong. The Sharks are expected to inquire about the entrepreneur's sales and profit projections for the next three years. They'd next compare those figures to those of other retailers in the clothes business.

The entrepreneur may anticipate that profits over the following three years will result in a net income of Rs 4,00,00,000 in year three. With a 14.75x forward profits multiple in the retail business, the future valuation would be Rs 59 crores in sales (14.75 x Rs 4,00,00,000).

The Sharks' ultimate goal is to recoup their investment and profit. A 10% ownership for Rs 10,00,000 would be appealing if the Sharks think that the firm might earn Rs 59 crore in revenue by year three. However, it's probable that the company won't make a profit of Rs 4,00,00,000 by year three. As a result, the sharks will most likely demand a higher ownership percentage, a lower loan amount, or a combination of the two.

The Intangibles of Valuation: If the Sharks just valued a firm based on numbers, the programme would be boring and uninteresting. However, one of the reasons Shark Tank is so popular is because of the intangibles of value. In valuing firms, the Sharks, like other seasoned investors, analyse the full package—statistics, story, and experience—though the numbers are frequently the most important aspect of this exercise.

However, there are additional intangibles to consider. For example, a personal or product-related anecdote might influence their valuing judgement. If an entrepreneur has a compelling tale of perseverance and hard work, the Sharks may agree to a value without any argument.

In addition, the Sharks ask a number of questions regarding the business. They could, for example, inquire about the cost of manufacturing and the selling price of the company's goods. This will assist them in determining product margin. They will question about other expenditures, such as marketing, as well as past year's sales and future sales pipelines in order to determine product demand. Increased demand and sales are always positive indicators. However, if sales fell, remained flat, or climbed very little, the Sharks will inquire as to why they did so. If the rationale isn't compelling, the Sharks will decline.

Special Considerations-Risks to Valuation: The Sharks could argue that they can't use the same value measures from publicly listed firms to the entrepreneur's company. A small business and a public corporation are unique in various ways.

A major, well-known shop may have thousands of outlets globally, but a tiny firm may only have a handful. The danger of failure and liquidity risk in terms of an exit plan are significantly higher for small businesses, even while the growth rate is legitimately higher. The ease with which an investment may be acquired or sold is referred to as liquidity. There is plenty of liquidity when there are numerous buyers and sellers competing for an investment. Illiquidity exists when there are few buyers and sellers.

The Sharks must use risk-adjusted pricing to make the return worthwhile in light of the lack of liquidity. As a result, the Sharks have a lot more leeway when it comes to making bids based on a risk-adjusted discounted value.

The Sharks might react with a larger share in the firm, such as 30% ownership in exchange for Rs 20,00,000. Even if the Sharks' ownership stake should be lower based on the valuation metrics (revenue and earnings), the risk of loss from investing in an unknown company typically increases the Sharks' ownership stake.

Based on the intangibles they bring to the table, the Sharks might expand their ownership stake. Experience, access to retail venues for selling items, and supply networks are examples of intangibles.

CONTENT ANALYSIS

To add to understanding the process of valuation methods that is employed on the show a content analysis is used to validate the same. The data for content analysis has been sourced from articles, blogs, newspaper magazines consisting of the proceedings of a regular pitch, ask and deal finalization over a period of episodes aired in different countries. For analysis a word cloud is made to identify the keywords. In addition the frequency and relevance is also associated. The identified keywords are then classified on the basis of their attributes.

The idea behind this content analysis is to identify the keywords used in the conversation between the sharks and the pitchers. These keywords could be identified as the key drivers in the valuation process involved in the show. The relevance can be then made out and related to the regular valuation process employed off air in a normal valuation and funding process.

Analysis

reliability of the shark, the contestant's background, revenue, realities associated, the people involved in the business.

These things very much align with the normal valuation process of a startup as mentioned in the literature review in the above section.

WORD	COUNT	RELEVANCE
valuation	20	0.99
shark	19	0.305
deals	18	0.456
company	17	0.471
equity	14	0.443
show	14	0.348
contestant	13	0.232
entrepreneur	11	0.466
offers	11	0.263
shark tank	10	0.393
pitch	8	0.198
equity share	4	0.785
lakh	4	0.311
shark tank india	3	0.883
counter offers	3	0.589
success rate	3	0.393
shark tank history	2	0.589
round of fundraising	2	0.589
shark tank contestant	2	0.589
smaller valuation	2	0.393
popup play	2	0.393
percentage point	2	0.393
good tv	2	0.393
average contestant	2	0.393
certain niche categories	1	0.294
smaller sample size	1	0.294

department of labour	1	0.294
average dollars amount	1	0.294
round of funding	1	0.294
type of business	1	0.294
landscape of reality	1	0.294
shark chris sacca	1	0.294
demographic of shark	1	0.294
contestant pitching lifestyle	1	0.294
food & beverage	1	0.294
shark tank producer	1	0.294
business services space	1	0.294
tank india season	1	0.294
deals success rate	1	0.294
company money	1	0.196
next hasbro	1	0.196
middle season	1	0.196
certain industry	1	0.196
real world	1	0.196
biggest deals	1	0.196
early stage	1	0.196
divya bhati	1	0.196
representative distribution	1	0.196
beverage pitch	1	0.196

The confidence of the content analysis is 89.6% which implies that we can be certain of the above identified keywords.

TAG CONFIDENCE
Positive 89.6%

The most relevant keywords from the content are as mentioned below:

TAG	VALUE
KEYWORD	shark tank india
KEYWORD	equity
KEYWORD	valuation
KEYWORD	entrepreneur
KEYWORD	equity share
KEYWORD	round of fundraising
KEYWORD	counter offers
KEYWORD	deals
KEYWORD	shark tank contestant
KEYWORD	shark tank history

The 50 keywords from the word cloud has been further divided as per three attributes, namely:

- Action
- Aspect
- Qualifier

This classification tells us about the mode of association of the identified keywords with the subject content or the context. It helps in understanding the intent behind the words used, here them being the three attributes mentioned above.

TAG	VALUE	RELEVANCE
action	offer	0.883
action	round	0.589
action	sacca	0.196
action	demographic	0.196
action	shark	0.196
aspect	valuation	0.99
aspect	india	0.785
aspect	shark tank	0.589
aspect	history	0.589

aspect	company	0.471
aspect	tank	0.466
aspect	deal	0.456
aspect	contestant	0.443
aspect	lakh	0.393
aspect	rate	0.393
aspect	fundraising	0.393
aspect	shark tank	0.393
aspect	contestant	0.393
aspect	valuation	0.393
aspect	offer	0.348
aspect	counter	0.311
aspect	shark	0.305
aspect	popup	0.294
aspect	percentage	0.294
aspect	good	0.294
aspect	contestant	0.294
aspect	niche	0.294
aspect	sample size	0.294
aspect	labour	0.294
aspect	dollar	0.294
aspect	funding	0.294
aspect	type	0.294
aspect	business	0.294
aspect	pitch	0.263
aspect	shark	0.198
aspect	landscape	0.196
aspect	shark	0.196
aspect	shark	0.196
aspect	contestant	0.196
aspect	lifestyle	0.196

aspect	food	0.196
aspect	beverage	0.196
qualifier	success	0.589
qualifier	small	0.393
qualifier	average	0.294
qualifier	certain	0.294
qualifier	small	0.294
qualifier	average	0.294
qualifier	shark	0.232

SUGGESTIONS FOR THE PITCHERS

As per the literature and common practices observed on the show, following are a few recommendations:

1. **Focus on not your business, but the agreement:** Entrepreneurs enter the shark tank with a beginning offer for the sharks, which is normally in the form of a percentage of shares for a certain price. The offer price (P) is calculated by multiplying the equity percent (E) by the company's value (V): $P = E \times V$. The indicated value is $V = P / E$ using this calculation. So, if they're asking \$100,000 for 10%, they're valuing the firm at \$100,000 divided by 10% = \$1 million. The sharks trying to haggle the price down or the stake up based on the indicated valuation, and the entrepreneurs defending that valuation, creates a lot of tension on the show. Many entrepreneurs get stuck up here and lose the sharks because they value their company rather than the transaction. In actuality, the "price" an entrepreneur receives in return for their shares is the cash and value they provide to the firm, not the money the sharks pay. However, this is rarely taken into account when determining their worth. The price less the equity cost plus the added value is the benefit to the entrepreneur, or: $P - 20\% \times \$1 \text{ million} + 30\% \times \1 million Equals $P + \$100,000$ This means the entrepreneur will make \$100,000 even if the pricing is set at zero. So, what are the takeaways? Prepare to give something out for free! When a shark offers you P for an equity interest E, it does not indicate the company's worth is P/E. Even if the shark justified their offer by claiming that "your firm isn't worth that much," the fact is that they just require a lower price or a greater share since they are providing value that costs them time and money. Instead, think about the deal's worth.

2. **Keep an eye out for collaboration:** Entrepreneurs frequently haggle with sharks and want to leave the tank to speak with an advisor or partner about their proposals. When your buyers work together, there's a chance they'll form a monopsony and lower the price. You want your sharks to compete instead. So stay in the tank and don't let your sharks work together behind your back!
3. **The shot clock's game theory:** Sharks will occasionally give entrepreneurs take-it-or-leave-it agreements that will expire if they do not receive a response straight away. If a shark believes that continuing to negotiate will damage their position, then this technique makes sense. So, what can we learn from game theory about this? If a shark makes a shot clock offer, the entrepreneur should first assume that the shark feels the entrepreneur has a better bargaining position than they realise. In this static scenario, you could be tempted to infer that rejecting the shark's offer is fine because the deal's worth may be positive for the shark even if additional sharks enter the market and bid. Entrepreneurs must be cautious in assuming this, because shark tank is a dynamic, not a static, game for investors. This indicates that the worth of making or not striking a deal is determined not only by the current arrangement, but also by their future negotiating credibility. This is an example of dynamic versus static optimization in action. When a shark follows through on a shot clock threat, it may appear that they are squandering money or failing to maximise in the static game. Failure to follow through would jeopardise the sharks' capacity to make future threats, which would be a failure to maximise in the dynamic game. Consider both the static and dynamic game, as well as the value of credible threats to each shark, while dealing with sharks.

CONCLUSION

The following conclusions may be drawn from this conceptual article's rigorous examination of academic research and professional practise. To begin with, it is evident that standard valuation methodologies are insufficient for determining the worth of a business. As a result, new valuation methodologies such as the real option method (ROM), venture capital method (VCM), first Chicago method (FCM), and modified DCF approach were developed (MDCFM). Investors, business angels, and valuation specialists created new methodologies to estimate a startup's worth over time, based on empirical facts and field experience.

This analysis provides an overview of the novel methodologies investigated and highlights several key concerns, yet they are more appropriate for determining the value of a business than standard methods. Investor-created methodologies like the scorecard approach, the Berkus method, and the RFSM give greater attention to qualitative elements that are crucial for the business, but these

qualitative factors are valued using subjective and arbitrary coefficients. Online automated valuations are more beneficial as a support tool than as genuine valuation techniques due to the uniformity of the evaluative process and the use of arbitrary coefficients. The state of the art presented here reveals a composite framework and implies that there is presently no "ideal" startup valuation approach and that there is much potential for development. The goal of a valuation approach, particularly in the case of a startup, is not to eliminate uncertainty (which is impossible), but to best reflect the firm's worth by taking into account the startup's unique qualities.

This research sheds light on the present trend in startup valuation methodologies, namely, the gradual rejection of inexact and arbitrary approaches in favour of those based on the following major determinants: - paying attention to future projections rather than historical data; - considering multiple scenarios using probability; - comprehending and paying attention to a startup's distinctive business strategy rather than data on comparable firms in the market. Indeed, valuation methodologies that take into account probability-adjusted or risk-adjusted projections provide a more sophisticated analysis of predicted future occurrences, and hence a more refined estimate of enterprise value (Halt et al., 2007). Academic literature and professionals are encouraged to create valuation methodologies that sufficiently incorporate and harmonise the three criteria stated above, which are regarded as the most essential elements in achieving a valid startup value.

DISCUSSION AND FUTURE RESEARCH

Taking into account the expansion and relevance of the economy for startups, it is critical to have accurate methodologies for determining their worth. It's difficult to discover an appropriate technique to value early-stage firms due to their unique characteristics. Traditional startup valuation methodologies (cost approach, income approach, and market approach) are ineffective. As a result, academic research and experienced investors have developed different and new valuation methods for these firms throughout time.

A rigorous literature assessment of the key new methodologies has been offered in this conceptual article, explaining the merits and limitations of each. We looked at the real option method, venture capital method, first Chicago method, modified DCF method, and methods developed directly by experienced investors or practitioners, such as the rule of thirds, replacement method, value-based balance sheet, Berkus method, scorecard method, risk factor summation method, and the automatic web valuator created to assess startup value. We have also tried to understand the whole process of the TV series Shark Tank to get a gist of the thought process behind the valuation of startups.

The findings revealed that there is presently no "ideal" way for determining startup value. Each model under consideration has substantial limitations, and there are several ways to enhance it. We

are seeing a gradual shift away from more arbitrary valuation models, and awareness is growing that, in order to better assess startup value, three factors must be considered: future forecasts rather than past data, probability to consider different scenarios, and understanding and paying attention to a startup's specific business model rather than data on comparable companies in the market. Currently, none of the approaches presented successfully combines these three characteristics.

In light of this information, we anticipate that the academic literature will produce new valuation techniques (or improve current ones) that take into account the three qualities indicated earlier in the near future. In this approach, a more appropriate method for assessment may be developed. In this approach, a more appropriate technique for measuring startup value may be developed, one that reduces uncertainty and better depicts startup value, making startup valuation more dependable.

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