Startups : An insight into characteristics and valuation methods

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Business valuation is never straightforward - for any company. For startups with little or no revenue or profits and less-than-certain futures, the job of assigning a valuation is particularly tricky. For mature, publicly listed businesses with steady revenues and earnings, normally it's a matter of valuing them as a multiple of their earnings before interest, taxes, depreciation, and amortization (EBITDA) or based on other industry specific multiples. But it's a lot harder to value a new venture that's not publicly-listed and may be years away from sales.

What Is a Startup

A startup company is a new business that is potentially fast growing and aims to fill a hole in the marketplace by developing and offering a new and unique product, process, or service but is still overcoming problems. Most countries of the world consider the development and implementation of innovative technologies as a necessary thing for the economic growth. So, to make the country a leader in innovation and, as a result, to make the country a competitive one, it is necessary to develop and commercialize new products and technologies or, in other words, to develop the startup business sphere. It may be a cliché that the entrepreneurs provide the energy for economic growth, but it is also true that vibrant economies have a large number of young, idea businesses, striving to get a foothold in markets. Young ventures have seized control of billions of lives providing solutions to everyday problems that seemed to be non-existent before

A startup is equivalent to a unique idea which can have an immense value. According to Blank et Dorf (2014, p. 56), a "startup is a group of people looking for a repeatable and scalable business model, working under conditions of extreme uncertainty.A startup is typically a venture that aims to bring a new and innovative service, product or process into the marketplace. The founder is generally the entrepreneur who runs with the idea. The founder often starts small and looks for angel / venture funding. There are a number of avenues that can be utilized to secure funding and get momentum. The founder is often a passionate new entrepreneur from a venerable B-school who does not want to limit the potential of the idea, a group of young and fired up management and technology majors can be instrumental in initiating a dynamic platform. The risk here is not huge as the founders still have the option to go back to the drawing board if the venture faces problems. In the other scenario the founders could be experienced veterans of the technology or corporate world who have given up humongous salaries to set up their dream project. This is more fraught with risks as the capital and labor in the initial stages is often the life savings of the entrepreneur.

Characteristics of startups

As we noted in the last section, young companies are diverse, but they share some common characteristics. In this section, we will consider these shared attributes, with an eye on the valuation problems/issues that they create.

1. No history: At the risk of stating the obvious, young companies have very limited histories. Many of them have only one or two years of data available on operations and financing and some have financials for only a portion of a year, for instance.

2. Small or no revenues, operating losses: The limited history that is available for young companies is rendered even less useful by the fact that there is little operating detail in them. Revenues are small or non-existent for idea companies and the expenses often are associated with getting the business established, rather than generating revenues. In combination, they result in significant operating losses.

3. Dependent on private equity: While there are a few exceptions, young businesses are dependent upon equity from private sources, rather than public markets. At the earlier stages, the equity is provided almost entirely by the founder (and friends and family). As the promise of future success increases, and with it the need for more capital, venture capitalists become a source of equity capital, in return for a share of the ownership in the firm.

4. Many don't survive: Most young companies don't survive the test of commercial success and fail.

5. Multiple claims on equity: The repeated forays made by young companies to raise equity does expose equity investors, who invested earlier in the process, to the possibility that their value can be reduced by deals offered to subsequent equity investor

6. Investments are illiquid: Since equity investments in young firms tend to be privately held and in non-standardized units, they are also much more illiquid than investments in their publicly traded counterparts.

Difference Between Startup Valuation and Mature Business Valuation

Startup businesses will usually have little or no revenue or profits and are still in a stage of instability. It is likely their product, procedure, or service has reached the market yet. Because of this it can be difficult to place a valuation on the company. With mature publicly listed businesses that receive steady revenue and earnings it is a lot easier. All you have to do is value the company as a multiple of their earnings before interest, taxes, depreciation, and amortization (EBITDA). Valuing a startup is more of an art than science, what we meant is that the most scientific methods of valuation Discounted Cash Flows (DCF), Net Asset Value (NAV), Comparable Method, etc. seem to fall apart when it comes to startup as most of the startups are pre-revenue and focuses on growth more than positive cash flows, some are creating their own niche and thus, no comparable exists, some are just an idea which has yet to be fully accepted by the end users

Startup valuation essentially points out the worth of your business—its idea, the product or service and so on. Start-up valuation is different from valuing any running business due to many reasons. Start-ups may not have :

- Business experience
- Operational skill set
- Brand name for their products/services
- Strong R&D base
- Dedicated execution team
- Experience of affording sudden economic shocks
- A required amount of fund etc.

What determines a startup value?

A startup is like a box. A very special box. The box has a value. Its value increases as you put more things in the box The valuation of startup companies is determined by a cohort of positive and negative factors

Positive Factors

- **Traction** – One of the biggest factors of proving a valuation is to show that your company has customers
- **Reputation** – If a startup owner has a track record of coming up with good ideas or running successful businesses, or the product, procedure or service already has a good reputation a startup is more likely to get a higher valuation, even if there isn't traction
- **Prototype** – Any prototype that a business may have that displays the product/service will help.
- **Revenues** – More important to business to business startups rather than consumer startups but revenue streams like charging users will make a company easier to value
- **Supply and Demand** – If there are more business owners seeking money than investors willing to invest, this could affect your business valuation. This also includes a business owner's desperation to secure an investment, and an investors willingness to pay a premium.
- **Distribution Channel** – Where a startup sells its product is important, if you get a good distribution channel the value of a startup will be more likely to be higher.
- **Hotness of Industry** – If a particular industry is booming or popular (like mobile gaming) investors are more likely to pay a premium, meaning your startup will be worth more if it falls in the right industry.

Negative Factors

- **Poor Industry** – If a startup is in an industry that has recently shown poor performance, or may be dying off.
- **Low Margins** – Some startups will be in industries, or sell products that have low-margins, making an investment less desirable.
- **Competition** – Some industry sectors have a lot of competition, or other business that have cornered the market
- **Management Not Up To Scratch** – If the management team of a startup has no track record or reputation, or key positions are missing.
- **Product** – If the product doesn't work, or has no traction and doesn't seem to be popular or a good idea.
- **Desperation** – If the business owner is seeking investment because they are close to running out of cash.

Literature review

There are fewer topics more cloaked in mystery, black magic and aspiration than [startup] valuation. People regularly speak of inflated valuations—or insane valuations—but it is difficult to know what anchors the numbers (Vetter, 2016). research has shown that the valuation is important because it aligns the ambitions of the entrepreneur and investor, helps structure and assure a fair treatment (Clercq et al. 2006) and reduces the sources of potential conflict between the entrepreneur and the investor (Zacharakis, Erikson, and Bradley 2010). The seminal venture capital study by Tyebjee and Bruno (1984) shows that the venture capital investment follows a somewhat well-defined process – starting from deal origination and ending at the exit of investment. In this staged process, the valuation of an entrepreneurial firm is one of the most important and challenging issues facing both entrepreneurs and

venture capitalists. Tyebjee and Bruno (1984) maintain that establishing the price of venture capital is the heart of any negotiation between the founders of the venture and potential investors. According to mainstream finance theory, the economic value of any investment is the present value of its future cash flows (Brealey, Myers, and Allen 2007). Simple as it is, this axiom definition of economic value presents a challenge to financial valuation methods when applied to valuating a new venture. The commonly used valuation techniques in corporate finance (e.g. discounted cash flow method, earning multiple method and net asset method, etc.) depend on strict assumptions and require information that new ventures typically cannot provide (such as accounting information). Hence, their applicability is severely limited in valuating early-stage new ventures and both venture capitalists and entrepreneurs are frustrated by huge variance of valuations computed from the extant methods for exactly the same new venture. Practically, the practice of startup valuation by venture capitalists remains a 'guess' and 'alchemy'.

The need for more rigorous research in venture capital investment, in general, has also been recognized by many prominent entrepreneurship scholars. For example, Barry (1994, 3) points out that 'in spite of the intriguing issues in venture capital finance, relatively little has been published on this subject in the most influential finance journals'. Furthermore, some studies (see, e.g. Waldron and Hubbard 1991; Hall and Hofer 1993; Gompers 1999) review studies of startup valuation in both the entrepreneurship and corporate finance literature and find that there is a gap in the extant literature. More recently, several studies in the entrepreneurial finance literature have investigated the factors that influence the investment process. For example, Silva (2004) studies venture capitalists' (VCs) decision-making and finds that their attention is focused on the entrepreneur, the business idea, its sustainable advantages and growth potential. According to his study, the financial projections of the prospect do not seem to play a major role in the selection of early-stage projects. Levie and Gimmon (2008) explain why there is a suboptimal evaluation by investors of the human capital of first-time high tech venture founders – they support the idea that there is a gap between in-use and espouse investment criteria, and extensive use of gut feeling in decision-making

Theoretical framework and hypotheses According to the finance literature (Brealey, Myers, and Allen 2007), the valuation process of the firm is complex because of the diversity of factors that come into play. It goes far beyond pure financial considerations of balance sheets, income statements and the financial forecasts. For example, industry characteristics, such as intensity of rivalry, entry and exit barriers, and firm characteristics, such as its development stage and competitiveness, are qualitative rather than quantitative factors which significantly influence firm value.The Most Popular Startup Valuation Methods

Funding Stages

Because startups typically go through a series of 'funding stages' their valuations can differ after each round of funding, and typically they'll want to show growth between each round, the usual funding stages are as follows,

1. **Seed Funding** – Typically known as the 'friends and family' round because it's usually people known to the business owner who provide the initial investment. But, Seed funding can also come from someone not known to the founder called an 'Angel Investor'. Seed Capital is often given in exchange for a percentage of the equity of the business, usually 20% or less.
2. **Round A Funding –** This is the stage that venture capital firms usually get involved. It is when startups have a strong idea about their business and product and may have even launched it commercially. The Round A funding is typically used to establish a product in the market and take the business to the next level, or to make up the shortfall of the startup not yet being profitable.
3. **Round B Funding –** The startup has established itself but needs to expand, either with staff growth, new markets or acquisitions.

4. **Debt Funding –** When a startup is fully established it can raise money through a loan or debt that it will pay back, such as venture debt, or lines of credit from a bank.
5. **Mezzanine Financing and Bridge Loans** – Typically the last round of funding where extra funds are acquired in bridge financing loans in the run up to an IPO, acquisition, management buyout, or leveraged buyout. This is usually short-term debt with the proceeds of the IPO or buyout paying it back.
6. **Leveraged Buyout (LBO)** – A Leveraged Buyout is the purchase of a company with a significant amount of borrowed money in the form of bonds or loans instead of cash. Usually the assets of the business being purchased are used as leverage and collateral for the loan used to purchase it.
7. **Initial Public Offering (IPO)** – An Initial Public Offering is when the shares of a company are sold on a public stock exchange where anyone can invest in the business. IPO opening stock prices are usually set with the help of investment bankers who help sell the shares.

Valuing Start-up Companies: Estimation Issues and Valuation Challenges

How to valuate a company accurately is a meaningful question especially for a venture investor because it reflects the return the investor may receive.The review of some of the classical approaches to valuating of business shows that the existing methods of valuation are not able to provide consistent results for an early-stage businesses. They require accounting information that a new venture typically cannot provide. That is the main problem. With startup valuations there is no substantial information to base a valuation on other than assumptions and educated guesses.

Startups are difficult to value for a number of reasons. Some are start-up and idea businesses, with little or no revenues and operating losses. Even those young companies that are profitable have short histories and most young firms are dependent upon private capital, initially owner savings and venture capital and private equity later on. As a result, many of the standard techniques we use to estimate cash flows, growth rates and discount rates either do not work or yield unrealistic numbers. In addition, the fact that most young companies do not survive has to be considered somewhere in the valuation. In this paper, we examine how best to value young companies. We use a combination of data on more mature companies in the business and the company's own characteristics to forecast revenues, earnings and cash flows. We also establish processes for estimating discount rates for private capital and for adjusting the value today for the possibility of failure. A startup company's value, is largely dictated by the market forces in the industry in which it operates. Specifically, the current value is dictated by the market forces in play TODAY and TODAY'S perception of what the future will bring.

The Dark Side of Valuation With the estimation challenges that analysts face in valuing young companies, it should come as no surprise that they look for solutions that seem to, at least on the surface, offer them a way out. Many of these solutions, though, are the source of the valuation errors we see in young company valuations. The biggest determinant of your startup's value are the market forces of the industry & sector in which it plays, which include the balance (or imbalance) between demand and supply of money, the recency and size of recent exits, the willingness for an investor to pay a premium to get into a deal, and the level of desperation of the entrepreneur looking for money. *You need to pay attention to elements that influence growth*. The most common things to look at include things such as: The hotness of the industry, The capabilities of the startup team, product or service and its competitive advantage.

There are many different methods used in deciding on a startup's valuation which are discussed hereunder

- Venture Capital Method
- Berkus Method
- Scorecard Valuation Method
- Risk Factor Summation Method
- Cost-to-Duplicate Method
- Discounted Cash Flow Method
- Valuation By Stage Method
- Comparable Method
- The Book Value Method
- Potential value at exit
- Sum of the parts method
- First Chicago Method

Venture Capital Method

The Venture Capital Method (VC Method) is one of the methods for showing the pre-money valuation of pre-revenue startups. The concept was first described by Professor Bill Sahlman at Harvard Business School in 1987.

It uses the following formulas:

- Return on Investment (ROI) = Terminal (or Harvest) Value ÷ Post-money Valuation
- Post-money Valuation = Terminal Value ÷ Anticipated ROI

Terminal (or Harvest) value is the startup's anticipated selling price in the future, estimated by using reasonable expectation for revenues in the year of sale and estimating earnings

Berkus Method

The Berkus Method assigns a range of values to the progress startup business owners have made in their attempts to get the startup off of the ground. Sound Idea *(basic value),* Prototype *(reducing technology risk),* Quality Management Team *(reducing execution risk,* Strategic relationships *(reducing market risk),* Product Rollout or Sales *(reducing production risk). Each factor enhances the valuation of the startup.*

Scorecard Valuation Method

The Scorecard Valuation Method uses the average pre-money valuation of other seed/startup businesses in the particular business segment, and then judges the startup that needs valuing against them using a scorecard in order to get an accurate valuation

- The first step is to find out the average pre-money valuation of pre-revenue companies in the region and business sector of the target startup
- The next step is to find out the pre-money valuation of pre-revenue companies using the Scorecard Method to compare. The scorecard is as follows,
    - **Strength of the Management Team** – 0-30 percent
    - **Size of the Opportunity** – 0-25 percent
    - **Product/Technology** – 0-15 percent
    - **Competitive Environment** – 0-10 percent
    - **Marketing/Sales Channels/Partnerships** – 0-10 percent
    - **Need For Additional Investment** – 0-5 percent
    - **Other** – 0-5 percent
- The final step is to assign a factor to each of the above qualities based on the target startup and then to multiply the sum of factors by the average pre-money valuation of pre-revenue companies

Risk Factor Summation Method

The Risk Factor Summation Method compares 12 elements of the target startup to what could be expected in a fundable and possibly profitable seed/startup using the same average pre-money valuation of pre-revenue startups in the area as the Scorecard method. The 12 elements 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:

- +2 - very positive for growing the company and executing a wonderful exit
- +1 - positive
- 0 - neutral
- -1 - negative for growing the company and executing a wonderful exit
- -2 - very negative

Cost-to-Duplicate Method

This approach involves looking at the hard assets of a startup and working out how much it would cost to replicate the same startup business somewhere else. The idea is that an investor wouldn't invest more than it would cost to duplicate the business. For example if you wanted to find the cost-to-duplicate a software business, you would look at the labour cost for programmers and the amount of programming time that has been used to design the software. The big problem with this method is that it doesn't include the future potential of the startup or intangible assets like brand value, reputation or hotness of the market.

Discounted Cash Flow (DCF) Method

This method involves predicting how much cash flow the company will produce, and then calculating how much that cash flow is worth against an expected rate of investment return. A higher discount rate is then applied to startups to show the high risk that the company will fail as it's just starting out.This method relies on a market analyst's ability to make good assumptions about long term growth which for many startups becomes a guessing game after a couple of years.

Valuation by Stage

The valuation by stage method is often used by angel investors and venture capital firms to come up with a quick range of startup valuation.

This method uses the various stages of funding to decide how much risk is still present with investing in a startup. The further ahead a business is along the stages of funding the less the present risk. A valuation-by-stage model might look something like this:

- Estimated Company Value Stage of Development
- Has an exciting business idea or business plan
- Has a strong management team in place to execute on the plan

- Has a final product or technology prototype
- Has strategic alliances or partners, or signs of a customer base

Comparables Method

This method is to literally look at the implied valuations of other similar startups, factoring in other ratios and multipliers for things that may not be similar between the two businesses. Knowledge of other businesses in an industry and geographical location and what they are valued at is key to figuring out the value of a startup in the same industry and location, which is why several of the startup valuation methods include this

The Book Value Method

This method is based solely on the net worth of the company. i.e. the tangible assets of the company. This doesn't take into account any form of growth or revenue, and is usually only applied when a startup is going out of business.

Potential Value at exit

The goal of the early-stage investors is to look for 10 to 20 times the return on their investments. This is by far one of the most used processes to establish valuations. The investor guestimates the exit value of the company based on recent mergers and acquisition (M&A) transactions in the sector and sometimes also looks at the valuation of similar public companies.

Sum of the parts method

Sum-of-the-parts ("SOTP") or "break-up" analysis provides a range of values for a company's equity by summing the value of its individual business segments to arrive at the total enterprise value (EV). Equity value is then calculated by deducting net debt and other non-operating adjustments. For a company with different business segments, each segment is valued using ranges of trading and transaction multiples appropriate for that particular segment

First Chicago Method

This method factors in the possibility of a startup really taking off, or really going badly. To do this it gives a business owner three different valuations

- Worst case scenario
- Normal case scenario
- Best case scenario

No one approach as explained above would provide the right valuation for startups. Sophisticated angels and entrepreneurs use several methods to value a startup because no single method is useful every time. Multiple methods also help in the negotiation process because an average can be determined from among them. Since most startups have little-to-no history, revenue and earnings, there isn't much information to analyze or plug into a spreadsheet. To close this gap, angels can look for clues from similar startup deals in the same region and industry. Like real estate, valuations will go up and down depending on market forces. Expect lower valuations during a recession and higher in boom times when there is more competition for investment. Startup valuations may also be adjusted up or down based on the strength of the management team, location of the business, industry or market.

Like Payne says, "It really is an art. Entrepreneurs and professors would love for it to be something that we just throw an Excel spreadsheet at. But there is no perfect methodology to establish the pre-money valuation of pre-revenue ventures, making it even more important for investors and entrepreneurs to know how the number is derived."

Conclusion

A start-up is characterised by having little or no revenue, negative cash flows, being mostly lossmaking, having short histories, a binary business model and being dependent on equity financing. It is extremely hard to determine the accurate value of a company while it is in its infancy stages as its success or failure remains uncertain. Valuing a business at any stage of it's lifecycle is difficult, but early stage is particularly problematic. Remember that valuations are nothing but formalized guesstimates. For an established business, knowing the valuation is rather straightforward. The market value of the business can be calculated using tangible metrics and assets, such as revenue, profits and customers.Just as beauty lies in the eyes of the beholder, value too is based upon the outlook of the person who is valuing the company. *Value is therefore a relative concept.*

There's a saying that startup valuation is more of an art than a science. Startup valuation, as frustrating as this may be for anyone looking for a definitive answer, is, in fact, a relative science, and not an exact one. Valuing a start-up comprises throws up many problems, the first one of them being that it is extremely hard to tell what the future of the company will be, or more precisely if it will survive at all in the coming years. Because of this an estimation has be to be used, which is why several startup valuation method frameworks have been invented to arrive at reasonable acceptable valuation of startups.

Bibliography

- Damodaran Aswath, The Dark Side of Valuation, Valuing young, distressed and complex businesses,2nd edition
- Damodaran Aswath,"Valuing Growth companies" AAII Journal December 2011 p.30
- Beneda, N. L. (2003). Estimating free cash flows and valuing a growth company. *Journal of Asset Management* (4), 247–257
- Black, E. (2003). Usefulness of financial statement components in valuation: Anexamination of start-up and growth firms. *Venture Capital 5* (1), 47–69
- Cornell, B., & Damodaran, A. (2014). Tesla: Anatomy of a Run-Up. *The Journal of Portfolio Management 41* (1), 139–151
- Damodaran, A. (2009). *Valuing Young, Start-up and Growth Companies: Estimation Issues andValuation Challenges Available at SSRN 1418687*
- Damodaran, A. (2000). *The Dark Side of Valuation: Firms with no Earnings, no History and noComparables.* NYU Working Paper No. FIN-99-022
- Goldman, M. (2008). Valuation of Startup and Early-Stage Companies. *The Value Examiner* ,(August), 8–16.32.
- Hwang, R. (2008). Whats Your Company Worth? Ask an Algorithm. *Inc. Magazine* ,(December), 31–33.

- Mills, R. W. (1998). How do You Value a Start-up Company? - The Flotation of Orange. *Long Range Planning 31* (3), 446–454.43.
- Miloud, T., Aspelund, A., & Cabrol, M. (2012). Startup valuation by venture capitalists: anempirical study. *Venture Capital 14* (2-3), 151–174.44.
- Ochse, G. (2014). What's your start-up worth? *Finweek*