VC4A Guide to Valuations

Business valuation is a key aspect of your effort to attract investment. The value of your company determines the share of your business that you need to transfer to an investor in exchange for their investment. When you are just starting, your company is not making any money yet. However, that does not automatically mean that the value of your company should be zero. You probably already have spent time and money to bring your idea to a certain stage. If you have a good idea and your business has growth potential, your business will already have value, especially if you are uniquely positioned to develop the idea into a flourishing business.

From the point of view of the investors, valuation will help them to understand what sort of returns they can make when they sell their share in your company in the future. Your business plan should indicate for how much your company could be sold within several years and how much money it will take to reach the point that it can be sold for that price. Today's valuation for a large part determines what percentage of the company the investors own in the future, and accordingly, what sort of returns they could make.

You might wonder whether it is better to have high or low valuation for your startup when you are raising capital. Typically, you would want to have a higher valuation to keep as many shares as possible for yourself. On the other hand, investors prefer a lower valuation as it gives them a higher ownership percentage. There are several reasons why you may not want to set the highest possible valuation. First, most growing companies need to raise money several times. When you will be raising money for a second or third time, both you and your current investors will want to have a higher valuation. In addition, new investors do not favor a valuation that is lower than it was in the previous round as well. Second, the valuation that you get today affects the exit possibilities. If you raise money at a high valuation, investors will expect to earn a high multiple on their investment when they sell their share of the company. Therefore, it is important not to set your valuation too high.

When you make a valuation of your company, you should not see this as a price you will certainly get. Usually it ends up being a number that both sides – you and a potential investor – agree on. There are several methods to estimate valuation, and investors will look at the outcome of the different methods to determine and negotiate a final valuation. This means that the number is not precise, and valuation is used more to see whether the deal makes sense or not, that is what kind of multiple it will provide to investor when he/she decides to sell the share.

Valuation methods

In this section, we will shed some light on how valuations are conducted. It is important to understand that valuing a company is not an exact science. Especially for a starting company it is difficult to estimate its future potential and exit options as there are no current financials or operations to base any valuation on. Therefore, the valuation depends more on factors such as the investors belief in the market opportunity and your competitive advantages.

1. Valuation by stage

The first method is a rather standardized valuation method often used by incubators and accelerators, and arguably hardly a real valuation method. Rather than working out the value per company and negotiating separately with each company, they simply value companies according to their stage of development. An example would be an accelerator that has a

standard structure for all companies whereby they require a 10% stake in each startup they support, in exchange for an investment of USD 10,000 (plus business support). This implies a valuation[1] of 10,000 / 10% = USD 100,000 for each startup. Also venture capitalists often use standard valuations or valuation ranges for companies depending on their development stages. The stage of development reflects the company's level of risk, and generally speaking, the lower the risk the higher the value of the company. An example for an investor operating in a certain market can be the following[2]:

Company Value (USD)	Stage of Development
100,000	Exciting business idea or business plan
250,000	Strong (management) team in place
500,000	Final product or technology prototype
1,000,000	Fast growing customer base, key strategic partnerships in place
>1,000,000	Clear pathway towards revenue and profitability growth

Different types of investors come at each stage, and if the company is running according to plan, there is usually a substantial jump in valuation at each stage. For example, the rise in valuation between the first two stages is relatively low, for example because mainly the team risk has been eliminated. The increase is relatively larger at the later stages, when you have already proven that the market exists and people are already buying the product.

Through this method, you can determine the stage of your business, set a general price range and determine the type of investors you are looking for. But be beware that these amounts and categories can be different per sector, country, etc. Investors probably have a general idea about the price range for a startup like yours, and if you are within the relative range, then the exact price is a point for future negotiations and will depend on how much the investor really wants to invest and how many other investors are interested.

2. Cost-to-Duplicate

When you are talking to an investor about a price for your company, they will always try to estimate how much it would cost them to build the company from scratch e.g. what is the capital required to get a new business to the same stage. In other words, investor try to work out the costs-to-duplicate. This includes the fair market valuation of physical assets (which can include the cost of labor required to produce the asset if it was created by your startup) plus the costs that have already been incurred, such as the costs for research and development, patent costs or a cost to build a prototype of a product (or service). This method results in a very important data point used to determine the value of your company.

Look at it this way. Suppose that your company consists of a small factory with a small specialized team, and you are looking to scale up using money from outside investors. Why would an investor value your company at 2 million dollars if they could just build the factory and hire a team of experts for 1 million themselves? Investors would only be prepared to pay a "premium" to cost-to-duplicate when you have unique experience, knowledge, networks, contracts, etc. This is also one of the challenges of the cost-to duplicate method: it typically does not take the cost of intangible assets into account. Therefore, it usually does not fully

[1] For simplicity, we do not distinguish post-money and pre-money valuation here

[2] Please bear in mind that these ranges can differ per market, sector, regions, etc.

capture the value of a startup. It is often used as a low estimate of company value: physical infrastructure and equipment may only be a small component of the actual net worth when relationships and intellectual capital form the basis of the firm. In negotiations, this method would often represent the lowest point of a range of valuation outcomes.

3. Relative valuation: market multiple

Through this method, the value of your company is derived from the valuations of similar companies. Whereas this method is more suitable for companies that have been in existence for some time, it is also used to value startups. To understand relative valuation, think of estimating the value of a house by multiplying its floor space with the average price per square footage in the area, which is derived from other recent real estate transactions and listings in the same area. This price per square footage can be used as a multiple that is specific for a region and moment in time.

Similarly, relative valuation uses a certain metric indicating the size of your business and multiplies this with a certain multiple to arrive at an indicator of the "market value" of your business. The metric used is usually an indicator of the profitability of your business, such as **EBITDA** (see table with key terms) or net income. This multiple is usually based on **enterprise value** multiples from recent transactions in your industry. The most commonly used multiple is **enterprise value** as a multiple over **EBITDA**. For example, if your company is a textile manufacturing company in Kenya with an EBITDA of USD 200,000, and you know that an investor recently paid 5x EBITDA for another textile producer in Kenya, you know that 5x * 200,000 = 1,000,000 USD could be realistic value of your company. However, it can be quite a challenge to come up with a "fair" EBITDA multiple. No two companies are the same, and it can be difficult to obtain information about other investment transactions. Especially if you are setting up a new type of company there will be few comparable transactions available to base your valuation on.

Key terms

Enterprise value – the value of your business, or the total price investor would have to pay to buy your business.

EBITDA – a measure company's earnings before interest payments, taxes, depreciation and amortization are subtracted; serves as a proxy for company's profitability.

Depreciation – expense that measures the diminishing value of equipment. The value of any equipment tends to decrease over time due to age, deterioration and obsolescence. If you buy equipment, you need to include this reduction in value in your financial statements over the fixed period of time until the equipment is fully depreciated. When it happens, it is no longer carried as an asset in your balance sheet. However, typically, you do not need to consider depreciation of you lease a piece of equipment, as it is already included in the cost of lease.

Amortization – similar to depreciation, but also accounts for intangible assets, such as e.g. intellectual property and patents.

If you want to conduct a valuation using relative multiples, you can start by making a list of comparable companies. A good place to start are the companies with similar business models that operate in a similar industry and have recently received an investment or have been acquired. From these companies try to find those with similar financial characteristics to your own company, especially similar prospects for growth and return on invested capital. When compiling the list, think whether the companies are more capital intensive or labor intensive,

what their distribution channels are (online vs offline), which could lead to similar growth and return on investment. When you have the list, calculate the multiple of Enterprise Value over EBITDA and apply this to the recent EBITDA of your company. If you want to estimate how much you company would be worth in the future, or when you cannot use historic EBITDA (since you're a startup), you can use your estimated future EBITDA to get an indication of the value of your company today.

Although conceptually simple, relative valuation involves several specific technical aspects that can have a significantly impact on the valuation, such as cash or debt or other obligations of your company and the use of future EBITDA. Also, companies with strategic advantages, such as superior products, economies of scale or better access to customers will tend to have higher multiples. When you are using relative valuation for decision making or negotiations, please consult an expert to make sure that you are doing it correctly.

4. Discounted Cash Flow valuation

The Discounted Cash Flow method is the most sophisticated and technically complex method in this list. It is a very common method used by professionals around the world for a broad range of different situations. However, investors in startups typically don't use this method too often, as a DCF valuation requires a lot of assumptions for which often no solid information is available. A DCF valuation can be suitable for startups for which reasonably accurate financial forecasts can be made.

A DCF valuation is not easy to do yourself without training in finance. Nevertheless, we will explain you the different steps below to come to a DFC valuation.

The DFC method uses a forecast of how much cash flow the company will produce in the future based on projections in the business plan, and then, using an expected rate of investment return, calculates how much that cash flow is worth today. A higher discount rate is typically applied to startups, as there is a high risk that the company will fail to generate the cash flows as initially projected.

1. Free cash flow calculation

The first step in your DCF analysis is the financial forecast and **Free Cash Flow** (FCF) calculation. The FCF are the cash flows that are available to all investors (equity and debt). To derive your FCF, you will need to know your forecasted after-tax profit, with taxes adjusted to the cash basis. This is the profit from operations (including depreciation of fixed assets but not amortization). It must exclude **non-operating items**, **financial expenses** and all taxes related to these two. It can be calculated directly as sales minus cost of goods sold, minus other operating costs and minus taxes.

To calculate the free cash flow, subtract each period's (usually, monthly for the first year of operation and yearly for the following years) capital expenditures from the after-tax profit. If the precise timing of reinvestments in your capital is not clear, assume that you will need to set aside some percentage of your after-tax profit each year to cover these expenditures.

2. Discount rate calculation

The discount rate used is the weighted average cost of capital (WACC). This is the weighted average return that your company should reasonably make given your company's risk profile.

The WACC is a weighted average of the costs of debt (interest rate) and the costs of equity (the expected returns on equity that a typical investor would want to make on your company). For the "weighting" you should use an average (reasonable) ratio of debt financing versus equity financing in your company (which is your company's "target capital structure"). Below we will discuss the steps to work out your WACC in more detail.

Please note that the methodology below to arrive at the WACC is more common for slightly bigger transactions and in markets with a developed venture capital industry.

The formula for your weighted average cost of capital (WACC) is calculated using the following formula:

$$WACC = \frac{D}{D+E} K_d(1 - t_c) + \frac{E}{D+E} K_e.$$

D = the amount of debt in your company and E = the amount of equity in your company. When determining your target capital structure, you may think of it as the capital structure that is common in your industry. Also rely on your own views and judgement, and try to assess the maximum amount of debt you can afford (your debt capacity, indicating the amount of borrowings and interest that you will be able to repay) and rely on this amount when estimating your target capital structure.

Kd = cost of debt. This is the average interest rate on your debt. You can ask several banks for quotations to get an idea of current interest rates for a company of your size in your region.

t_c = corporate tax rate, which is the statutory tax rate of your country.

K_e = cost of equity. This is the targeted return on equity. For bigger companies, especially in mature markets, often the CAPM model is used[3]. However, for startups in Africa, most venture capital firms simply use a standard rate, for example 20% or 30%. If you want to know what a reasonable RoE would be, rather than using the CAPM model[4], you could

Key terms:

Free cash flow – the measure of how much cash is available for distribution to investors. It includes the cash flows from operations and capital expenditures, such as buildings and equipment.

Non-operating items – revenues and expenses that were not generated by the company's primary business activities.

Financial expenses – finance costs, such as interest expenses and income tax expenses.

Discount rate – the interest rate used to discount future cash flows to arrive at their present value. Discounting is based on the notion that receiving money now is worth more than receiving the same amount later, e.g. in three years, since if you get the money now you could invest it and receive an additional return over these three years.

Capital structure – the composition of different sources of capital used to finance the company; reflects how the company finances its operations and growth using different sources of funding.

Debt capacity – the amount of money borrowed that a company can pay back within a certain period of time.

Risk-free rate – the rate of return on an investment with the lowest risk in a country.

[3] See http://www.investopedia.com/terms/c/capm.asp)

[4] The basic formula is: $K_e = R_f + \beta\ (R_m - R_f)$, where: Rf = risk-free rate. A good proxy for it is a default-free long-term (5-10 years) government bond. But make sure the government has a high credit rating (meaning its bonds are relatively not risky). Beta = the sensitivity of your business to market movements. Higher beta implies that your business is more sensitive to

simply ask several investment managers in your area what sort of numbers they are working with to calculate their WACCs (if they use this method).

3. Terminal value calculation

In your free cash flow calculations, you have estimated earnings and cash flows for a forecast period of 3-5 years (called the "explicit forecast period"). At some point in the future, you stop estimating specific cash flows and instead estimate a stable level of cash flows as of that point in time. This is called "steady state". An often-used assumption is that your company's growth rate becomes consistent with a fixed growth rate (e.g. the nominal growth rate of GDP). At this point, the terminal value will be equal to the free cash flow in that year divided by WACC.

4. Calculating the present value of operations

The next step is discounting expected free cash flows to get the present value of operations. You can do this by dividing the free cash flow of each year in the forecasting period by $(1+WACC)^t$, where t is the number of the relevant year. Then, add the present values of your cash flows and terminal value to get the enterprise value of your startup. The final step is to subtract the total amount of debt and add the amount of cash to the enterprise value to arrive at the equity value of your startup.

5. Venture Capital Method

This method focuses on valuation at exit, usually using a simple multiple valuation in combination with the investor's targeted returns. It considers how many times your investor would want to multiply their investment into your company when they exit. This targeted "money multiple" is then used to work out the share they need in your business today given the expected future performance of the company.

As in other methods, start with making financial projections to derive the EBITDA or net profit in the planned year of exit (for example, 5 years from the start of investment). Next, calculate the potential value of company in the exit year using a multiple of EBITDA. Generally, this multiple is somewhere in the range of 4x – 8x, but this is completely dependent on sector, region, potential for further growth at the moment of exit, competitive bidding. For illustration, we will use a number OF 5x EBITDA as a starting point. After you get the enterprise value, subtract any outstanding loans and add cash to derive the equity value that the shareholders will get. The value of the proceeds from a sale of the investors shares is calculated as the equity value (which gives the value for 100% of shares) times the targeted investor's shareholding.

Finally, calculate the money multiple (MM) the investor can make on his/her initial investment:

$$MM = \frac{Total\ amount\ received\ back\ from\ investment\ in\ the\ company}{Total\ amount\ invested\ in\ the\ company}.$$

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market conditions. The best way to get it is to look at betas of comparable companies. Generally, there are other companies in the same business that have made it through the early stage in their lifecycle and are publicly traded. You could use their betas, that are often available online, to arrive at the estimate of the market risk associated with being in this business. Normally, this would require taking an average of their betas and making an adjustment for the capital structure dividing this average by $\left(1 + (1 - t_c) * Average\ {}^{D}/_{E}\ ratio\ for\ the\ industry\right)$.Rm = market rate of return. This is the rate of return on a market index that contains companies similar to your business (either in the same industry, or the same size, etc.).

Try to adjust the percentage of investor's shareholding that would provide them with the MM they want.

For a more commercial investor, the targeted money multiple is usually at least 3x, however this can differ per investor. Many tech venture capitalists even hope to achieve money multiples of 10-20x, but if you are a business with high social impact some investors may be willing to accept a lower return, such as 2x – 3x. Finding out what sort of returns your investors are expecting or requiring to make on their investment into your company is an important factor to discuss.

Conclusion

Several different valuation methods can be used to calculate the value of your startup. The most suitable method depends on many factors such as the stage of your company (historical financial information available or not) and the available market information (transaction multiples, interest rates, information on your investor's return requirements). The extent to which accurate financial projections can be made of your company will help to determine which methods you should use.

The different methods offer a variety of strategies that can be used to "calculate" the value of your company, where each method offers a different *perspective* on the value of your company. You should use these different angles to develop a constructive discussion with your potential investors. Investors will often use different valuation methods and financial forecasts to determine a range of values, and the agreed valuation is a number that falls within that range and that is satisfactory for all parties involved. The value of your company, and the amount that is being invested in your company, provides a basis for the division of shares between you and your investor(s).

A very important remark here is that you should not focus too much on valuation alone when assessing an offer or negotiating a deal. Investors typically use a combination of debt and equity, and sometimes there will be shares with specific rights and/or loans that can be converted into shares. The division of shares is only one aspect of the investment structure. Also, other aspects like interest rate and grace period of the loan component are examples of important factors to consider. Secondly, there are many non-financial components of an offer that determine the attractiveness of the proposed deal, such as business support, access to network and mentoring. For this reason, consider what your investor can bring your company in terms of network, expertise and reputation. Equally important, ensure there is a personal fit, where you are looking to develop a relationship for doing business long term.