

Financial lease	-	-	86	155	236
Long term debt	140	280	420	420	420
Total liabilities	140	280	506	578	671

Equity

Issued & paid-in capital	220	220	1,220	1,220	1,220
Retained earnings	(107)	(275)	(754)	(45)	7.440
Total Equity	113	(55)	466	1,175	8,660

LIABILITIES & EQUITY	253	225	972	1,753	9,331
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PART 4

Valuing a start-up and raising equity

Dealing with venture capitalists
and private investors

Term Sheet (Preliminary Contract) between Venture Capital Example and Start-up Company

Set out below are the main elements concerned in a participation by Venture Capital Example - hereinafter VCE in Start-Up company - hereinafter SUC. Final agreement is dependent on the fulfilment of the conditions set out in this preliminary contract. This preliminary contract is based on the information contained in the project plan of ... (year), and of further documents included in the appendix.

Company: The legal form of SUC shall be ... The domicile of the Company shall be ... The applicable jurisdiction shall be ...

Placement and supplementary financing: VCE shall make available to SUC funds to the amount of ... ; this represents ... shares with a value of ... per share.

The founders may also make an investment of ... The same conditions shall apply for such an investment as for that of VCE.

In future financing rounds . . .

- ❖ Definition of decision-making process
- ❖ Determination or reallocation/adjustment of shares

Shares in the Business: On the assumption that both the founders and the investor make investments, regardless of the chosen legal form, the shares in the company shall be as follows:

Founders: ...%

Investor: ...%

Use of profits: Concerning the use of future profits, it is agreed that ...

Stock option plan: The board, the supervisory bodies and the employees shall be allocated up to ... % of the equity on the basis of a stock option plan (see the appendix for the applicable provisions). The special exercising rights for the stock options apply for ... years.

General management: Mr/Mrs...is appointed as general manager of the company

Management team: The founders of SUC are ...

Supervisory body: Until further provisions are made, the supervisory body of the company shall consist of ... members. VCE is entitled to appoint ... members, and SUC shall appoint ... members

A further ... people shall belong to the body, in the capacity of independent experts, who shall be appointed by agreement between VCE and SUC.

Investor rights agreement

On closing, the partners shall agree on an investor rights agreement, that shall include the following points:

- ❖ Distribution of voting rights in the annual general meeting and provisions concerning the right of veto
- ❖ Partners' right of first refusal
- ❖ Provisions concerning joint sale
- ❖ Provisions concerning the recall of shares in the business
- ❖ Contractual agreements and applicability of the contract

Powers of disposal: For all disposals, transfers and sales of shares in the business, the following consensus-based decision-making process shall apply:

- ❖ ...

Right of first refusal: Should a partner wish to dispose of shares, he or she shall first offer those offers he or she wishes to dispose of to the other partners. Should the other partners take up this offer only in part, or not at all, the procedure shall be ...

Joint sale provisions: Should there be an interest on the part of third parties in purchasing shares, the procedure shall be defined in accordance with the following points:

- ❖ Provisions for the decision-making process
- ❖ Duration of the provisions

Provisions concerning patents and other projective agreements:

Concerning the patents and other inventions made in the course of work performed for the company or in the company's area of activity and the company's resulting protective agreements, agreement is reached on the following:

- ❖ Rights and duties concerning the provision of information
- ❖ Property rights in the patents and agreements

Confidentially declaration:

The founders, the investor, all members of the supervisory body, and ... shall maintain confidentially and shall sign an appropriate confidentially declaration in this regard.

Particular agreements:

Mutual agreements have been reached on the following points:

- ❖ Penalties for contravention of agreements reached
- ❖ Negotiations with third parties
- ❖ Exclusivity, where appropriate
- ❖ ...

Closing:

The closing of this transaction (hereinafter "closing"), on which both parties shall agree, shall be achieved by ... at the latest.

The following shall be regarded as preconditions for the closing:

- ❖ Availability and accuracy of documentation and information
- ❖ Approval process before signature of contact
- ❖ Conclusion of part-agreements (e.g., patents)
- ❖ ...

Costs:

In the event of closing, ... shall bear all the legal costs and other expenses related to the conclusion of the contract.

VALUING THE BUSINESS

With their experience of company valuations, venture capitalists can quickly get a picture of what a company is worth, and what share in it they will be looking for. Venture capitalists thus go into negotiations with very clear ideas. Your management team is most unlikely to have access to such experience. So you will need to arrive at your own idea of what your business is worth, and consider how large the investors stake should be, and what form it should take. To do this, you will need to make your own estimates.

Venture capitalists' procedure

In assessing a start-up, venture capitalists usually apply the following criteria:

- ◆ Is the management team experienced, competent and ready to implement the planning and take personal risks?
- ◆ Is the market attractive and capable of expansion?
Does the product provide a platform for further development?
- ◆ Is there a sustained competitive advantage, capable of further development?
- ◆ Are the strategy and the operational planning convincing?
- ◆ How far has implementation already progressed, and what are the initial results (e.g., patents or customers)?
- ◆ Is the expected return realistic and a subsequent sale possible?

The venture capitalist will review these criteria in detail, and decide how far your business meets each one of them. How much the business is worth will generally be decided highly pragmatically, on the basis of empirical values and the investor's current competitive situation. These values may vary widely, depending on the sector and the phase of its existence in which the start-up finds itself. *Exhibits 2 and 3* below show some sample figures for start-ups in the areas of information technology and life sciences. Note that these are values for fast-growing, successful businesses, that are operating in dynamic sectors and will quickly be ripe for a stock market listing. The dynamics in these sectors also mean that these values can change quickly. The range of values quoted show

that there can be wide variations from business to business. Depending on how well it meets the given criteria, a venture capitalist will locate the start-up at either the upper or the lower end of the typical range for the sector concerned.

Possible development of the value of fast-growing IT start-ups in Germany

Exhibit 2

Development phases Financing rounds	Seed	Start-up First stage	Expansion 2nd stage	Later stage	IPO or sale	Total
Value of business (pre-investment)						
€ million	-	1-40	30-160	100-430	170-1,000	170-1,000
Investment						
€ million	0,5-1	1-10	10-20	20-30	20-40	50-100*
Value of business (post-investment)						
€ million	-	2-50	40-180	120-460	190-1,040	190-1,040
Investor's share of the business						
	-	20-50%	30-50%	35-70%	40-75%	40-75%
Management team's share of the business						
	100%	50-80%	50-70%	30-65%	25-60%	25-60%
Value of management team's share						
€ million	-	1-40	20-125	40-290	50-620	50-620
Duration of the phase						
Years	1-2	1-2	1-2	1-2	-	4-8*

* Cumulated over the whole period

Source: McKinsey New Venture, Spring 1999

Possible development of the value of fast-growing Life Science start-ups in Germany

Exhibit 3

Development phases Financing rounds	Seed	Start-up First stage	Expansion 2nd stage	Later stage	IPO or sale	Total
Value of business (pre-investment)						
€ million	-	10-70	70-260	150-620	250-1,400	250-1,400
Investment						
€ million	0,5-1	10-20	20-40	30-50	40-80	100-190*
Value of business (post-investment)						
€ million	-	20-90	90-300	180-670	290-1,500	290-1,500
Investor's share of the business						
	-	20-50%	35-50%	40-70%	50-80%	50-80%
Management team's share of the business						
	100%	50-80%	50-65%	30-60%	20-50%	20-50%
Value of management team's share						
€ million	-	10-70	45-200	50-400	50-750	50-750
Duration of the phase						
Years	1-3	1-2	2-3	2-3	-	6-11*

* Cumulated over the whole period

Source: McKinsey New Venture, Spring 1999

Calculating the value of the business yourself

The value of a company is generally understood to mean the market value of its equity ("equity value"). You can get a first feeling of how highly venture capitalists will value your business from colleagues: talk to other management teams that have recently taken up capital. But you also need to do some calculations yourself. As start-ups are not listed on the stock exchange, their market value can only be defined indirectly, by means of a company valuation. Some investors doubt the value of such calculations. Pointing out that the figures they produce can raise unrealistic expectations - for, regardless of your calculations, your business is only worth what an investor is prepared to pay for it after the negotiations! Thus, the point of your calculations is not so much to define the "right" value for your business, as to get a feeling for the factors that determine its value. Work on the basis that the way is the goal.

Also, doing your own calculations will give your management team clarity at an early stage on what percentage of the business you will probably need to sell to "outsiders". You can work through the financing possibilities, and take alternatives into account. Lastly you will have a factual basis that will enable you to represent your position more confidently in the negotiations. But do not overdo your efforts here - in this phase, you need to devote your time above all to the business itself!

Both theory and practice combine various methods to value a company. Start-ups are frequently so dynamic that using one process only can easily lead to false conclusions. You should use:

- ◆ The Discounted Free Cash Flow method (DCF)
- ◆ Estimating with multiples

The mechanics of both types of calculation are shown in simplified form below, using a fictional new business in the IT sector (*Exhibit 4*). The individual stages are presented in the separate boxes.

Figures for the sample IT business

Exhibit 4

€ 000

Year	1	2	3	4	5
Free cash flow	-1,960	-660	-150	380	880
Net profit (annual surplus)	-1,580	-1,490	-640	340	905

Calculating with Discounted Free Cash Flows (DCF)

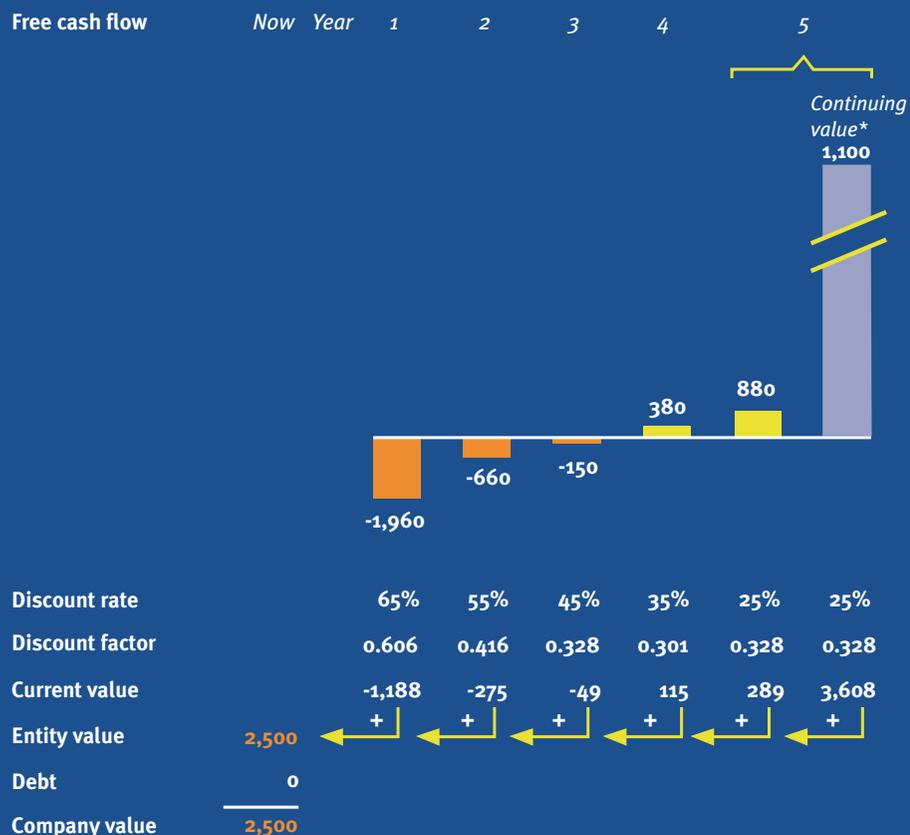
From an investor's perspective, it is not the fixed assets of a business (offices, equipment, etc.) that determines its value, but rather the cash flow that can be achieved with these assets. Cash is the means by which you pay investors for their investments. This requires a forward looking perspective, as can be seen from time to time on the stock exchange: a company's share price falls although it is currently successful - investors take the view that the future cash flow will be less than forecast. Net profit (or the annual surplus) itself is only of significance in determining value to the extent that it enables a more exact estimate of the cash flow.

In the DCF method, all the future free cash flows (see DCF box) are defined, discounted and added together. The result is the "entity value" - the value of the equity plus the debt. The value of the business - the "equity value" - is arrived at by subtracting the debt.

Company valuation using the DCF method

Exhibit 5

€ 000



* Assumption: free cash flow at end of year 5 is 1,100, annual growth rate in subsequent years is 16%.
Source: Business plan

Cash flows typically occur at different times, as shown in *Exhibit 5*. Simply to add them together would be much the same as adding up apples and oranges. Future values must be recalculated - discounted - to their current value (see chapter 8, pp 125 ff.). Applied to our sample business, discounting the future cash flows to the current value gives the company value of some € 2.5 million shown in the diagram.

The discount rate to be used can be a matter of controversy. In the start-up phase, it is mainly dependent on the profitability expected by investors, the risks of the business, and the returns from comparable enterprises. Venture capitalists often use the return they expect as the discount rate: depending on the development stage of the business, the industry involved and the known risks, this may be between 30% and 75%. In general, the higher the risk, and thus the expected return, the lower the current value of the business.

Venture capitalists justify such - apparently high - discount rates for reasons such as:

- ◆ Newly started companies are more risky
- ◆ Unlike shares in listed companies, shares in start-ups are not really tradable, and therefore not liquid
- ◆ They need to give the management team intensive support during the period of their investment
- ◆ The founders' forecasts are often over-optimistic and need to be revised.

So consider, before the negotiations, which of the risks set out in the business plan you have already been able to either avoid altogether or minimize by your actions as an entrepreneur.

The DCF method can be problematic for start-ups in the initial phase: new businesses typically start with negative cash flows and very uncertain forecasts, as there is no past history to fall back on. Apply it all the same, though: it will give you a better understanding of the assumptions implicit in your business plan, and the factors that influence the value of your business. By using it together with estimates using multiples, and the empirical values of your colleagues, you can get a clearer definition of the range in which the value of your business lies.

In the subsequent growth phase, the DCF method described here will no longer suffice, as the capital structure (e.g., taking on debt), tax rate and growth rate of your business will increasingly change. You can find more information on a refined DCF methodology in, for instance, the standard reference work "Valuation: Measuring and Managing the Value of Companies" by Copeland, Koller, Murrin.

The Discounted Cash Flow method (DCF)

In the business plan, you have already calculated your cash flows. The DCF method uses these to determine the value of the business, using the total of the discounted cash flows minus the debt.

1. Determining the current value of future cash flows

- ◆ Decide the period for which you can make reasonably certain forecasts of your cash flow (forecast period). For start-ups this would typically be a period of 5 to at most 10 years.
- ◆ Determine the free cash flows for these years. These are the same as the operational cash flows indirectly derived for the business plan (see p. 148).
- ◆ Set a discount rate for each year that reflects the risk level. This rate should be reduced by 5-15% per year in subsequent years, as the initial risk level will fall continuously (e.g.: $r_1 = 65\%$, $r_2 = 55\%$, ...). At the end of the forecast period, the rate would typically not be more than 10-20%.
- ◆ To set the discount factor for each year, use the general formula:

$$\text{Discount factor} = \frac{1}{(1+r)^t} \quad \text{where } r = \text{discount rate in percent and } t = \text{the year in which e.g. the cash flow occurs.}$$

In our example, the discount factors for the first years are:

$$\frac{1}{(1+0.65)}, \quad \frac{1}{(1+0.55)^2}, \quad \frac{1}{(1+0.45)^3}, \dots$$

- ◆ The current value of the free cash flow for each year is given by multiplying the free cash flow by the discount factor for the year in question.

The Discounted Cash Flow method (DCF) (continued)

2. Calculating the continuing value

- ◆ To take account of the cash flows after the forecast period, what is known as a continuing value is used. This is approximated with the following formula:

$$FW_t = \frac{FCF_t (1+g)}{r-g}$$

where FCF_t = free cash flow at the end of the last forecast year (in the example $t = 5$), r = discount rate, and g = annual rate of growth of the cash flow for the subsequent period (in the example 6%). As this continuing value applies for the end of year 5 or the beginning of year 6, it must be discounted with the appropriate discount rate (r) for year 5, so you should multiply the continuing value by

$$\frac{1}{(1.25)^5}$$

3. Determining the actual value of the business ("equity value")

- ◆ The value of the business is the total of all the discounted cash flows during the forecast period plus the continuing value minus the debt.

Estimating with multiples

The value of a business can also be estimated with the aid of comparable values from already established businesses, known as multiples. One possible such comparable value is the price/earnings ratio (PER), others are listed in the "multiples" box on page 203. Usually, when using this method, you multiply the appropriate value for your business (e.g., the net profit) with the corresponding multiple. This gives you the value of the business ("equity value") at the end of your investor's investment horizon known as the exit point (the investment horizon is typically between 5 and 10 years). This value is then discounted to give the current value of the business.

Company valuation using multiples

Exhibit 6



In the case of our sample IT business, there are two comparable companies in the market, with PERs of 37 and 49. The average of these two values, 43, is used for the calculation (*Exhibit 6*). By way of comparison: the average value (median) of the PERs on the Neue Markt (Frankfurt) at the end of 1998 was about 40. Multiplication by the net profit in, for example, year 5 produces a future value for the business of about €39 million in year 5. As with this method only one value is discounted, the discount rate must reflect the total risk; in our example, the expected return is 65%. Discounted, the current value of the business is some €3.2 million.

Multiples

The value of the business is often also approximated on the basis of comparable values from established businesses, known as multiples. Frequently used multiples are the price/earnings ratio (PER) and the market value to sales ratio.

1. Determining the future value of the business using multiples

- ◆ Search the market for companies as like your business as possible, in terms of sector, product range, risk, growth rate, capital structure, and cash flow forecasts. Good sources are the annual reports of listed companies, or the analysts' reports of banks.
- ◆ For the comparable company, form the desired multiple for the year in which it was listed on the stock exchange: for example the PER. It is a necessary condition for using the PER that the company is profitable.

$$\text{PER} = \frac{P}{G}, \text{ where } G = \frac{\text{net profit}}{\text{no. of shares}} = \text{earnings per share, and } P = \text{current stock price}$$

If you have identified several companies, you can form an average. Consider for what reasons, if any, your multiple might be higher or lower in the year of stock exchange listing and if necessary, adjust the multiple.

- ◆ Multiply the net profit shown in your business plan for the time of the investor's exit by the comparable PER. The future value of the business (FV) is PER x net profit.
- ◆ Alternatively, use other multiples, e.g.

$$\text{FV} = \frac{\text{Market value of the equity}}{\text{sales } i} \times \text{sales } j,$$

where i = comparable business and j = your business or

$$\text{FV} = \frac{\text{Market value of the equity}}{\text{Average no. of } i \text{ "clicks"}}$$

on the homepage per week

Possible multiples result from the relationship between the market value of the equity and the number of customers or of staff, or the R&D costs.

Multiples (continued)

2. Discount the value of the business to current value

- ◆ The calculated figures represent the value of the business in the year of exit of your investor (e.g., year 5). Set a discount rate that reflects the risk involved (r), and calculate the appropriate discount factor, e.g.

$$\frac{1}{(1+0.06)^5}$$

- ◆ The current value of the business ("equity value") is reached by multiplying the calculated future value of the business by the discount factor.

Synthesis of the various values of the business

The calculations produce the following values for the business:

Calculated equity value

Discounted cash flow	c. € 2.5 million
Multiples with average values of comparable business	c. € 3.2 million
Average of both processes	c. € 2.9 million

The range of values (post-investment) for the business of € 2.5 - 3.2 million thus calculated provides a good basis for discussions with investors. Such a value is realistic to the extent that we assume that we are dealing here with a new company, with little experience, and that has so far gained few customers.

How to get a better feeling for figures

- ◆ Calculate the value in several different ways to get a clearer idea of the range of values, and compare your results with experience from your sector
- ◆ Play through various scenarios, taking account of the optimum development track for the business ("best case"), and also the delays or other obstacles involved if everything possible goes wrong ("worst case")
- ◆ Where possible, check your results with experts
- ◆ Talk to other management teams in comparable situations who have already negotiated with investors
- ◆ If your value is at either the upper or the lower end of the spectrum, consider why this is so.

Bear in mind that the worth of such a valuation depends largely on the plausibility of your assumptions. What assumptions are implicit in your calculations? If your assumptions for the first round of financing are too optimistic, and you are later unable to meet the expectations you have raised, you will lose your credibility, which will be a major obstacle in subsequent financing rounds.

Calculating the investor's share

Mathematically speaking, the investor's share is calculated on the basis of the size of the investment (need for funds) and the current value of your business, using this formula:

$$\frac{\text{Investment}}{\text{Value of business}}$$

Let us assume that an investor is interested in providing the first tranche of capital required by our sample business, € 1 million. What share of the business might he expect in return?

Use a good accountant or book-keeper, and a good lawyer, and listen to their advice. Get help in those areas in which you aren't familiar

*Martha Johnson
Owner, Suppers Restaurant*

Investors' share	
Post-investment value of the business	€ 2.9 million
Investment	€ 1 million
Investors' share	$p = \frac{\text{Investment}}{\text{Post-Investment value}} = \frac{1}{2.9} = 34\%$
Management team's share	$1-p = 66\%$

Different approaches by venture capitalists and the management team in calculating the shares can give rise to misunderstanding. The venture capitalist generally calculates the value of the business before the investment - known as the "pre-investment" value. What the venture capitalist is really interested in is what the business is worth on its own. Then he adds on the investment and thus arrives at the "post-investment" value.

You, on the other hand, will arrive automatically at the post-investment value if you use the DCF and multiples processes described here in your calculations. This is because your cash flow and net profit forecasts are based on the assumption that the necessary capital - your own and that of outside investors - is available, and that all the necessary and planned realization steps, such as purchasing equipment or carrying out publicity campaigns, can be implemented. Be sure that the same value is being used by both sides in any discussion.

Some investors will offer you an investment based on performance if you achieve the agreed targets ("milestones"), the originally calculated management share applies. If your business is less successful, the investor's share will, after a review, be increased.

2. How far will you be able to convince investors of your intentions? When preparing and during the negotiations, put yourself in your discussion partner's position: the better you understand his interests, the more likely you are to be able to reach a solution acceptable to both sides. Be ready to compromise. A commitment by an investor will generally be for 5-8 years, so mutual confidence is essential. This is particularly the case inasmuch as your investor's advice and support (the "smart money") will ultimately be at least as important for your business as his financial contribution.

A deal can become very complicated; it is always a good idea to make contact with experienced entrepreneurs, and get expert advice from accountants, tax specialists and lawyers - particularly once the Term Sheet is signed. Do not be afraid of complex constructions: there is usually a legitimate reason for them - such as tax breaks, or control over the funds invested, but make sure that you are absolutely clear about all the details of the deal.

RAISING CAPITAL FROM ADDITIONAL INVESTORS

Your business will probably need to raise further capital in the years ahead, in order to finance its subsequent development. Raising capital is thus not a one-time exercise - there will be further negotiations and capital increases in the growth period.

For further capital increases, you will need to revalue your business, define the shares, and agree with the investor on a contract.

Procedure for further capital increases

The assumption is that, after eighteen months, our sample business will need to raise a further € 2 million from another investor.

- ◆ Redefine the relevant values - using the free cash flow for the coming years, the net profit and sales - and the discount rate for the intended investment horizon. This will take the development so far into consideration. Calculate the current value of the business as described.
Example: The recalculated values for the forecast period procedure a post-investment value for the business of about € 10 million.
- ◆ Determine the shares in the value according to the investment involved.
Example: The business is worth € 10 million, € 2 million of this belongs to Investor B. Of the remaining € 8 million, € 5,3 million belongs to your management team (previous share of 66% times 8 million) and € 2,7 million to Investor A.
- ◆ Determine the percentage shares.
Example: Investor A has 27 % (€ 2.7 million of € 10 million), Investor B 20 % (€ 2 million of € 10 million), and you have 53%.

Repeat this procedure for each subsequent increase of capital.

Appendix
