CU entrepreneurs
make it happen

Centre for
Entrepreneurial Learning

CUEBiC and 3P Boot Camp

28th – 29th January 2006

CAMBRIDGE
Judge Business School

Contents

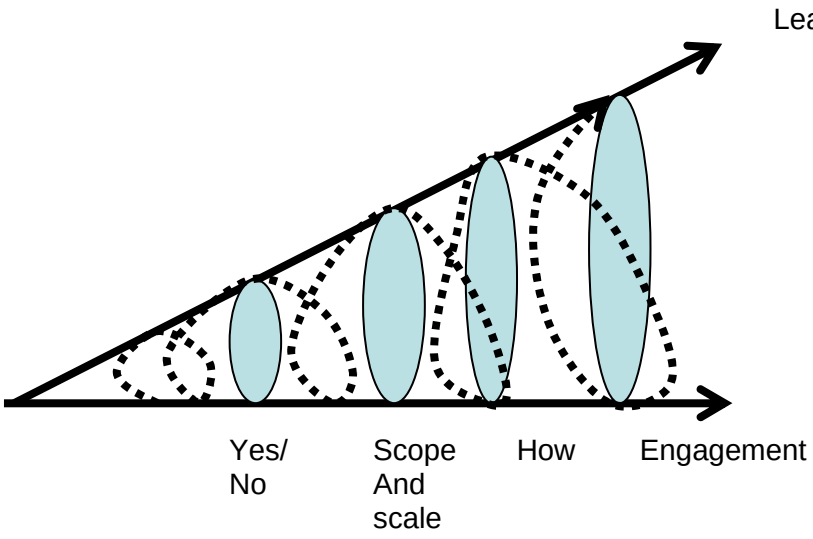
The MARKETS Approach

Clarification of Your Idea and Preparation for the Business Plan

1.1 Introduction

In order to clarify the opportunity and prepare to write a plan, you will need to cover a certain amount of ground by way of research and discussions with your team. It is essential that your personal values and assumptions you are making about the market place, customers, technology, legal and regulatory constraints are made clear before you embark on the tough process of writing a plan and starting to market the opportunity to others.

Figure 1 – The MARKETS APPROACH



1.2 The MARKETS approach explained

M **Market**	What is the basic unmet need you are trying to fill? Is this unmet need sufficiently large to provide for a big enough and growing market to make it worthwhile starting a business? Think through from a generic definition of the market to identify segments that you can think of as customers who will buy from you and why they might do so. All projects must be driven from a thorough understanding of the needs, namely: • specific need that the business is addressing; • general needs to which the business relates and which set the context - these may affect how the specific needs evolve and may also lead to follow-on opportunities. Questions relating to the specific needs include the following: • Who are the customers? What problems do they have? • How serious is the need and why? Is it a need or just a "nice to have"? Will it endure or could it fade away? What is the urgency? • If there are several aspects to the need, what is most important? Where could the greatest value be created by a good solution? • What constrains how any solution will be accepted and used? What is needed in order to fit with existing standards, practices, infrastructure, products, assumptions, and culture? What is needed to achieve easy adoption and use? • Is a technology solution needed? For example, could the problem be solved by legal, social or legislative means? To what extent is a "soft solution" or whole life support needed alongside any technology solution? Questions relating to the general needs include the following: • To what extent are the specific needs a subset of wider and longer-term problems, concerns or opportunities? How far, by addressing the specific needs, can we position ourselves to address the more general needs? How might the technology, product or service be re-used for other offerings? • Can we foresee how these general needs will develop? How might this increase or decrease the specific needs? • What assumptions underpin our analysis of the specific needs? What events or changes could substantially alter these needs? How likely are they to happen? What do we need to watch? • Where are the needs most acute and/or growing rapidly? How important are they in the UK? There is always a danger of "pushing" an existing technology solution instead of focusing on what is really needed. Therefore care must be taken that the analysis of specific needs is done objectively, without being distorted by personal enthusiasms or what you want to sell or develop. The analysis must be well informed by information from customers and those who know the market and customers well. It is sometimes true that customers do not know they need a product until they see it, but we need to clearly recognise if we are making a leap of faith about the needs. It may be that we have a leading position in some radically new technology for which it is not possible to foresee all of the applications. But it is essential to identify what can provide the initial market and the revenue for exploiting other opportunities as they become clearer. The analysis of needs should include a preliminary quantification in financial terms: • How much is the output worth to customers and what are they likely to pay? • What is the benefit through preventing loss of life, waste of time or resources, loss of output, financial loss, poor decisions…?
A **Approach – Business Model**	What is the approach you will take to meeting this need and how will you turn the opportunity into revenues and profits? You will need to address the business strategy and the business model at this stage. For example, do you need to start a business or should you licence your idea or create a joint venture? The analysis of the approach starts from imagining ways to meet the needs or solve the problems, and then, hopefully, leads to one or more compelling approach(es) and to an identified team and plan for undertaking the project if it goes ahead. Many ideas should be examined. From the perspective of technical and commercial assurance, what is

	important is evidence that sufficient effort, breadth of expertise and imagination have been devoted to ideas generation and thinking about risks, to be reasonably confident that there are no compelling approaches, serious unknowns or major risks that have been missed. There are many methods that can be used for creating ideas, including tools that support lateral thinking and networking. The same methods of brainstorming and group discovery can also be used for discovering risks and uncertainties.
	A compelling approach should score well against the following questions: • How new and inventive is the approach? Is it likely to lead to valuable intellectual property that can be patented or otherwise protected? • How effective is the approach? Does it meet the needs perfectly or only partially? Is it focused on meeting the needs, free of unnecessary novelty, risk, elaboration and complexity? • How unique is the approach in meeting the need? Could it easily be overtaken by a competitive approach? Is the approach special or one of many approaches of comparable merit? • How clever is the approach? Will the cleverness appeal to customers? Will the cleverness enhance our reputation? Will the cleverness make the approach easy to defend against competitors? • Very important, do we have validated confidence that the approach will work technically? Could the novelty or complexity add major risk (e.g. might software implementation have unacceptable problems)?
	Opportunity cost is another important consideration. If a project uses all the best people this will prevent other opportunities being exploited. Therefore the team must make appropriately frugal use of the best talent, choosing wisely in exploiting resources from outside the business. Financial frugality and a focus on the key uncertainties are also highly important. The project should start lean and focus on reducing the key uncertainties, at each stage avoiding work that is not yet necessary. This is important not only for husbanding the financial resources but also so that other activities do not divert attention away from what really matters. Often there are cheap routes to reduce the uncertainties, through using outside experts and simple prototypes. Maintaining a risk register is a good way to ensure a disciplined focus on the key uncertainties.
 **Financial Returns, Rewards and Risks**	Having started a venture, you and your shareholders and lenders will want to know that you can get returns and rewards for your efforts that are in line with the risks being taken. There are likely to be several stages or funding rounds you will need to think about. The very early nascent stage of the business when you will put your time and personal funds into getting the idea off the drawing board. Then you might seek out and find some grant scheme to tap into to take the technology forward, get market research done or find students who can work with you to move the idea forward. At the next stage you might get external support from family, friends or business angels and the returns these people seek will be negotiated at personal levels. You might also find yourself securing your assets to borrow from the bank, now you are starting to take risks because the bank will want its money back! Further rounds of funding will cause a dilution of your ownership in the business (and that of your team), affect the valuation of the business and the opportunity and depending on how much you ask for will raise the stakes in terms of how much you get and how fast you need to grow to be able to return the money. In order to work out a risk/return model at each stage and develop clarity around the cash flows you should research the needs of the supporters at each stage and find out how much they can put in, if the business opportunity you are taking to them fits with their needs and expertise (because this can affect their perception of risks) and how quickly they are seeking to recover their investment. Venture capital funds have their own timetables for raising funds, investing in ventures and seeking to provide returns to their investors so be sure to find out about these as the detail might affect the timetables, costs and demands they make of you at the start and more importantly during the business cycle. Having identified one or more compelling approaches, the next stage is to develop a "compelling value proposition". Important question here is how the value is to be extracted. Related to this, there is the question of whether there is a viable exit strategy in an acceptable timescale. If the value is to be extracted through a new company, the turnover needs to be substantial within a given timescale years in order to reward the founders, gain critical mass in terms of the size of the

	business, have an impact in meeting unmet needs, make a profit, provide rewards to shareholders and pay back loans to the bank. If the anticipated benefits are smaller, one would look at other ways to extract the value, for example through licensing products or patents, or through joint ventures. Some projects may yield a good ratio of benefit/cost, but may not be worth pursuing because they are too small to justify the quality of expertise they require or because the value extraction is difficult. There are three stages to analysing the benefit. 1. Revisit the needs analysis and critically reassess the benefit to the customer(s) of the approach(es) that have been refined in stage 2. The purpose of this is to be able to make the approach(es) even more compelling from the perspective of the customer(s). 2. Quantify the customer benefit in terms of the anticipated direct benefit to your business in the form of the expected net financial return from the customer(s) purchasing the technology, products or services. Questions include: • What will the customer be prepared to pay and why? • Will the customer recognise the benefit easily? How can we convince the customer of the benefits, and what will this cost? • Do we understand the value chain and where we can add and extract the most value for least risk? How can partnering help us to reduce the overall risk and maximise our benefit/cost (e.g. by providing access to and knowledge of customers)? • Can we rely on our suppliers not to increase their benefit by increasing their prices to us? 3. Analyse the indirect benefits. These relate to the general needs identified in ”Markets”. Indirect benefits can be very important, particularly as you seek to develop your business and reputation in new markets. They include how the opportunity: • affects future business with the immediate customer and with other customers; • affects our image and reputation, including with partners that can provide access to markets; • develops the base of technology and know-how from which to tackle wider opportunities; • develops the capability to provide value to (future) core customers. • Indirect benefit may be both positive and negative. For example, if the project is unsuccessful it may damage your reputation, and capability to exploit other opportunities.
K **Knowledge**	Is your idea protectable in some way? Do you own the intellectual property or will you protect what you are about to do through trademarks, secrecy (of the process) and the special knowledge of the team? Even better if your idea can be shown to have patents. Do you have renewable sources of knowledge, for example through links to centres of excellence, Advisory Boards? Technical validation that the approach will work involves the following: • making use of past experience, but also understanding what may be different; • making a schedule of what we do not know yet that is important to success, maintaining a risk register, prioritising the uncertainties, planning solutions in principle; • pin-pointing the key unknowns and risk areas and doing focused work early to gain enough confidence that they can be solved and how long this will take; • identifying critical test components or equipment and their availability; • producing prototypes or models to test key innovations; • using mock-ups or concept tests to cheaply answer questions such as the appeal to customers; • having a convincing project plan to expand the team and effort in line with progress and the time scale for delivery of demonstrations and other outputs; • making full use of constructive scrutiny and thinking from experts outside the founding team; • regular management review of the progress, risk and assumptions. Technical validation also concerns how the approach may affect the customer’s existing capabilities: • Do we properly understand how customers will use the product or service? Have we taken enough advice from the customers and those who sell directly to them?

	• Do we fully understand the technical and process context in which the project output will be used? Could problems arise from interoperability or conflicts with other equipment, processes…? Have we done enough to foresee any problems? • What are we changing in the existing processes and capability? What performance issues are vital to the customers and in what ways might we compromise these? Are there any problems with the customer's existing capability that we could make worse, and possibly unacceptable?
E **Ethical Values**	Your ethical values are probably the most critical element in making or breaking the business proposition. Your personal values and those of your team need to be understood because mismatch in this area can create tensions, whereas alignment of values can help to create an environment in which everyone is pulling towards the vision and having a great time in the venture. You also need to be comfortable that our values are aligned with the ways that the industries in which you have identified the opportunity work. These issues may govern whether you actually want to start a business or licence out the knowledge you have or actually give it away in some other way. Ethical values validation: Why are you starting the business? Is it to make a lot of money, solve a big social need or prove to yourself or your parents that you can be successful? Does your family back you 100% for the same reasons you have or for other reasons about which you are clear? Have your team members through about these issues? Do you all understand the personal implications of business demands, your reasons for going into business and impact you have in terms of your personality and demands you make on people? Are you and is your team comfortable with making profits and working in certain industries (tobacco) in terms of working practices, methods approaches (such as tendering, open pricing)? Do you understand the way the industry works, its tacit rules? Take a look at the regulatory framework for the proposed industry sectors and see that you are comfortable with them. At a micro level you also need to be comfortable with making the transition from being a scientist or manager into becoming an entrepreneur, leader and Director. The latter requires that you adhere to rules for Directors. You can no longer behave as a maverick! What is your negotiation style? Do you prefer open approaches or are you a person that holds back? How do those around you operate and what is their style of communication? How will this affect your views of the others and them of you and will you all be comfortable with this?
T **Team**	Do you have validated confidence that the project champion and team have the ability, enthusiasm and support to carry this through successfully in the required time? Can you benchmark the team against their track record? <u>Validating the team,</u> to give confidence that it can complete the project successfully in the required time, involves ensuring that: • There is a project champion with the determination and drive, leadership skill, objectivity, and adequate technical and business development knowledge. • The team is at each stage appropriate for tackling the key issues. At the start these are likely to be issues of validating technical and commercial feasibility. • The resources are available to expand the team rapidly and possibly in several stages, in order to get to market sufficiently quickly. • The team will make use of an effective external technical and commercial network to provide expert advice and imagination. • The team needs to have a visionary and someone that can convert this vision into day to day tasks. • The team's social skills need to be strong enough to ensure clear, cordial relationships within the team and with others so that resources can be gathered and markets accessed.

	• The team members' motivation and ethical values need to be transparent to ensure healthy relationships.
S **Sustainability**	The analysis of sustainability involves: assessing who the competitors are likely to be, what they are likely to offer, what competitive advantages they may have, what competitive advantage you have and how to maximize this. Price may be an important factor. So may be the capability to make an excellent proposal and presentation to customers.
	Sustaining the competitive advantage is also a critical issue, both for an existing business or offering, and for a new venture. Generally, unless there is a formidable *barrier to entry*, the more successful a business is the more likely it is to attract competitors. Therefore, even if there are no competitors now, they are likely to emerge if the business is successful. The questions in assessing sustainable competitive advantage include: • Who are the existing competitors and how well established are they? • What is our competitive advantage in terms of: patents, partnerships, technical ability and know-how, share of the market, facilities, de facto standards, and reputation? How does this compare with our competitors? • What gives the most competitive advantage in the venture? How strong is it? In what part of the value chain does it lie? Does its sustainability depend on your business, or one of your partners in the venture? • How strong is our patent portfolio? What would it take to prosecute the patents? • If the venture is based strongly on technology know-how, do we own all of the core know-how and patents? Would we have to reinvent someone else's knowledge, or get round their patents, now or in the future? • How do we avoid losing our know-how lead through competitors recruiting our staff? • Can we codify the knowledge to protect ourselves against losing a key person? • Where are our competitors currently investing, and are any of them likely to invest in direct competition to our investment? • Is the market expanding so fast that there is room for everyone or will competition be intense? • If our advantage is based on lead-time, do we have a meaningful head start and how long can we sustain this lead? • Can the competitive advantage be defended through secrecy (for example through denying source code)? • Who else might emerge as a serious competitor, for example through expanding from an adjacent technology, product or market position, and what are the *barriers to entry*?
	Having a strong and sustainable competitive advantage is particularly important when trying to enter new markets. It is vital not to underestimate the scale of advantage needed to succeed. It is very difficult to supplant an existing strong supplier, unless one can offer a very large advantage. It is quite common that companies pioneer a new product only to find that a company that is already established in the market just steals the business away through being a fast-follower. Therefore it is vital to be realistic as well as enthusiastic, and to consider a large number of compelling approaches in order to select ones that have a very high probability of succeeding and of creating sustainable value. It is also essential to have a proper process of project management, risk reduction and technical assurance.

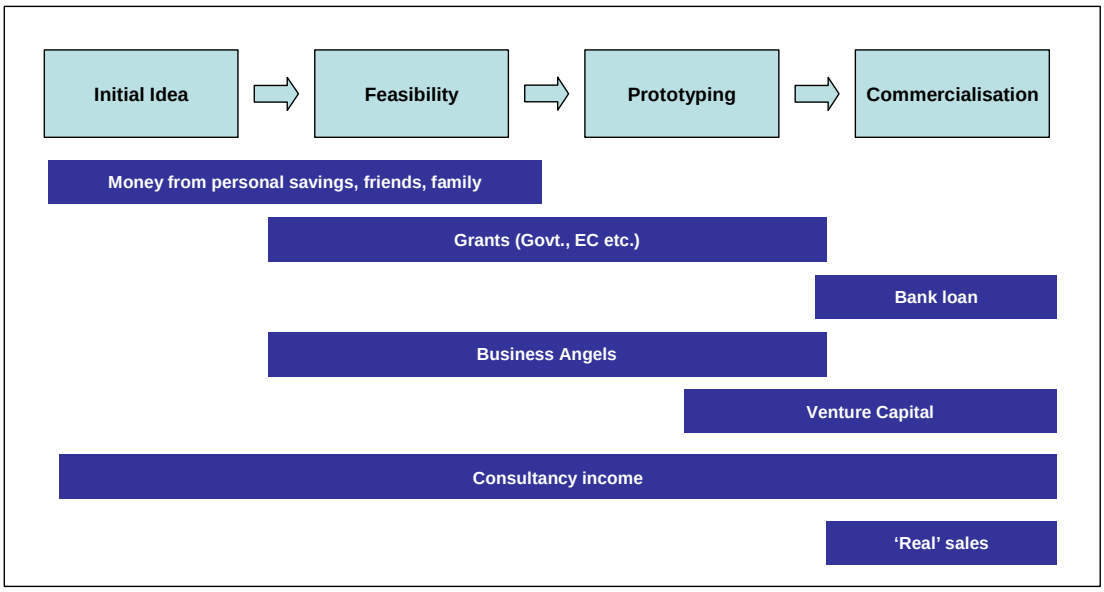
Prepared by S Vyakarnam with thanks to QinetiQ and Stanford Research Institute (April 2002)

2. Making Your Pitch to Investors

2.1 Introduction – Why a good pitch is so important

Financing is a critical resource for the development of any new business, and that the potential sources of finance will depend upon both the stage of development (Figure 1) and the nature of the business itself.

Figure 1 – Stage of Venture Development and Possible Sources of Finance



In order to gain access to many of these sources of finance, but particularly for venture capital or business angel funding it will be necessary to do a presentation or 'pitch' about your business. You need to be able to articulate your business opportunity clearly, as well as demonstrating your passion for creating a new venture to commercialise new ideas and technology.

The chances are that your first meeting with a key investor (or someone who can provide a route to an investor) will be purely a chance one. For example it may be at a networking event where you may only have a few seconds to grab their attention and impress them enough to gain longer and more formal meeting with them.

It's at this second stage that you'll need to present your business plan more thoroughly. You have to know your audience and put together a great presentation highlighting the key and relevant issues of your business ideas and deliver it in the right way.

2.2 The Psychology, knowing your audience and a bit about how Venture Capitalists work

Knowing your audience is one of the first critical steps to giving a presentation. It can help you to pitch your presentation at the right level in terms of what level of detail you go into on technology and business issues, and finding out what they want to hear can help to stop you making some real blunders.

Venture Capitalists[1] (VCs) know how to deal with entrepreneurs effectively, but entrepreneurs (especially novices) may not know how to deal with VCs. VCs are therefore well placed to take advantage of this situation to maximize the return for the venture fund's investors, unless the entrepreneur is armed with better information about how venture capitalists operate. Box 1 presents a very brief guide to VCs from the viewpoint of an entrepreneurial engineer.

You also need to remember that venture capitalists hear hundreds of pitches from entrepreneurs a year, many making big claims for the future success of their ventures in order to impress. The venture capitalist will however have heard all these before. They will also have seen the outcomes of these ventures and may instantly be turned off your idea. Box 2 gives some examples of what to avoid saying when pitching to VCs.

Box 1 - An Engineer's view of Venture Capitalists (Tredennick & Shimamoto 2001)

VCs don't sign non disclosure agreements – it affords them protection if they like your ideas, but they want to fund someone else to do them.

VCs are sheep – they will either all fund something or none of them will, so if you have an idea that's too new and too different you may struggle to find funding.

VCs aren't technical – they dismiss what they don't understand; your novel ideas and they focus on what they know, usually irrelevant marketing terms or growth predictions.

Experts aren't very good – The VC will send at least one 'expert' to evaluate your ideas. Don't expect the expert to understand what you are doing. If your idea's too new and different to understand then you may not get funding.

VCs don't take risks – VC's have a reputation as risk takers – they are not. They collect money from rich people to build investment funds. The rich investors take some risk, though their risk is spread across the funds investment.

Venture funds are big – If your idea needs a lot of money, then you have a better chance of getting money than an idea that promises the same rate of return for much lower investment. This is because it's easier for the VC to manage fewer big investments than many smaller ones.

VCs collude – They price fix by discussing among themselves funding and pricing for candidate start-ups. They will probably between them only fund between them two or three companies in an industry – this limits competition and makes success of the few more likely.

VCs don't say no – if the VC is interested you can expect a call and eventually a cheque. If the VC is not interested, you won't get an answer – saying no encourages you to look elsewhere. That's not good for the VC who would prefer to have you hanging around than going elsewhere for funding.

VCs have pets – many venture firms keep a cache of start-up executives on their staff. When you show your start-up to the VCs they will grill you about the experience of your team – but it won't be enough. The VC will then supply you

Your idea, your work, their company – The VCs CEO gets 10% of the company, VC placed board members get 1% each, your entire technical team gets 15% - and even this gets diluted in later rounds of financing. The VCs executives therefore control the company, you and the rest of the engineers do the work.

Tredennick, N., & Shimamoto, B., 2001, An Engineers View of Venture Capitalists, IEEE Spectrum September pp 13-19

[1] Although the term VC is used throughout these notes, potential investors may also be Business Angels, Bankers and Corporate Partners etc.

Box 2 - The Top 10 Lies of Entrepreneurs, Kawasaki (2001)

1. ***'Our projections are conservative'*** Nobody believes financial forecasts – investors simply want to see that the entrepreneur understands the industry, the logic involved in putting together a reasonable financial model and how companies grow.
2. ***'Our market is forecast to be $50 billion by 2003'*** When every plan makes the same grandiose claims about market size, investors have a hard time taking the projections seriously.
3. ***'We're signing a big deal next week'*** Never talk about a big deal until it's a signed deal.
4. ***'Key employees are set to join us as soon as we get funded'*** If the entrepreneur can't get key executives to join because of the opportunity then they probably can't be entices by big salaries – one of the key entrepreneurial skills is to attract talent without money.
5. ***'We have no competition'*** Claiming that there is no competition to an investor who has heard a similar pitch five times in the last six months, will not attract funding.
6. ***'We need you to sign a non-disclosure agreement'*** Investors won't sign a non disclosure agreement because they usually see several similar plans. In reality the ability to implement an idea (the team) and not the ability to keep a secret is the key to a successful start-up.
7. ***'The big company is too slow to be a threat'*** Big companies didn't get where they are by being slow – need to show respect for them whilst demonstrating a compelling and believable way to compete with them
8. ***'We're glad the bubble has burst'*** No one is glad the bubble has burst – it's harder to get funded, valuations are lower and due diligence takes longer.
9. ***'Our patents make our business defensible'*** Unless you are a biotech or medical device company it's hard to support this claim. Investors believe that what makes a company defensible is its ability to out-implement rivals.
10. ***'All we have to do is get 1% of the market'*** No one wants to invest in a company that aspires to grab just 1% of a market, shooting for a much higher market share is much more attractive to the investor.

Kawasaki, G. 2001 The Top Ten Lies of Entrepreneurs, Harvard Business Review January pp 2-3.

2.3 The Elevator Pitch

The 'Elevator Pitch' is a very brief (one or two minutes) introduction to your business which you would probably use when making new contacts at networking events. To understand why it's called an 'Elevator Pitch', imagine you have just jumped into a lift on the ground floor and purely by chance the only other occupant of the lift is the person who you would most like to get funding from. He or she is travelling to the 5th floor, so you have the opportunity to gain their full attention, but for only the minute or so that it takes to travel the height of the building. You may only have this one chance – and your only objective is to gain a much longer meeting or conversation with them. You must be able to articulate your business idea very clearly and concisely without the need for any visual aids or props. The following is a checklist of what you should try to include in your pitch.

- Market opportunity and market drivers
- The product offering and the need it satisfies
- Pricing and distribution
- The unique selling points
- Why you and no one else is the right person for this opportunity
- Your partners – especially well known and influential ones
- Way to engineer feedback and a follow up meeting

Effective delivery of your elevator pitch will:

- Convince the 'target person' to schedule a longer meeting with and be receptive to doing business
- Empower and enable the 'target person' to convince other appropriate people to become interested
- Demonstrate sincerity, including listening
- Communicate a sense of value, empathy and urgency
- Combine thorough sales and market research
- Require no more than 1-2 minutes

2.4 The Investor Pitch

For many discussions about business particularly for investment issues a presentation of the business plan will be needed. Indeed in many cases this will be used much more than the written text of your business plan.

Consider an hour long meeting with an investor. Your business plan presentation should be brief – a maximum of 20 slides (10 slides is better with some additional ones as background!). You should talk for a maximum of 20 minutes and answer questions for 30minutes. The presentation must cover all of the key business issues not dwelling on technology or product too much. Some of the key points to make are:

- Large market
- Clear customer need
- Protectable product
- Clear benefit over competitors
- Sound commercial case

Keep the presentation concise and focus on investor issues – if they give you some money; when will you give them lots more back? Rehearse your presentation in front of a constructively critical audience i.e. your mentor or a member of the CfEL team, to make sure that the story works, that you cover all the key issues, and that you give correct emphasis to relevant parts of the plan.

Box 3 – Overview of a Pitch to Investors

Introductory Slide - should be put onto the screen as soon as possible, and should include the following main items: the company's name, a logo, and a one sentence description of what the company does.

Product Slide - What is the product and how does it work? The product slide should present the name of the product and a short description. Diagrams, photographs, or screen shots often help to illustrate. Keep them simple.

The Problem/Pain Slide - In most cases, customers don't purchase a product until they have a real problem or feel real pain that the given product will fix. This slide should describe the problem that needs to be solved, the pain that needs to be addressed, or the otherwise urgent demand that will be satisfied by the product. Many successful new companies meet a demonstrated market demand or solve a specific problem.

Target Customers Slide - Should explain who will buy the product. Are the customers businesses or consumers? If the product will be sold directly to consumers, the slide should describe the target geographical area, demographics or other applicable characteristics (age, education, employment, etc.) If the product will be sold to businesses, the slide should describe the target industry or market segment, and specific examples of targeted customers.

The Market Size Slide - should give an idea of the size and the composition of the target market. If the market described is too small, investors may lose interest. No matter how strong the product, large revenues are not possible without a sufficiently large market. If the market is too large, the audience may feel that the company's marketing objectives are not sufficiently focused. This slide (or slides) should also show the growth and composition of the market. For example, a pie chart which breaks the market into segments, and/or a bar graph which shows market growth are helpful.

The Proposed Distribution and Sales Channels Slide - The distribution and sales channels are elements of the presentation which are often overlooked. Will this product be sold by a direct sales force, though dealers / distributors, directly via the internet, etc? How will the sales and distribution channels be structured? If it is an internet business, how will it drive traffic to the site?

The Competition and Competitive Advantage Slide - "We have no competitors." That statement can be the kiss of death for a venture presentation. Yet a surprising number of companies repeat that very statement. This is a result of a) not doing enough research, b) self-delusion: believing that no one else can do what the company plans to do, or c) both. There are always competitors, even if the company is not aware of them. The other mistake is to acknowledge competitors but dismiss them out of hand, because they are too slow, too entrenched, don't have a great product, or a myriad of other reasons. A much better approach is to acknowledge the strength of the competition, show that they are being watched very closely, and clearly articulate the competitive advantage. As a start-up company, competitive advantage could be a superior technology, a completely new (and more efficient, cheaper, better) solution to solving a problem, a better management team, or all of the above. It is important to demonstrate a significant advantage. A matrix or table comparing the company with the competition is helpful.

The Financials (4-5 year projections) Slide - The financials chart shows the basic numbers that need to be presented: the number of customers (or units sold, as appropriate), revenues, expenses, and profits over a five year period. These numbers may need to be justified verbally, and the business plan will go into more detail. In most start-up technology businesses, profitability is expected by year 3-5. Revenues should grow significantly by year 4-5.

The Funding Requirements Slide - Funding requirements should be listed on the financials slide or on a separate slide. This will show investors the amount of money being requested, and how this money will be spent.

The Partnerships Slide - should describe alliances and partnerships already formed or in progress. What is the nature of these partnerships, why would they want to partner with the company, and how will the partners help the company reach its objectives?

The Management Team Slide - should list three to five key members of the management team. Having at least 3-4 key team members on board is critical for the company's credibility. A few gaps or provisional hires are acceptable, but at a minimum, the team should demonstrate relevant industry experience. Previous start-up and blue chip company experience also help. A well-rounded and committed advisory board can also help to fill in some gaps.

The Milestones Slide - is important for showing the progress made by the team to date, and for outlining the future plans for the company. Milestones should be both realistic and substantial. A timeline is a good way to illustrate milestones.

Austin Technology Incubator (www.ic2-ati.org) 2002

Part II – The Entrepreneurial Pentathlon

Notes to follow the core themes of the weekend

3. Business Visions and Business Plans

3.1 Introduction

So an entrepreneur has an idea, one that can potentially be a commercial winner, but what is the process for making that happen. One of the first things to do is to write a business plan, for that you need to clarify your idea and make sense of it in order to try to put forward a business case for investors to be involved. The MARKETS approach described earlier can help with clarification of the idea, but one of the defining characteristics of entrepreneurs and their ventures is that of a very powerful and motivating vision, one that gives the venture direction and purpose. In the logic trail of producing a business plan – articulating your vision for your new venture and the overall goals is something which must be done at the very start as shown in Figure 1.

Figure 1 – Business Plan Logic Trail

A business plan itself is simply a document that **describes a business opportunity** and **presents a plan** for doing something about it. It is used as a tool to clarify the market and project plan a new venture. As you will see it is a dynamic document and putting it together coherently and appropriately can be critical to gaining investment and building a successful venture.

3.2 Aim of these Notes

The aim of these notes is to provide:

- An introduction to business visions and their use as a powerful managerial tool
- An understanding of the components of vision statements
- Information on effectively sharing your vision with various stakeholders in the new venture
- Details of what goes into a business plan and how it should be structured
- Advice on how the business plan should be managed and used
- Information on where to go for further information

3.3 Vision or Mission?

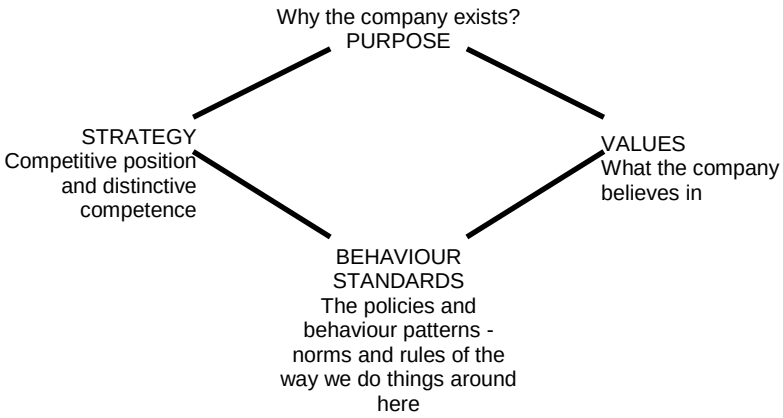
Before embarking on a discussion of the business vision, it is first worth considering some of the terminology – the words 'vision', 'values', 'mission', 'objectives', 'goals' and others are often used interchangeably although they may have conflicting meanings.

Campbell and Yeung (1991) considered the differences between mission and vision. In their view mission and vision could be one and the same – a possible and desirable future state of the organization, but they consider vision to be more normally associated with a future goal of the organization, and mission to refer to the present and with ways of behaving. In their research they found that organizations perceived 'mission' in two different ways which mutually support each other:

- As about strategy - defining the commercial rationale and target market – What is our business and what should it be?
- As cultural glue – norms and values that influence the way people behave how they work together and how they pursue the goals of the organization.

They also devised a model for defining mission, which divides it into four inter-relating parts: purpose, strategy, behaviour standards and values as illustrated in the Ashridge Mission Model (Figure 2).

Figure 2 – Ashridge Mission Model



Campbell and Yeung view vision as a mental image of a possible and desirable future state of the organization and that this image may be a dream, goal or mission statement. The critical point is that the vision articulates a view of a realistic credible and attractive future for the organization.

3.4 The Importance of Having a Vision

A strong business vision can provide a very powerful tool for the management of a new venture. The business vision is very positive and the entrepreneur is highly motivated to make that vision a reality and Wickham (1998) suggests that vision:

- Provides a sense of direction by being the 'light at the end of the tunnel'
- Helps the entrepreneur to define his or her goals
- Helps provide the entrepreneur with a sense of warmth and encouragement when the going gets tough
- Guides the generation of strategy for the future
- Gives the venture a moral content and helps to define social responsibilities
- Can be used to communicate what the entrepreneur wishes to achieve to other people
- Can be used to attract people to the venture and motivate them to support it and
- Plays a crucial role in supporting the entrepreneur's communication and leadership strategy

Wickham also suggests that if it is to be an effective tool vision must be used actively and it must be shaped, nurtured, refined and tested. A vision that is unachievable or based on the wrong assumptions or which points in the wrong direction can easily lead the venture astray.

3.5 Components of Visions and Missions

As we have already suggested 'missions' are generally concerned with the present strategy of the organization and 'visions' refer to the bigger goals for the future. It is interesting to look at the components of the two types of statements.

Considering 'mission' statements, Pearce and David (1987) analysed the mission statements of 500 companies in the USA and found that the high performing ones included the components listed below in Table 1. O'Gorman and Doran (1999) performed a similar study but this time analysed the mission statements from SMEs in Ireland. Again the most frequently used components are listed in the table – but these are somewhat different to those of the larger companies, showing that concern for survival is a key issue for SMEs.

Table 1 – Components of Mission Statements

Components of Mission Statements of High Performing Firms (Pearce and David, 1987)	Components of Mission Statements of SMEs (O'Gorman and Doran, 1999)
• The specification of target customers and markets • The identification of principal products and/or services • The identification of geographic domain – where the company competes • The identification of core technology used • The expression of commitment to growth, survival and profitability • The specification of key elements of the company philosophy – the basic beliefs, values aspirations and philosophical priorities • The identification of the company self-concept, namely the firm's view of itself and its competitive strengths • The identification of the firm's desired public image	• Concern for survival • Product and/or service • Concern for customer • Geographic domain • Company philosophy • Concern for quality • Self-concept • Public image • Customer/market • Concern for suppliers

Collins and Porras (1996) looked at the vision statements of successful companies and their analysis demonstrated that a well conceived vision consists of two major components: core ideology and envisioned future.

'Core ideology' defines what the company stands for and why it exists and comprises core values (a set of timeless guiding principles which have intrinsic value and importance to those inside the organization) and core purpose (the reason for being which reflects people's idealistic motivations for doing the company's work).

'Envisioned future' articulates what the venture aspires to become, to achieve, to create and is usually something that will require significant change and progress to attain. It consists of two parts: a 10-30 year audacious goal plus vivid descriptions of what it will be like to achieve the goal.

They also found that visionary companies often use bold missions of BHAGS (Big, Hairy, Audacious Goals) as a powerful way to stimulate progress. To be a true BHAG it must have three characteristics:

Three key characteristics of a good BHAG:

1. It has a long time frame – 10 to 30 years or more and applies to the whole organisation in order to complete
2. It is clear, compelling and easy to grasp
3. It connects to the core values and purpose of the organization

A good BHAG will serve as a unifying focal point of effort and will act as a catalyst for team spirit.

3.6 Vision and Leadership

Vision is often at the centre of many theories of leadership, and good leadership has often been connected with entrepreneurship. In a recent article Kotter (2001) highlighted the differences between management and leadership associating much of what leadership is about with having a vision and motivating the team to realise that vision. A summary is presented in Table 2.

Table 2 - Differences between leadership and management

	Management	Leadership
Deciding what needs to be done	Planning and budgeting, establishing detailed ways of achieving the plans and allocating resources suitably	Setting a direction by creating a vision of the future and producing strategies to bring about the required changes
Creating networks of people and relationships	Creating organizational structures and a set of jobs for accomplishing tasks Delegating responsibility to achieve the plans and devising systems to monitor progress	Aligning people so that they understand, believe in and are committed to the vision
Ensuring that people do the work	Controlling and problem solving	Motivating and inspiring to keep people moving in the right direction

Shackleton (1995) also noted the importance of vision in his research into different definitions of leadership. He noted that most definitions of the word leadership have three components:

- Influence – leaders are people who influence the actions of others
- Group – leadership is usually associated with an individual influencing more than one person
- Goal – leaders work towards something such as a vision.

Shackleton devised an integrative definition of leadership as:

'Leadership is the process in which an individual influences other group members towards the attainment of group or organisational goals'

3.7 Communicating the Vision

Once a clear vision has been formulated it will need to be shared with other current and potential stakeholders in order to make the vision a reality. These stakeholders might include:

- Entrepreneurial Management Team
- Employees – as the venture grows
- Investors – VC's, Business Angels, Friends and Family etc
- Lenders – banks
- Sponsoring organizations – in the case of spin-outs
- Key Individuals – who can provide advice and support
- Customers – current and future
- Suppliers – of materials, space, etc

The vision needs to be clearly communicated to these stakeholders and must motivate them as much as the entrepreneur in order to elicit the action that the entrepreneur requires from them. To be successful the entrepreneur first needs to understand why these stakeholders will find the vision appealing and what the benefits are for them. Wickham (1998) lists a number of key questions that entrepreneurs should ask themselves when looking to share their vision with stakeholders:

- What benefits will they gain if this new world comes into being?
- How will they be able to address their economic, social and self-development needs better in the new world than they can in the existing one?
- Will they be attracted by the moral and discretionary social responsibility entailed in the vision and the specific issues that it addresses?
- What risks will the new world present to them?
- How credible will they find the possibility of achieving the new world?
- How will they view the journey they must take to get into the new world?

Wickham also mentions that the particular strategy involved in communicating the vision to stakeholders will depend on a number of factors which include:

- The nature of the vision being shared – complexity and detail
- The entrepreneur's leadership style
- The stakeholders to whom the vision is being communicated
- The nature of commitment required from them
- The stakeholders' particular needs and motivations
- The stakeholders' relationship to the entrepreneur
- The situation of the communication
- The medium through which the communication is transmitted.

As well as being a key skill for entrepreneurs, the ability to articulate a vision and communicate it effectively and appropriately to different stakeholders forms the basis on which entrepreneurs build their leadership and credibility. Once the vision is in place the entrepreneur can start work on the business plan and the strategic and tactical issues of realising that vision.

3.8 Some Examples of Vision Statements

The following examples of vision statements are all very different. Three very succinct ones are:

Centre for Entrepreneurial Learning www.entrepreneurs.jims.cam.ac.uk

'Spreading the Spirit of Enterprise'

Microsoft www.microsoft.com

'To enable people and businesses throughout the world to realize their full potential'

Applied Optical Technologies plc www.aotgroup.com

'We protect and defend business and government brands, assets and documents from counterfeiting and fraud globally. We are our customers' FIRST CALL for security and authentication technologies, services and programs'

A much longer vision statement which perhaps highlights more of the 'E' or Ethical values from the MARKETS approach is from Dupont.

Dupont www.dupont.com

We, the people of DuPont, dedicate ourselves daily to the work of improving life on our planet.

We have the curiosity to go farther … the imagination to think bigger … the determination to try harder … and the conscience to care more.

Our solutions will be bold. We will answer the fundamental needs of the people we live with to ensure harmony, health and prosperity in the world.

Our methods will be our obsession. Our singular focus will be to serve humanity with the power of all the sciences available to us.

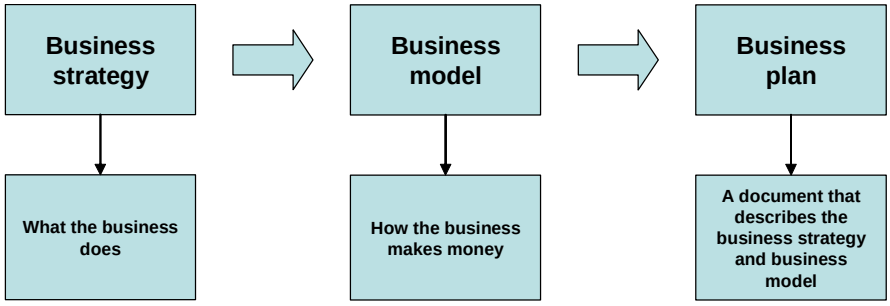
Our tools are our minds. We will encourage unconventional ideas, be daring in our thinking, and courageous in our actions. By sharing our knowledge and learning from each other and the markets we serve, we will solve problems in surprising and magnificent ways.

Our success will be ensured. We will be demanding of ourselves and work relentlessly to complete our tasks. Our achievements will create superior profit for our shareholders and ourselves.

Our principles are sacred. We will respect nature and living things, work safely, be gracious to one another and our partners, and each day we will leave for home with consciences clear and spirits soaring.

3.9 What is the Difference Between a Business Plan, Business Model and Business Strategy?

These three concepts are linked together as shown below.



3.10 Why Write a Business Plan?

- **Clarification** – writing a business plan forces you to think about each of the core elements of your business (detailed on the following page).
- **Marketing** – the business plan is a tool to persuade people to give you something to help you build your business. This may be money (e.g., from venture capitalists, business angels, banks), people (e.g., recruits to join your business) or other resources (e.g., access to distribution channels).
- **Project planning** – the business plan should also be a project planning tool that clearly shows targets and milestones for the various activities that need to be completed to realise the business opportunity. As such, the business plan needs to be:

    - regularly re-read to review progress; and
    - regularly re-assessed and in the light of progress and changing conditions.

It is important to stress this final bullet-point: **the business plan is not a 'static' document**. It will evolve over time and needs to be modified in response to changing conditions.

3.11 What Goes into a Business Plan?

Your business plan needs to cover the themes outlined in the following table in relation to your business idea. If you look at the example business plans shown in appendix to this document, you will see that the structure may not follow the same headings given in the table, but the same themes are covered somewhere in the plan. The plan should reflect your vision and your approach – using other people to write you plan for you, or relying too heavily on business planning software templates can result in bland business plans.

Table 3: Core themes to be covered in a business plan

The market	Who has the problem that you attempting to fix?
Product or service	What solutions are going to do to address this problem?
Management team	Who is going to do it? What is their track record?
Business operations	How are you going to do it?
Financial projections	How and when will money be made?
Marketing strategy	How will get people to buy your product / service
Resources required	What do you need to start your business?
Exit opportunities	How will your investors get their returns?

Source: British Venture Capital Association

3.12 How Should the Business Plan be Structured?

The three core elements of any business plan are as in Table 4. Examples of other people's business plans can be very illuminating, but don't use them as something to copy. Your plan should be just that – **your plan**

A number of example plans can be viewed at http://www.businessplans.org/businessplans.html that show the diversity of approaches that successful business plans can apply.

Table 4: Core business plan elements

Executive summary	This is a **2-page maximum** overview of the business idea focusing on: • the **business opportunity** • **what it is you want** from the person reading your plan This must also clearly show your **contact details.**
Main body	The main body of the text provides detail on the core elements listed above. For most purposes the main body of the business plan should be no longer than **20 pages maximum**. This section must be **clearly indexed** with pages / sections numbered.
Appendices	Any **supporting technical data** that you feel may be useful for the reader to refer to **BUT** should be **completely stand-alone** from the main body of the business plan.

3.13 The Business Plan Process

How you go about writing the plan is just as important as what you put in it. The biggest mistakes would be not to check your assumptions about the markets, customers and competitors through market research activity and conversations with experts.

Do you intend to write your business plan on your own or will you engage with your team members? If so this is an excellent opportunity to clarify personal ambitions, because the ambition you have for your business will have to be reflected in everyone else's commitment.

For a full blown business plan you can expect to spend between 100 and 300 hours to get decent first draft. You should also expect to write several versions for different types of investors and to keep amending what you have as you get feedback. Some of the feedback may be brutal!

If you do separate the 'wordy' bit from the 'numbers' at the back because you use 'Word' and 'Excel', make sure the logic trail connects back together, for examples projected sales (in the numbers) is reflected in the words about sales at the front. You will also need to check that you tell a coherent 'story' and make it readable.

Try not to assume that the reader is an expert in your field of science or technology! There needs to be a balance in the document between product description, market opportunity and resource allocation. Try not to have 15 pages on product and 5 pages on the rest.

3.14 'Managing' your business plan

Your business plan is an important document in which you will have invested a great deal of time and effort. The following points should always be considered in relation to your plan:

- It should not be 'devalued' by sending it out as a mail shot to all and sundry - think carefully about **who you give copies to** and **what you want them to do** with your plan.
- **Get intelligence on your reader** – E.g., if you are sending a plan to a potential investors check: Do they invest your industry area? Do they have funds of an appropriate size for your needs? Do they have any money left!?
- Keep track of each copy you hand to people noting **which version** you have sent to them and **when** you sent it to them – then **follow-up** to check on progress**.**
- Check to see **what sort of a plan your reader wants**. Before sending anyone your plan, make sure you are sending it in an appropriate format.

3.15 Further Information on Business Plans

A huge amount of material is available that aims to help you write a better business plan. A selection of some of the more interesting examples is listed below.

NOTE: many guidelines for business planning assume that you already have a business up and running. Consequently, some of the sections they list (current cash flows etc.) may not be appropriate for a business plan for a new venture.

Resource	Description	Where to find
British Venture Capital Association (BVCA)	Guidelines written by the leading network of UK venture capital firms	www.bvca.co.uk/publications/guide/businessplan.html
Venture Capital Funds	VC funds often provide their own guidelines for business plans. See BVCA for full list of UK funds.	**3i** - http://www.3i.com/how_we_can_help/starting_making_it_business_plan.html, **ET Capital** - www.etcapital.com/plan txt.html **Advent -** http://www.advent.ltd.uk/
Center for Business Planning	This is a commercial site based around software products, but does also have a number of useful resources (e.g., example business plans etc.)	www.businessplans.org/
Banks	Most major banks will be able to provide you with booklets and / or software to help write your business plan	**HSBC -** http://www.ukbusiness.hsbc.com/hsbc/sab/business-planning/preparing-your-business-plan **Nat West –** http://www.natwest.com/smallbusiness/guides/index.asp?navid=SBS/FINANCIAL_GUIDES

Background Reading and References

Campbell, A. and Yeung, S. (1991) Brief Case: Mission, Vision and Strategic Intent, Long Range Planning 24, no 4, pp145-147

Campbell, A. and Yeung, S. (1991) Creating a Sense of Mission, Long Range Planning, 24, no 4, pp10-20

Collins, J.C. and Porras, J.I. (1996) Building Your Company's Vision, Harvard Business Review September – October, pp 65-77

Kotter, J.P. (2001) What leaders really do, Harvard Business Review, December, pp88-96

O'Gorman, C., and Doran, R. (1999) Mission Statements in Small and Medium-Sized Businesses, Journal of Small Business Management, July pp59-66

Pearce, J. and David, F. (1987) Corporate Mission Statements: The Bottom Line, Executive, 1, pp109-116

Shackleton, V. (1995) *Business Leadership,* Routledge

Wickham, P.A. (1998) Strategic Entrepreneurship: A decision-making approach to new venture creation and management. Pitman, London

4. Market Research, Marketing and Sales

4.1 Introduction – What is Marketing?

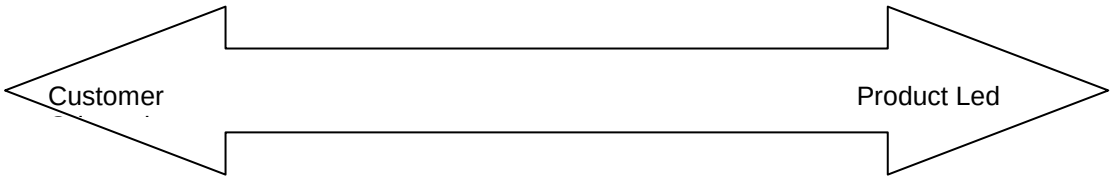
The Chartered Institute of Marketing (CIM) defines marketing as:

'The management process responsible for matching resources with opportunities at a profit, by identifying, anticipating, influencing and satisfying customer demand.'

Marketing and sales are absolutely fundamental to the success of any new venture as they are the functions that enable cash to be generated to fuel the business. The two, however, are very different. Marketing is about deciding what to sell, for how much and to whom and in doing so considers customer communications, building and image and spreading news about your products. Selling however, is the actual process of dealing with customers, building a relationship and moving the product.

Marketing requires that you take the view point of the customer – the most successful companies are those who are market led or customer oriented rather than product led (see Figure 1). In being customer oriented the decisions taken by these companies are driven by what the customer needs and wants (rather than the technology or product) and marketing is not confined just to the marketing department but is a concern of all members of the organisation.

Figure 1 – Customer Oriented and Product Led



Customer Oriented

- Business starts with the customer and provides solutions to customers needs or problems
- Fundamental decision to identify which groups of customers to do business with and in which markets
- Marketing is too important to be left to the marketing department

Product Led

- Companies believe that the qualities of the product are enough to ensure success in the market
- No matter how good the product, if there is no distinct group of customers who have a need for it, there is little prospect for its survival
- Marketing is concerned with promoting and selling the product

4.2 Aim of these Notes

Entrepreneurial business plans rarely do a good job of analysing and evaluating the opportunity (customers, their needs, how the plan will meet those needs) because entrepreneurs do not have:

1. A framework for rigorous marketing thinking
2. The habit of doing such thinking

These notes will focus on the marketing activities which are essential for entrepreneurs to take their new products or services to market successfully. They along with the sessions on marketing will enable you to:

- Consider the marketing and industry environment to help define your strategy
- Define who your customers are through market research
- Understand why they buy
- Decide on appropriate tactics to reach your customers
- Consider marketing strategies for the future
- Gain some tips on selling your product.

4.3 You have the Technology – What's the Strategy to Get to Market?

Ansoff (1957) considered four different growth strategies for companies and presented them as a matrix based on the firm's present and potential products and customers (markets). This results in four possible combinations for growth as presented in Figure 2.

Figure 2 – Ansoff Matrix

	Existing Products	New Products
New Markets	**Market Development**	**Diversification**
Existing Markets	**Market Penetration**	**Product Development**

Creative use of this matrix and by re-labelling the axes to focus on technology and unmet and unknown needs can be helpful to the high-technology entrepreneur with aspirations of reaching the market with breakthrough technologies (Figure 3). The key question is to determine what actions are required to help build a strategy in each of these directions. These actions however will depend on the outcome of some rigorous market research to understand the general business environment, the industry you plan to operate in and also the needs of your potential customers.

Figure 3 – Ansoff for the High-Technology Entrepreneur

	Existing Technology	New Technology
Unmet needs		
Unknown needs		

4.4 Different Levels of Market Research

Good market research is critical to a good entrepreneurial business plan. Market research has three main purposes:

- To reduce uncertainty when producing marketing plans
- To enable performance to be monitored after marketing plans have been put into operation
- To contribute towards the strategy of the organisation by helping to understand what is going on in the external environment.

The upshot of market research is the gathering of data which can then be refined for the relevant information and in doing so intelligence is gained about the market within which the company plans to operate. The importance of the intelligence is that it reduces risk by helping to improve the actions that we take. If the information that's gathered does not have the capacity to improve our actions then it isn't worth collecting in the first place.

It can be very difficult to do market analysis well as it is very hard to understand our customers, and it often seems more preferable to focus on other aspects of the business such as the technology or design of production. One of the basic problems is knowing where to start – knowing where to start requires having some information and collecting this requires having information to start with – a potential endless loop.

Any market research plan should incorporate rigorous research and analysis at a number of different levels – there are a number of 'marketing tools' which entrepreneurs may find helpful to research and analyse:

1. The general business environment – e.g. by STEP analysis
2. Analysis of the industry in which you plan to operate – e.g. using Porter's Five Forces Framework
3. Understanding and defining customers – e.g. by primary and secondary market research methods, or by user centred research

The following sections provide a brief outline of each of these tools.

4.5 Understanding the Environment - STEP

The STEP factors are a major component of an organisation's external environment and they comprise four main groups:

- Sociological factors, e.g. values, lifestyles, demographics
- Technological factors, e.g. research and development, new products and processes
- Economic factors, e.g. economic growth, inflation, interest rates
- Political factors e.g. competitive policy, legislation, political parties

Fahey and Narayanan (1986) stress that each of these factors is related to and affects every other factor. They also highlight that you need to go beyond just assessing the changes to understanding the driving forces that lie beneath the changes.

The list of factors which constitute the environment is almost endless, but the list of relevant factors will vary from industry to industry and business to business – therefore they are context specific.

4.6 Industry Analysis – Porter's Five Forces of Competition

One of the key start points for market research is to understand the features of the industry in which you plan to operate to understand what the broad structure of the company is in terms of the number of major and minor players, the influence of customers and suppliers and so on. One framework which is helpful in defining this was devised by Michael Porter (1979), which views the attractiveness or profitability of an industry at a particular point in time as determined by five sources of competitive pressure:

- Competition from substitute products
- Competition from new entrants into the industry
- Competition from established rival businesses
- The bargaining power of suppliers
- The bargaining power of customers or buyers

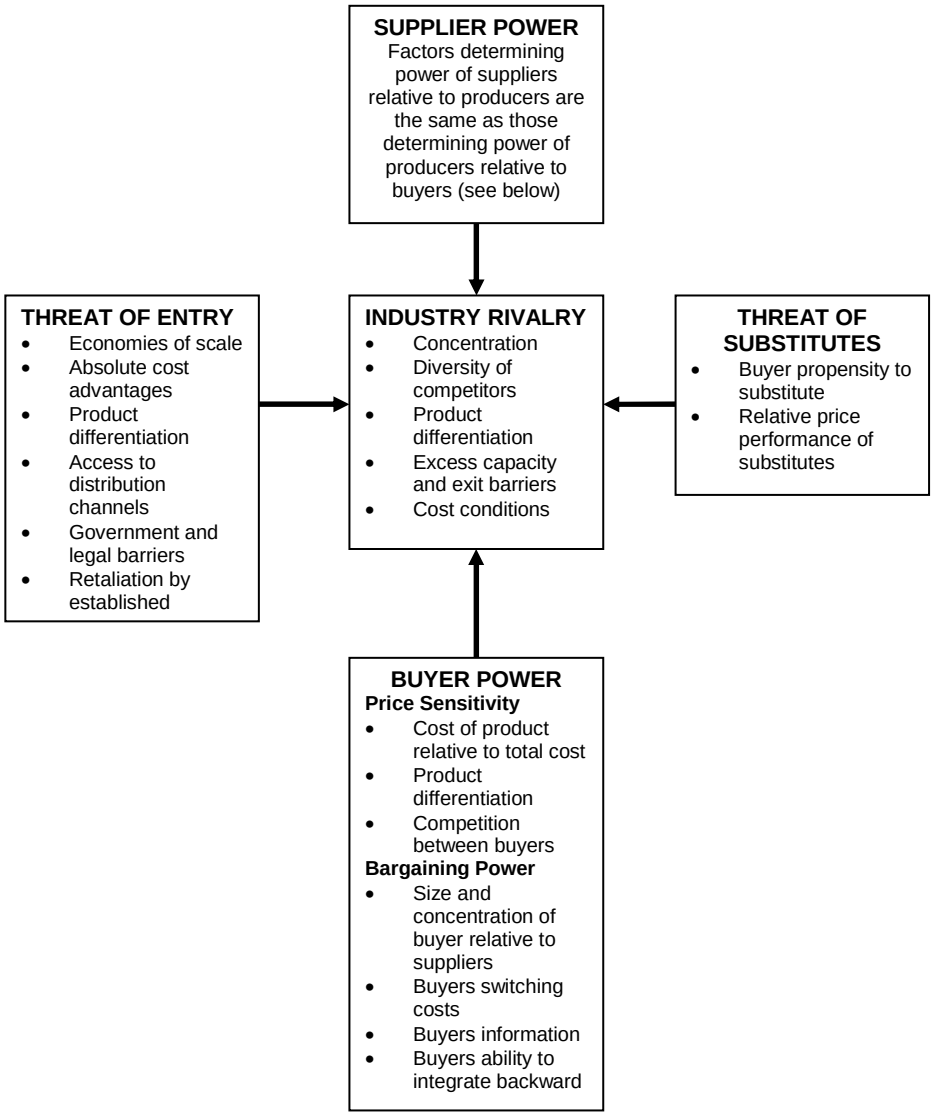
Competitive businesses can pose a major threat to your new business/venture so you need to know:

- Who they are
- What they do and how they make money
- How good their products are and why people buy them

You need to bear in mind that competition may come from both expected and unexpected places:

- Existing competitors
- New entrants
- Suppliers
- Customers
- Alternative new technologies

Figure 2 – Porter's Five Forces of Competition



4.7 Customers – Primary and Secondary Market Research

There are a number of different market research methods (see figure 3) which fall into two main categories:

1. Secondary Research – using information which is already available
2. Primary Research – specially commissioned or undertaken for the project.

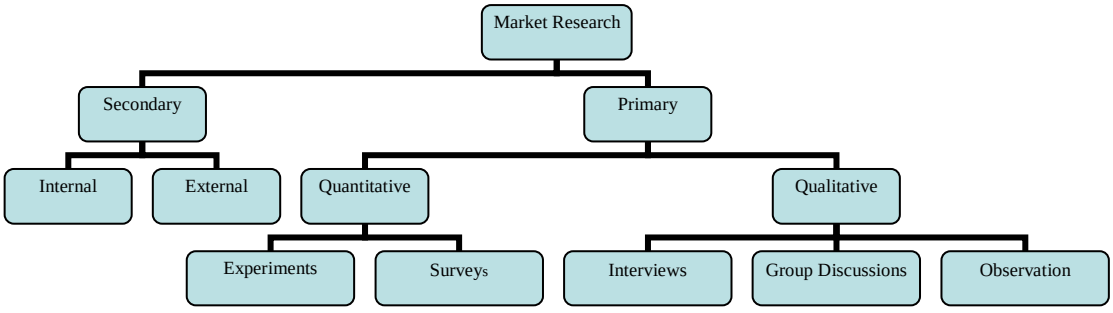
There are many sources of secondary research type information – the internet provides an extensive source and there is the possibility to tap into many websites with statistical information about the general population, their ages, incomes etc. These will also help to determine the size and value of the market you are planning to serve.

Sources of market data include:

- Government statistics
- Industry sources
- Market research databases and companies
- Press/trade journals

At one end of the primary research spectrum are depth interviews which provide valuable marketing information concerning individual customer needs and requirements, however to do significant numbers of these the costs are high especially in terms of time. At the other end are surveys which may be appear to be cheaper to undertake, however unless there is careful preparation of questions and the return rate is high much less significant information will be obtained.

Figure 3 - Market Research Methods



The most logical progression when developing new products is to first do some in depth qualitative research by speaking and listening to some potential lead users. This will not only provide key information, but could provide the opportunity to work with them on the development of the product, allowing a much more refined product suiting the needs of the customer to be launched.

Networks are also very useful sources of marketing information. As well as providing information about what's going on in the local or industry environment, they may also provide a forum for testing your ideas in a very informal way and gaining early interest in your product.

4.8 User Centred Research and Design

User centred research and design involves developing successful products and services with the user at the centre of the design process.

The central premise of user-centred design is that the best-designed products and services result from understanding the needs of the people who will use them. User-centred designers engage actively with end-users to gather insights that drive design from the earliest stages of product and service development, right through the design process.

A user-centred approach can generate new insights in all design projects but it is particularly useful when a new product or service is to be introduced or where a step-change in an existing product or service is required. Awareness of the experience of end-users can lead designers to question established practices and assumptions - and it can yield innovation that delivers real user benefit.

While most designers are conscious of the need to design for end-users, they often base their understanding of users on their own experience or on findings from market research. In contrast, user-centred designers engage with potential users directly, believing that understanding the details of individuals' experience gives greater insight than the aggregated reports of market research, and that what people tell market researchers they do doesn't always tally with what they actually do when observed in their own context.

Many standard design projects also involve customer or user feedback in the latter stages of concept development. But user-centred designers start engaging with users during the early, formative stages to set the agenda for their projects, rather than waiting until it may be too late to make significant changes.

User observation and analysis

User observation is based on ethnographic methods: the designer immerses him or herself in the users' context (for example, spending time with users as they go about relevant tasks at work or home), usually asking open-ended questions, directed at both the practical aspects of people's tasks and the social and emotional significance they have.

Immersion in context is critical to user-centred design: it exposes unexpressed needs that would be impossible to pick up without the full context. Where products and services are to be used by groups of people co-operating together (for example, nurse and patient or groups of team workers), the full dynamic of their interactions can be appreciated through observation.

Observational research needs to be analysed in order to draw out key themes to be taken forward into design. It is usually recorded visually (either video or stills) so that highlights can be presented back to design teams and form the basis for idea development. The clearer the analysis and more vivid the presentation, the more likely it is to make an impact on the design team and shape product or service development.

Prototyping, evaluation and iteration

As design ideas and concepts develop, user-centred designers continue gathering input from end users, either involving them directly in design development or showing them prototypes based on their ideas for evaluation. According to the project and concept being developed, prototypes can vary from written scenarios and sketches showing broad functionality, through paper- or screen-based prototypes, to fully working models that represent full functionality.

Depending on the level of development of the prototypes, users can be asked to 'walk through' them as if they were carrying out a task, or to use them to carry out simulated or real-life tasks. These prototypes provide opportunities for feedback both on the general fit of the product or service to people's needs and on its step-by-step usability.

As with observation, the feedback from prototype evaluation needs to be analysed and its results taken forward into design thinking as part of an iterative process of designing and evaluating.

Representing the full range of user need

The purpose of user research in design is to inspire and focus the design team rather than gather quantitative data (although a quantitative approach may be appropriate at the final stages of testing usability). When time and budget are constrained, the emphasis should be to gather input from the widest range of users possible (most products and services have different kinds of users). This should mean that the full potential is understood, rather than carrying out repeat observations or evaluations with the same kind of user.

Why it matters to business

User focus in design increases competitiveness, leading to the development of products and services that people:

- genuinely need and value
- find intuitive and easy to use.

Company reputations and customer loyalty are built by positive user experiences. In web-based services, in particular, it is very easy for people to 'click' to an alternative website if a service doesn't meet their needs.

Design teams are often physically and culturally removed from the people they design for. Over the course of product and service development, designers, engineers, planners and marketeers can grow so close to the concepts and technologies they are developing that their expectations don't match those of everyday end-users. Those who take pains to understand the context they are designing for and who include users' perspectives in the evaluation of their work have a greater chance of business success.

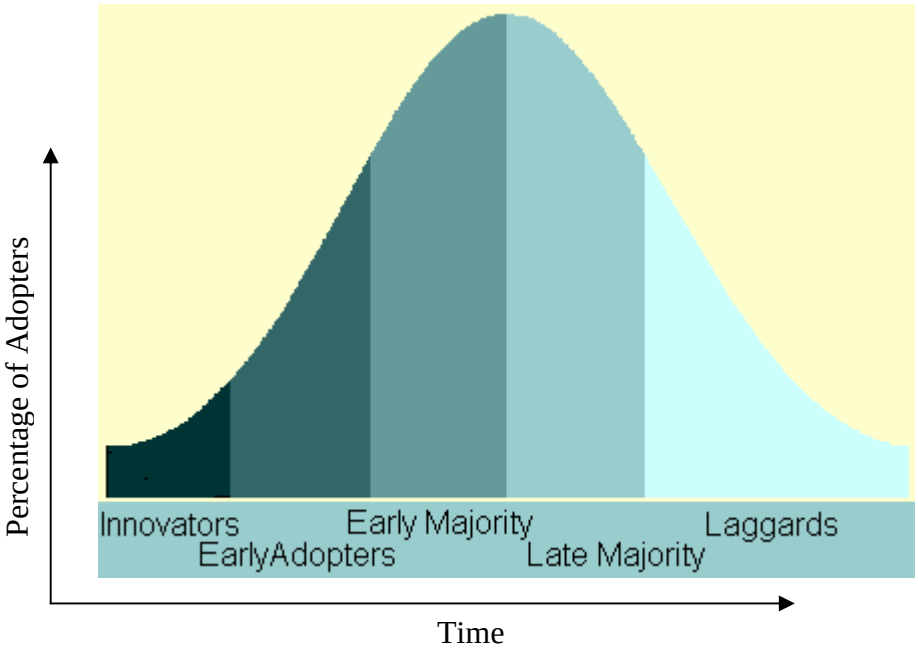
A user-centred approach to product and service development provides a unifying framework for organisational strategy. It brings the interests of different departments, such as research, operations and marketing together, generating a coherent development strategy and reducing the wastage of conflicting initiatives.

4.9 Why Do Customers Buy?

The process of a customer buying a product may seem trivial for many purchases, but is actually very complex in nature. This is especially so for more expensive products or if the purchase is to be made by a business were the final decision may be taken by a whole group of diverse people with different needs or requirements. If the product is completely new then the process may be even more complex.

Everett Rogers defined 5 different groups behaviour among people adopting new products as shown below in figure 4.

Figure 4 - Buyer Behaviour when adopting innovative new products



Innovators (2.5%) – venturesome, risk-taking, information seeking, with a higher financial status

Early Adopters (13.5%) – greatest degree of opinion leadership, respected by other members of social group

Early Majority (34%) – deliberate; adopt new ideas just before the average member of a population

Late Majority (34%) – sceptical, adopt new ideas just after the average member of the population. The pressure of peers is necessary to motivate adoption.

Laggards (16%) – traditional, last in a social system to adopt an innovation, pays little attention to the opinions of others.

4.10 Reaching your Customer

To effectively reach your customer you need to go through a three stage process:

1. Market segmentation – identify bases for segmentation and determine the important characteristics of segments
2. Market targeting – evaluate potential and commercial attractiveness and select one or more segments
3. Product positioning – develop detailed product positioning and develop marketing mix for each segment

Segmentation

This first step in the process requires utilising your market research intelligence to segment the market. This means identifying subsets of buyers within the market who share similar needs and demonstrate similar buyer behaviour. It is important to do this because it will:

- focus your efforts on the important parts of the market
- assist you in tailoring your product to specific customer needs
- enable you to allocate and direct precious resources effectively
- help you to build better client relationships

A useful segmentation of the market has four key features:

- Size – must be large enough in numbers or purchasing power to support profitable sales
- Identity – should be able to identify members and chart buying behaviour
- Relevance – Basis for selection should be relevant to the important characteristics of the product
- Access – segment should be available to be acted upon

Targeting

After the market has been separated into segments the next stage is to select a segment or series of segments on which effort and resources will be concentrated. There are three main types of targeting:

1. Single Segment – choose one individual segments and supply it with a single product. This can also be termed niche marketing.
2. Broad coverage of segments – providing a single product that will fit the requirements of a number or all of the identified segments.
3. Multiple segments – providing different products for different segments.

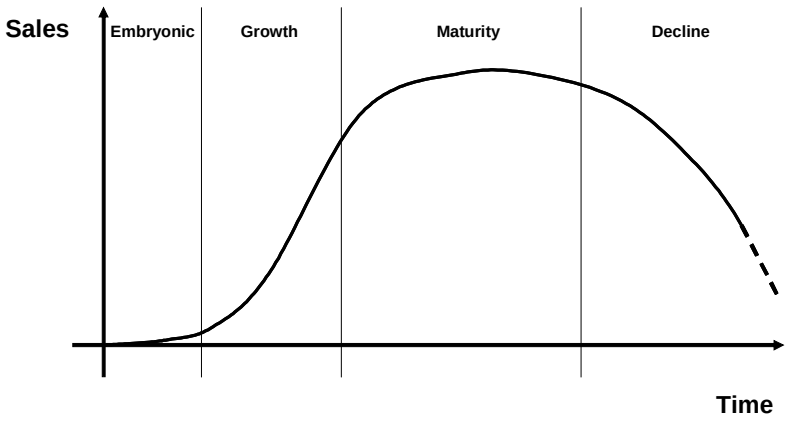
Positioning

The final stage is to position your product so that it is suitable for the market segment or segments that you are targeting. This involves using the ‘Marketing Mix’ to provide a coherent set of messages about the product.

4.11 Marketing and the Marketing Mix

When thinking about your product and it is important to realise that all products go through a life cycle which includes four quite distinct phases (Figure 5). Each of these phases requires a different marketing strategy.

Figure 5 – Product Life Cycle



- Embryonic – Main task is to create awareness of the brand/product
- Growth – Emphasis on promotion of the brand/product
- Maturity – Build groups of loyal users and attract those of competitors
- Decline – Look to introduce new products

The Marketing Mix (also known as the 4P's) comprises:

- Product
- Price
- Place
- Promotion

These four key elements need to be manipulated so that they provide a coherent set of messages about the product which are relevant for the segment or segments of the market which you are targeting.

Product – You will need to determine the optimum characteristics of the product including its various features and functions. To do this effectively, you will need to be aware of the technical implications of for example adding extra functions and also the costs of doing so, as well as being aware of what the value to the customer is and how much they might be willing to pay.

Price – Pricing is a key issue and can be responsible for the success or failure of the business. There are three main approaches to pricing:

1. Cost based – break even, cost plus, marginal cost pricing
2. Competition based – use the competitions pricing as a basis
3. Value pricing – pricing is based on the value that customers perceive the product to deliver.

Another strategy that is often used for innovative new products is skimming. This aims to maximise the profits on early sales to innovators and early adopters by charging a high price. The price is reduced once the majority start to buy.

Place – This refers to where and how you sell your product – is it direct to customers for example via the internet or do you need to utilise or develop distribution chains to reach your customers?

Promotion – This final element deals with all marketing communications including, PR, advertising, direct mailings, special offers, and personal selling. For marketing communications to be effective they have to do a number of things:

- **A – Awareness**: You need to make sure the client knows about you and your products
- **I – Interest**: You need to create an interest in buying the product or service from you
- **D – Decision**: Decisions are made on the basis of a complex combination of logical and emotional reasons – you need to help the customer make a decision in your favour
- **A – Action**: You need inspire the customer to act on their decision and actually buy the product.

4.12 What if your Product is a Service?

If your product is in the form of a service you provide to customers or other businesses you will need to adopt a quite different approach to marketing.

The selling of a product such as a tin of beans to a consumer is essentially a simple transaction which is characterised by:

- A focus on a single sale
- Orientation on product features
- Short timescale
- Little emphasis on customer service
- Limited customer commitment
- Moderate customer contact
- Quality is the primary concern of production

For services including business to business and professional services the most effective way is to base marketing around the building of relationships with:

- Focus on customer retention
- Orientation on customer benefits
- Long time scale
- High customer service commitment
- High customer contact
- Quality is the concern of all

This places a need on considering three further dimensions of the marketing mix:

- **People** – these are key to the delivery of the service
- **Process** – experienced by the customer during the purchase and delivery of the service
- **Physical Evidence** – where the environment, ambience and physical surroundings for example are considered to be an important issue

4.13 Selling and Buying – Building Value Propositions

As we defined earlier selling is quite different from marketing. Selling is about managing the customer relationship and is about listening to the customer.

The customer will have needs that they wish to satisfy or a problem that they wish to solve, and may have concerns about your product being the right solution to their problem or its ability to completely satisfy their needs. Selling involves the active discovery of those particular and individual needs. Morse (2003) defines the sales process as:

Understanding client needs and matching products to those needs. It entails:

- Needs processing
- Identifying/quantifying current pain
- Developing latent pain

Morse also insists that clients will rarely buy from you unless they feel they have a relationship with you and your company. They will feel they have a relationship with you only when they believe that you understand their needs, their situation, their vision, their constraints and their goals.

Selling (especially in a business to business situation) occurs in a number of key stages:

- ***Prospecting*** – locating the likely buyers and seeking leads
- ***Getting the meeting*** – once you have one you need to do your homework and find out as much as you can about the customer
- ***The first meeting*** – this should be social, to build trust and the relationship and to establish mutual ground, then keeping in touch
- ***Survey*** – determine the needs, concerns and constraints of the potential customer and see where there is a fit with your product
- ***Proposal*** – prepare and submit a sales proposal for the customer
- ***Close*** – find out what if anything is stopping the customer for buying and remove any objections one by one.
- ***Service*** – the relationship still needs to be managed after the deal is done to provide follow-up customer service.

Much of building the relationship with the potential client depends on the first meeting. Preparation is critical – so look carefully at the client's annual report, website and other published sources of information. Try to map out the organisation chart and figure out who has the power, it is also useful to try and identify the business drivers.

In business to business sales there will quite often be a team of individuals from the client company involved in the process. This team of people are often known as a **decision making unit** and may comprise individuals from all over the buying organisation who may be involved in the purchase. At a general level this team will probably include:

- ***Economic Buyer*** – the person who gives final approval for the purchase or not, they hold the purse strings
- ***User Buyer*** – the person who actually uses or supervises the use of the product one it is purchased
- ***Technical Buyer*** – the person who screens out certain suppliers because they don't meet the required criteria

All of these will have different sets of needs and requirements and all need to be met before the product is finally purchased. So messages need to be matched to all of their perspectives and motivations.

Some criteria that buyers may use include:

- ***We need it*** – solves a problem, makes us more money, makes life easier
- ***Trust the Supplier*** – Reputation, Credibility
- ***Value for Money*** – Price/Value is justifiable

Background Reading and References

Ansoff, I. (1957) Strategies for Diversification *Harvard Business Review* September-October

Fahey, L. and Narayanan, V.K., (1986) *Macro environmental Analysis for Strategic Management,* West Publishing

Lang, J. and The University of Cambridge Entrepreneurship Centre 2001, *The High Tech Entrepreneur's Handbook* Pearson Education

Morse, K. (2003) Key Role of Sales and Quantifying the Value Proposition – a presentation for Real Alchemists Boot Camp 2003, University of Cambridge Entrepreneurship Centre

Porter, M.E. (1979) How Competitive Forces Shape Strategy, *Harvard Business Review* 57 (March – April) 86-93

Vyakarnam, S. and Leppard, J.W. 1999, *A Marketing Action Plan for the Growing Business* Kogan Page

www.marketingteacher.com

5. Business Models and Intellectual Property

5.1 Introduction

Identifying an unmet market demand and finding a way to address that demand is only part of the challenge facing the entrepreneur. The entrepreneur also needs to find a way to generate **sustainable revenues** from the supply of a product or service to ensure the growth of the new firm.

To do this requires an understanding the target market's **value chain**, i.e., a breakdown of how goods and services are supplied within the targeted industry sector or, if the entrepreneur is developing a new market, an analogous sector.

Understanding the industry sector's value chain allows the entrepreneur to assess the different **business models** that would allow revenue to be generated from exploiting the opportunity.

For high technology start-up companies, development of some business models means establishing ownership of intellectual property and finding appropriate ways to protect it, so some knowledge of patenting, trademarks and other legal terms and issues surrounding IP is also necessary.

5.2 Aims of these Notes

The aim of these notes is to cover:

- The linkages between business strategy and business models
- The concept of the industry value chain
- A typology of basic business models
- Examples of some business models
- Role of technology standards
- The basic ways to protect intellectual property
- Further sources of information

5.3 Business strategy and business models

Dozens of books have been written on helping enterprises define and implement their **business strategy**. There are many definitions of strategy, for example:

- Strategy: The art of war, especially the planning of movements of troops and ships, etc., into favourable positions, plan of action or policy in business or politics etc.
  Oxford English Dictionary

- The determination of the long-run goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals.
  Chandler (1962)

- What business strategy is all about is, in a word, competitive advantage… The sole purpose of strategic planning is to enable a company to gain, as efficiently as possible, a sustainable edge over its competitors. Corporate strategy thus implies an attempt to alter a company's strength relative to that of its competitors in the most efficient way.
  Ohame (1983)

So essentially business strategy explains how you will do better than your rivals. Frequently doing better means, doing things differently and organisations can only achieve really superior performance when they do something that no other business does and in ways that no other business can duplicate.

Business models can be described as stories that explain how enterprises work (Magretta, 2002), by answering key questions such as:

- Who is the customer?
- What does the customer value?
- How do we make money in this business?
- What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?

Business models are based on the generic value chain (see next section) which underlies all businesses. The value chain is comprised of two basic parts: the activities associated with making something and the activities associated with selling it.

The advent of PCs and computer spreadsheets has allowed a more powerful and analytical approach to the use of business models. Spreadsheets can be built to help define the financials of the business. These are based upon critical assumptions about customers and their motivations towards buying products and the economics behind it. By using spreadsheets each item can be tested to ask what if questions about these critical assumptions and in this way the behaviour of the business can be modelled.

Business models fail usually for one of two reasons – the narrative test – the story doesn't make sense, or the numbers test – the profit and loss account doesn't add up. But when used correctly business models force managers to think rigorously about their businesses. A business model's great strength as a planning tool is that it focuses attention on how all the elements of the system fit together into a working whole (Magretta, 2002).

A real business model is the organisation's core logic for creating value (Linder and Cantrell, 2001). More specifically it is:

- The set of value propositions an organisation offers its stakeholders
- along with the operating processes to deliver on these
- arranged as a coherent system
- that both relies on and builds assets, capabilities and relationships
- in order to create value.

Linder and Cantrell also suggest that there are three characteristics of a good business model in that they:

1. Offer unique value to the customer – sometimes in the form of a new idea, more often combination of product and service features
2. Are hard to imitate – so build barriers to the entry of other potential competitors
3. Are grounded in reality – and based on accurate assumptions about customer behaviour.

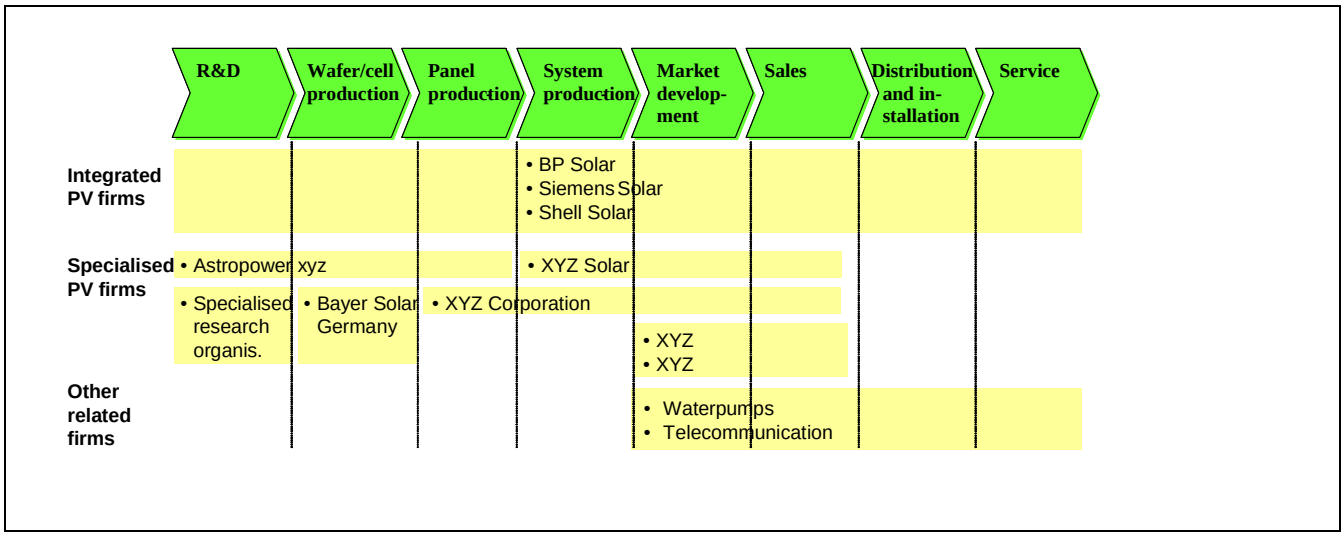
Think of a business whose services you use – be it product or service. What is its strategy? How does it generate revenues? Does it just have one source of revenue, or multiple channels? Is it the end user that gives the business the bulk of its revenues, or do they come from elsewhere?

5.4 Analysing the Value Chain

Once an opportunity for meeting and unmet demand has been identified, the entrepreneur needs to assess the way in which the chosen industry sector currently operates. This will help identify how the business will generate revenues. If the entrepreneur is anticipating the development of a whole new industry sector, then analysis needs to be carried out for analogous industry sectors.

One of the most common tools for assessing an industry, or industry sector is the 'Value Chain' analysis. This provides a means to breakdown and graphically represent the way in which an industry operates, and helps the entrepreneur identify the options for generating revenues from exploiting an opportunity.

Figure 1: Industry value chain for the Solar Power industry
Source: Oliver Hugo, Centre for Technology Management, 2000



Note: 'PV' refers to photovoltaic

Such a value chain analysis can then be used for identify who is selling what and to whom, for how much, and where the major profit margins are being gained. This helps the entrepreneur identify 'weaknesses' in the system that can be exploited as revenue generating opportunities.

5.5 Basic Business Models for Knowledge Intensive Ventures

For new ventures based around the application of science or technology, the basic business models typically fall into one of four categories:

- **Sell the technology** – if the idea is 'packageable' (i.e., there is some defensible element to it, perhaps in the form of a patent or some other IPR) then it may be possible to sell it outright to someone for whom it solves a problem and who can see value in it.
- **License the technology** - as above, but the entrepreneur retains ownership of the idea but allows others to use it in return for a fee for their usage.
- **Partnership with another company / companies** – rather than setting up all the functions of a business to exploit the opportunity, the entrepreneur may choose to form partnerships ('strategic alliances') with one or more existing businesses that provide part of the business capability needed to exploit the opportunity.
- **Build a business to develop and sell the product/service** – the entrepreneur may choose to build the capability to exploit the opportunity.

Table 2: Four basic business models for knowledge intensive ventures

	Pros	Cons
Sell technology	* A quick route to cash * No responsibility for building the business / achieving success * No further funding needed/capital investment	* Only get a small % of potential value * Need to find someone to buy it * No leverage possibilities
License technology	* Get the cash quite fast * Little responsibility for building the business * Little further funding /capital investment needed	* Get relatively small % of value * Need to find and manage licensees * Reduced leverage possibilities
Partnerships	* Use experience and resources of another business * Increased speed to market * Shared responsibility for building the business * Shared risk * Significantly reduced level of investment/capital	* Share the value with collaborator * Need to work with (and 'get-on with') other people / organisations.
New stand-alone business	* Entrepreneur gets 'all' the value generated * Entrepreneur is in 'full' control of what happens	* Entrepreneur needs to raise all the investment/capital * Entrepreneur takes responsibility for all that goes wrong * Entrepreneur have to work within the resources that entrepreneur can access

5.6 Partnerships and Licensing

The partnering route can be an excellent way for the entrepreneur to access the resources required to exploit an opportunity. From one standpoint, the use of strategic alliances are an efficient and effective way to get rapid access to global marketing expertise, manufacturing capability, etc. However, the success of such partnerships is dependent upon the successful interaction of two or more very different views of the world.

Table 3 highlights and contrasts, as an extreme case, the characteristics of a new technology venture with a large, established corporation. Such differences can cause major problems for the successful implement of a business model based around partnerships.

Table 3: Start-up versus mature corporations

Typical Mature Corporation	Typical Start-up
• Seniority-based compensation and promotion. • Conservative, risk-averse. • Cost- and control-driven. • Detailed planning & slow decision-making. • Analytical, cautious. • Autocratic.	• Performance-based compensation and promotion. • Innovative, risk-taking. • Service- and quality-driven. • Opportunistic, rapid decision making. • Intuitive, daring. • Participative.

Case study 1 about Cambridge start-up ARM is an example of a business model around licensing and partnerships. It highlights some of the issues involved and how establishing a technology standard can help a business to grow.

Case Study 1: ARM Ltd – Developing a Technology Standard and Licensing IP

Advanced RISC Machines Holdings Ltd was born out of the research laboratories of Acorn Computers in November 1990, with the backing of Apple Computer and VLSI Technology (who are now owned by Philips Semiconductors). Acorn had developed an innovative 32-bit microprocessor that ARM's founding investors believed could become the global standard for applications requiring the best mix of price, performance and power efficiency, from mobile phones to embedded applications, such as anti-lock braking systems in cars.

ARM's business model was to focus on designing microprocessors and licensing its designs to semiconductor partners who would in turn manufacture and market the ARM chips. In an industry characterised by rapid technological and organisational change, ARM successfully developed partnerships with major organisations in Europe, the US and Japan and continued to build on its innovative chip designs.

As an intellectual property provider, ARM was launched with the clear strategy of creating a new microprocessor standard to enable its technology to be used in as many final consumer products as possible. Acorn had already launched an ARM3-based machine and Sanyo, in collaboration with VLSI, was using ARM to develop embedded controllers. From the outset there was a deliberate strategy for developing partnerships.

Acorn's original expertise and development team was valued at £1.5 million, Apple invested the same in cash and each took 30 per cent of the company's total shares. VLSI invested £250,000 cash for a 5 per cent holding with the remainder of the shares set-aside for future investors, including ARM's employees. Until the remaining shares were taken up the joint venture partners' shareholdings were greater (Acorn and Apple with 46 percent and VLSI with 8 per cent).

The original business plan identified three main geographical markets in which ARM would need to develop license partners, Europe, the US and Japan, and specified the requirement for ARM to develop a product 'roadmap' to expand the ARM's product offering. The founders then began the search for a new managing director to lead the twelve Acorn engineers that made up the new company and Robin Saxby joined to fill this role in February 1991.

From his first involvement with ARM Robin Saxby recognised the importance of managing relationships. Before accepting the job as managing director he arranged to meet the twelve engineers, who had come from different teams within Acorn, to establish a rapport with them.

Within the company Saxby quickly developed an open culture. He played an active part leading weekly management meetings and, right from the start, he involved everyone in ARM in identifying its strengths and weaknesses. This participative culture was also important in developing ARM's customer partnerships.

With engineering backgrounds themselves, ARM's senior management took every opportunity to include their engineers in customer meetings. Jamie Urquhart (one of the founders) found that not only did this cut down the communication chain and allow the experts to do the talking, but also that his engineers committed to more having built up direct relationships with customers. This became an essential factor in enabling ARM to be customer focused, fast moving and flexible in its early years. As Urquhart explained, "partnerships don't work because businesses meet, they work because individuals in them have got trust and have built up an understanding of each other".

Extract from ARM Case Study, Cambridge Entrepreneurship Centre, 2000

5.7 Industry Specific Models – Biotechnology

Some industries have their own set of business models which are built around the value chain for the industry. An excellent example is the biotechnology industry and more specifically the part of the industry that looks to develop and market more novel biopharmaceutical products. Development timescales for these products are long (10-15 years) and the costs can be very high (of the order of £500 million).

Although licensing and strategic alliances form the backbones of most business models within the biotechnology industry, Fisken and Rutherford (2002) looked more closely at how more specific business models have evolved alongside the evolution of the industry. They discuss the origins, value generation potential, risk profiles and revenue streams of four different models:

1. The Fully Integrated Pharmaceutical Company (FIPCO) Business Model
2. The Product Business Model
3. The Platform or Tool Business Model
4. The Hybrid Business Model

FIPCO Business Model – This is the business model which essentially spans the whole of the value chain. Early biotech companies such as Amgen and Genentech adopted this business model, partly because this was the established pharmaceuticals business model and partly because it has certain attractions in terms of value generation. Superior financial returns can be achieved and sustained through management of the complete value chain. This business model is however high risk, and also requires high levels of financing to build the infrastructure to take drugs right through from research to commercialisation, making it an unrealistic business model for biotech start-ups. They therefore need to pursue new business models which rely more on building relationships to leverage their intellectual property.

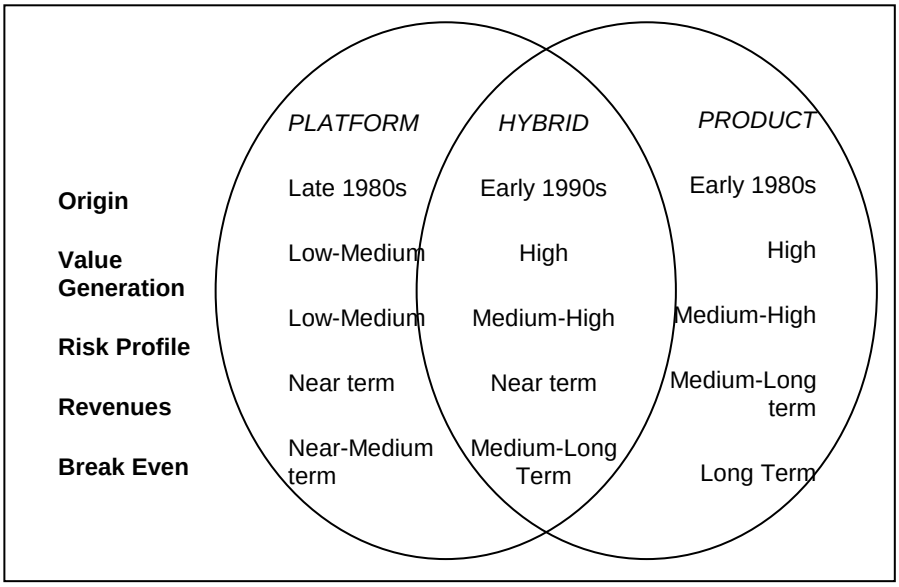
Product Business Model – This aims to generate value in progressing products along the drug development process and then licensing them out to pharmaceutical and top tier biotechnology companies. It is still a relatively high risk business model, but companies can partner products at an early stage of development to mitigate some of the risks. However they often realise a greater value if they progress the products further through development. The majority of companies follow the classic product business model having both drug discovery and development capabilities, with 19 of the top 22 biotech companies in the world classed as product companies – so this is a well proven business model. Some companies also in-license products and technologies from universities and specialised discovery firms instead of establishing a drug discovery capability.

Platform or Tool Business Model – This is a relatively new business model which aims to generate value through licensing fees, subscriptions and service fees and can include the provision of new research tools, informatics and or services/reagents. The evolution of this model was driven by the need to reduce the risks in drug development through applying technological advances to drug discovery. The business model became established through the need for companies to generate near-term revenues to compensate for lack of VC funding. This model also has lower perceived risks. The initial attraction has now started to wear off as there are concerns about the model's ability to sustain value generation. One example of a company who used this business model is Celera Genomics who were involved in sequencing the human genome and aimed to utilise this knowledge commercially.

Hybrid Business Model – This is a mix of product and platform business models and generally constitutes a platform technology capable of generating a pipeline of products. Some companies who originally adopted a platform business model have been able to move to hybrid to capture greater value (e.g. Millennium Pharmaceuticals). Timing of this is critical to ensure that the company maintains a healthy balance between the contributions of the platform and product components to the business, and in moving from a platform to a hybrid business model they need to recruit the right management skills for clinical development. Companies using the hybrid business model often need to rely on partnering to complete development and commercialisation. The hybrid model gives investors the benefit of the reduced risk and downside protection associated with near term revenue generation without compromising the potential for greater value generation. It has become the dominant business model of the industry.

The risks and rewards of the platform, product and hybrid business models are summarised in Fig. 2.

Figure 2 – Biotechnology Business Models



Case study 2 - Cambridge Antibody Technology provides an example of using a hybrid model.

Case Study 2 - Cambridge Antibody Technology (CAT) – Hybrid Biotechnology Model

When CAT first began operating as a company, two business strategies were pursued. The first was library licensing, where partners sought direct access to CAT's proprietary phage antibody libraries for research use. CAT received a licence fee and, in certain instances, offered options for the development and commercialisation of human antibody products. The second strategy was the custom selection, design and development of therapeutic antibody drugs, for which CAT received technical performance milestones, licence fees, clinical milestone payments and royalties. Both types of business arrangement served to fund the early research and development of the Company and allowed continued technology refinement. In addition, both types of business relationship provided short-term revenues and established CAT as a serious player in the field of antibody therapeutics.

As CAT has become established as a world leading company in therapeutic human monoclonal antibodies, the Company's strategy has shifted to seek additional approaches to upfront cash payment in order to gain value from alliances. Access and rights to validated, proprietary potential drug targets for the development of therapeutic antibody drugs is a key priority for CAT, as is access to complementary know-how and technology.

As well as seeking to exploit the value inherent in all levels of the drug discovery process, CAT's business model has evolved from arms-length technology licensing to more collaborative, strategic alliances, which aim to integrate the full suite of CAT's industrialised technologies into partner organisations worldwide. This approach has great potential in leveraging complementary technology between CAT and its partners.

Furthermore, CAT's approach to therapeutic antibody drug development has matured significantly. The traditional low risk, low reward model has evolved into one where CAT may choose to shoulder more of the risk in pre-clinical development and clinical trials, for greater upside potential in the longer term.

In summary, CAT's strategy today is to exploit the power of its platform technology to build a balance of long-term revenues from the development of novel antibody-based therapeutic products and short-term revenues from research collaborations based on its functional genomics and antibody development technologies.
From www.cambridgeantibody.com

5.8 Start-up Models – Hard vs. Soft Start

Observations show that new companies start-up in one of two ways:

Hard Start – starting the full business from the start. This typically involves large amounts of investment usually through venture capital, and is a high risk approach. Although there is much talk of technology companies starting up with VC funding, the BVCA's Summary of Investment for 2001 quoted that of the 1597 companies financed during that year, only 190 were start-ups. These accounted for £163 million of investment – only 4% of the total investments made by VC's during that year.

Soft Start – starting the business in stages. Often technology entrepreneurs start their businesses by doing consultancy work in the early days to help generate some revenues, and then grow the business organically from there. This is much lower risk and requires much less finance – often just a smaller bank loan. Revenues tend to be generated much faster; however they tend not to be as great as 'Hard Start' ventures which have more accelerated growth.

Figure 3 – Cash flow profile for a hard company start-up

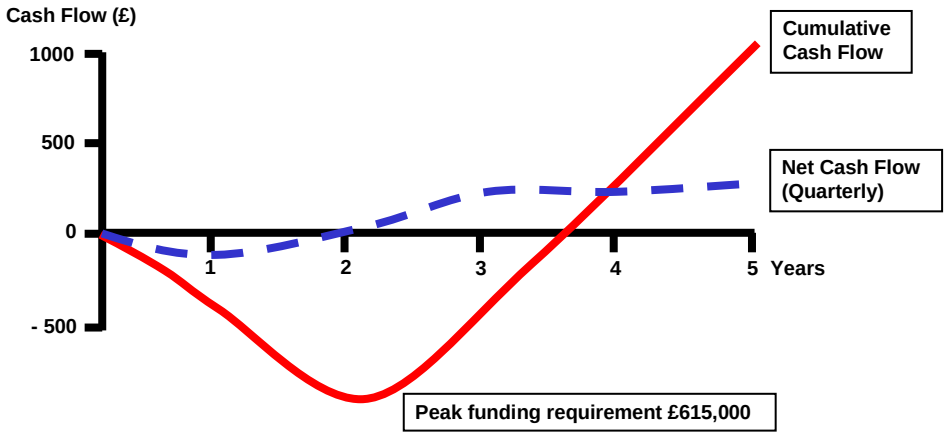
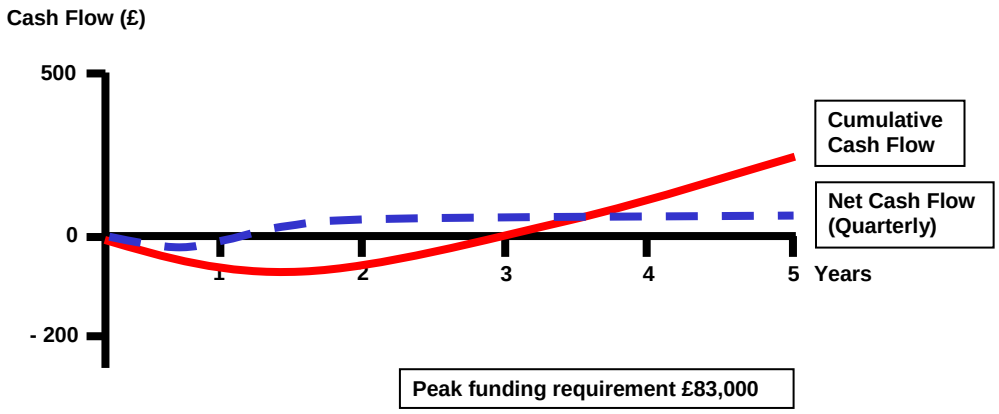


Figure 4 – Cash flow profile for a soft company start-up



Case study 3 on Cobra Beer is an example of a company which had a soft start, and has since grown to generate substantial revenues.

Case Study 3 – Cobra Beer Find a Niche Unmet Need, Build a Brand and then Grow

Cambridge University graduate Karan Bilimoria was unhappy with drinking fizzy lagers alongside his favourite curry in Indian Restaurants, when a chance introduction to India's top brew master provided him with the opportunity for a new business – Cobra Beer. The mission was to brew the finest ever Indian beer and to make it a global beer brand. The operation started small, with the beer being brewed in India and exported to the UK. The first deliveries in 1990 reached Indian Restaurants in the back of Karan's old 2CV car.

The success of Cobra rests with the clear identification of a niche market – that of supplying beer to the growing number of Indian restaurants in the UK. More than 5500 opened between 1980 and 2000, bringing the total to over 8500 and further research revealed that 62% of customers ordered beer.

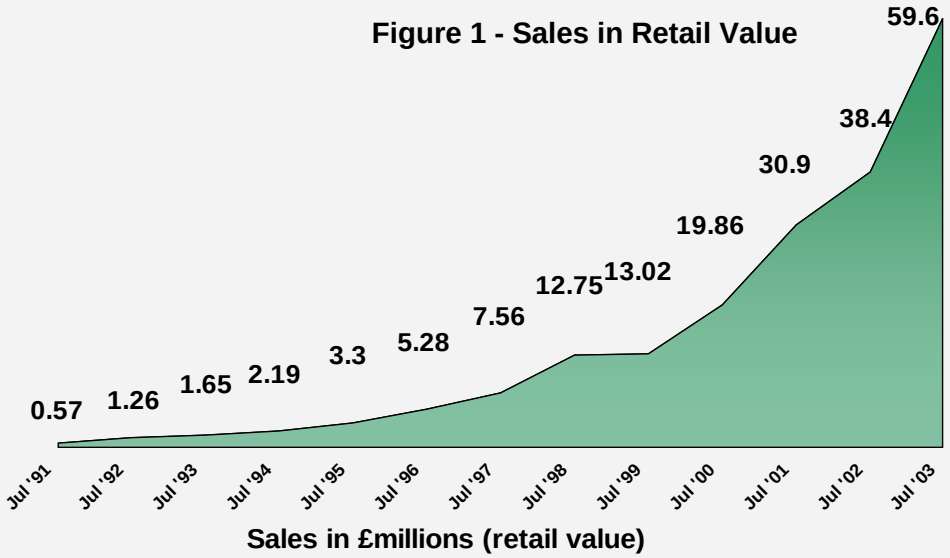
Cobra has been financed through, overdrafts, small firm loan schemes, the offering of preference shares, private placements of investment and trade finance. It has never received any venture capital finance.

Cobra's sales grew slowly at first, and started to gather real pace in 1997 when brewing was transferred to the Charles Wells Brewery in the UK. More recently and having built the brand name through PR, advertising and sponsorship of events, Cobra have started to sell their beer in off licences and supermarkets, have exported to over 25 countries (including India) and in 1999 also launched General Bilimoria wines.

Karan believes that to be successful in serving the needs of such a niche market one needs to:

- Research and understand the market
- Improve a product or service – be different and better and change the market place for ever
- Be passionate and proud of your product
- Not compromise on quality
- Lead and not follow – be innovative and creative
- Remember – The sky is the limit!

Figure 1 - Sales in Retail Value



Sales in £millions (retail value)

From a presentation by Karan Bilimoria to Cambridge Entrepreneurship Centre, November 2002

5.9 From Ideas to Intellectual Property

PLEASE NOTE: These notes are intended as guidelines only and authoritative advice in relation to intellectual property should always be sought from a professional.

At the heart of many new technology business ventures are ideas that form its core intellectual property assets. These can provide the entrepreneur with a commercial advantage over any actual or potential competitor. As such, the intellectual property needs to be protected in an appropriate manner.
There are a wide range of legal rights associated with different types of intellectual property. Some of these rights come into force as soon as the idea is created (e.g., copyright), others require the entrepreneur to carry out some form of registration (e.g., a patent). It is vital that the entrepreneur understands the nature of the intellectual property at the core of the new business venture, and carries out all that is necessary to ensure the appropriate level of protection is acquired for this intellectual property.

5.10 What are intellectual property rights (IPR)?

Intellectual property rights means; "*legal rights which result from intellectual activity in the industrial, scientific, literary and artistic fields". [..] Generally speaking, intellectual property law aims at safeguarding creators and other producers of intellectual goods and services by granting them* ***time-limited rights to control the use made of those productions***" (www.wipo.org).

Intellectual property rights are negative rights in that they allow their owners to stop others doing something rather than giving them the right to do something that they could not otherwise do. Like any other form of property or business asset, they can be licensed, bought, sold, rented or hired.

5.11 Types of intellectual property (IP)

Unregistered IP (Exist upon creation)	Confidentiality
	Copyright
	Design Right
	Trade Names
Registered IP (Only obtained by registration)	Patents
	Registered Designs
	Trademarks

Each one of the sub-categories of unregistered and registered intellectual property is discussed briefly below. More detailed information on each can be found from www.patent.gov.uk or in the references given at the end of these notes.

5.12 Unregistered IP

Confidentiality – there is a general legal principle that anyone who has received information in confidence shall not take unfair advantage or profit from the wrongful use of such information. An individual seeking to claim breach of confidence must show:

- That the information was of a confidential nature and not readily available from other sources and;
- That the information was communicated to the recipient in circumstances imparting an obligation of confidence and;
- That there has been unauthorised use of the information to the detriment of the owner

Copyright - In the UK copyright automatically arises when an individual creates an original work which is capable of being copied. Copyright comes into effect immediately, as soon as something that can be copied is created in a tangible form e.g., on paper, on film, via sound recording, as an electronic record on the internet, etc. Such work may be:

- original literary works, e.g. novels, instruction manuals, computer programs, lyrics for songs, articles in newspapers, some types of databases, but not names or titles (see Trade Marks);
- original dramatic works, including works of dance or mime;
- original musical works;
- original artistic works, e.g. paintings, engravings, photographs, sculptures, collages, works of architecture, technical drawings, diagrams, maps, logos;
- published editions of works, i.e. the typographical arrangement of a publication;
- sound recordings, which may be recordings on any medium, e.g. tape or compact disc, and may be recordings of other copyright works, e.g. musical or literary;
- films, including videos; and
- broadcasts and cable programmes.

It is a good idea for you to mark your copyright work with the copyright symbol © followed by your name and the date of the works' creation, to warn others that the work is copyright, although it is not legally necessary in the UK.

Design Right - This is a form of IPR unique to the UK and applies to original designs of any aspects of the shape or configuration of industrially produced articles. It operates rather like a copyright for three-dimensional articles. It provides the right to prevent copying for 10 years from the date of first marketing of the articles made to the design. As with Copyright, Design Right occurs automatically when the design is created.

Trade Names – the name of the product and the distinctive manner in which it is packaged and marketed can be protected by a common law action known as 'passing off'. A 'passing off' action protects a company from a competitor who tries to take advantage of the goodwill that the company may have built up in its name, its product or its logo. In practice it may be hard to achieve as it is necessary for the company to show that:

- It has built up a considerable reputation in the name design, etc., and;
- The use of an identical or similar design or name by a competitor is leading to confusion in the minds of mutual costumers and hence to loss of business.

5.13 Registered IPR

Patents – "A patent for an invention is granted by government to the inventor, giving the inventor the right for a limited period to stop others from making, using or selling the invention without the permission of the inventor. When a patent is granted, the invention becomes the property of the inventor, which - Patents are territorial rights; UK Patent will only give the holder rights within the United Kingdom and rights to stop others from importing the patented products into the United Kingdom"). For an invention to be patenable it must:

- **Be new and non-obvious** to "a person of ordinary skill experienced in the particular technology"
- **Involve an inventive step**
- **Be capable of industrial application**
- **Not be "excluded" :** An invention is not patentable if it is: a discovery; a scientific theory or mathematical method; an aesthetic creation such as a literary, dramatic or artistic work; a scheme or method for performing a mental act, playing a game or doing business; the presentation of information, or a computer program

Patent protection must be applied for and granted, and a detailed specification has to be prepared. Protection is not available if the invention has been published prior to the date of application. For information on how to apply for a patent, see www.patent.gov.uk/patent

Registered Designs – "A registered design is a monopoly right for the appearance of a product. It can last for a maximum of 25 years. A registered design is additional to any design right or copyright protection that may exist automatically in the design". (www.patent.gov.uk).
To be registered, the design must be new (not identical to a design which has already been made available to the public and must also possess individual character) and not excluded (concerned only with how an item functions). For information on how to apply for the Registered Design, see www.patent.gov.uk/design

Trademarks – "A trade mark is any sign which can distinguish the goods and services of one trader from those of another. A sign includes, for example, words, logos, pictures, or a combination of these. A trade mark is used as a marketing tool so that customers can recognise the product of a particular trader.

To be registerable a trade mark must be:

- distinctive for the goods/services for which registration is sought, and;
- not deceptive, or contrary to law or morality, and;
- not identical or similar to any earlier marks for the same or similar goods/services".

Registration is obtained from the Trade Marks Registry of The Patent Office – see www.patent.gov.uk/tm for further information. Take an object that is near to hand – a pen, calculator, mobile phone, computer- and list all the types of intellectual property you think are associated with it. E.g., your mobile phone: probably is a registered design, produced by a company that has trademarked the phone's name, that incorporates software licensed from third parties etc.

Background reading and References

Chandler, A., (1962) *Strategy and Structure,* MIT Press, Cambridge MA

Cornish, W.R., (1999), *Intellectual property: patents, copyright, trade marks and allied rights*, Sweet and Maxwell.

Fisken, J & Rutherford, J 2002, *Business Models and Investment Trends in the Biotechnology Industry in Europe,* Journal of Commercial Biotechnology, Vol 8, No 3, pp 191-199

Grubb, P W., (1999) Patents for Chemicals, Pharmaceuticals and Biotechnology. Fundamentals of Global Law, Practice and Strategy, Oxford University Press

Kaplan, J., 1997, *Start up: a Silicon Valley adventure*, London: Warner.

Linder, J. and Cantrell, S., 2001, *What Makes a Good Business Model Anyway? Can yours stand the test of change?* Accenture Point of View (www.accenture.com).

Magretta, J., 2002, *Why Business Models Matter* Harvard Business Review, May, pp3-8

Ohmae, K., (1983), *The Mind of the Strategist,* Penguin Books, Harmondsworth

Porter, M, 1985, *Competitive advantage: creating and sustaining superior performance*, New York: Free Press; London: Collier Macmillan

Porter, M, 1980, *Competitive Strategy: Techniques for analysing industries and competitors*, New York, Free Press.

Sullivan, N.F., 1995, *Technology transfer: making the most of your intellectual property*, Cambridge: Cambridge University Press.

Useful websites

General IP issues:

The Patent Office - http://www.patent.gov.uk/
World Intellectual Property Organisation - http://www.wipo.org/
Mills & Reeve Launch Pad Online - http://www.launchpadonline.co.uk/Pages/Intelle1.htm
The University of Cambridge Technology Transfer Office http://www.admin.cam.ac.uk/offices/tto/

Patent searches:

http://gb.espacenet.com/
http://www.delphion.com/

Intellectual Property and patent Information:

http://www.patent.gov.uk/
http://www.intellectual-property.gov.uk/
http://www.european-patent-office.org/

6. Finance and Investors

6.1 Introduction

An entrepreneur will need money to set-up and grow a successful business. Where does this money come from? Selling a product or service will bring in money, but how does the entrepreneur fund the early stages of the business when the product or service is being developed? How is growth funded? There are a variety of ways in which an entrepreneur can access the finance required for setting-up and growing a business, each with upsides and downsides.

The entrepreneur does not need to be an expert accountant, but an understanding of the basic principles of accountancy is essential for the effective management of money within the company. There are also legal requirements for the management of money that all businesses must comply with. In addition an understanding of the basics will help the entrepreneur to start to pull together some initial financial forecasts for the business plan.

A major source of equity financing is venture capital, which is associated with a number of high-technology start-ups. It is essential that the entrepreneur has an understanding of the investment process with regard to VC's and business angels and some of the issues involved before approaching them with a business plan.

6.2 Aims of these Notes

The aim of these notes is to explain:

- Explain the different types and sources of finance and consider their benefits and costs
- Consider why accounts are necessary and how they are useful, and develop a knowledge of the basic terminology of accountancy, and the core accountancy functions for any business
- Understand the types of financial projections you will need to include in a business plan
- Define venture capital in more detail and provide an overview of the venture capital process
- Provide insight into issues of ownership of the business and its dilution and consider different techniques for valuation
- Provide understanding of what the deal with investors involves and the role of the VC post deal.

6.3 Different Types of Finance

Finance for a business can be divided into three broad categories:

- **Debt** – this is effectively a loan. The entrepreneur is 'hiring' the money from (typically) a bank. The money will have to be paid back at an agreed time, and regular interest payments will have to be made. If the amount of the loan is large, then there bank will also require some form security – i.e., something that the bank will take possession of if the entrepreneur fails to repay the loan.
- **Equity** – this is effectively the sale of part of the ownership of the entrepreneur's business. The amount of money that can be raised by selling part of the business depends on the value of the business. A 'fair' valuation of any business is extremely difficult, but is particularly hard when the business is in the early stage of development (See later notes).
- **Grants** – this is effectively a gift. The money does not have to be paid back, and is not given in exchange for part ownership of the business. However, there is often a stipulation that any grant awarded must be matched by funds from other sources. Typical sources of grants (in the UK) are the Department of Trade and Industry (www.dti.gov.uk), your local Enterprise Agency (www.nfea.com), or the European Commission (www.cordis.lu). There are a number of sources of information for finding grants. One example can be found at www.j4b.co.uk.

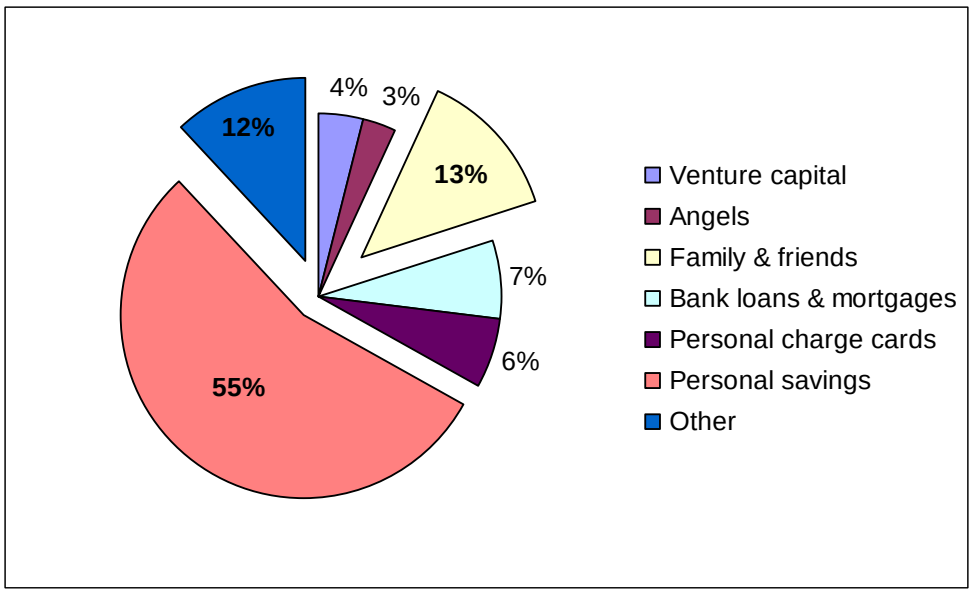
6.4 Different Sources of Finance

Table 1 – Provides some information on the different sources of finance that are available to entrepreneurs at different stages of their venture.

The order of the sources of funding corresponds (roughly) to the stages of development of the business, i.e., personal savings tend to be used in the very early stages, banks and corporate venturers would come in at much later stages.

By way of illustration, the graph below shows how leading US corporations raised their initial funding.

Figure 1 – Typical sources of start-up funding for 1996 Inc 500 companies



Source: Bhidé, Amar V., 2000, The Origin and Evolution of New Businesses. Oxford University Press: January 2000.

Table 1 – Sources of Finance

Source	Description	Return	Stage	£	Security
Personal Savings	Entrepreneur's own savings/resources best at the early stages when there is just an idea. The entrepreneur retains 100% ownership. Cash advances from credit cards have also been used as a means to access money in the short term – this is not to be recommended!	Unlimited	V. Early	£1,000 to £25,000	None
Friends & Family	Provide a potential source of finance and more likely to believe in the entrepreneur with only the germ of an idea than would an unknown potential investor.	0% to 100%+	Early	£5,000 to £100,000	Minimal
Grants	Public-sector grants are often available to help with the costs of feasibility and development projects. See www.j4b.co.uk to search for relevant grants.	None	Early to Middle	£50 to £1 million+	None
Business Angels	Business Angels are individuals who have personal money they wish to invest in new ventures. They are often successful entrepreneurs. They may operate is individual investors, or as part of a network. A good Business Angel will bring more than just money; they will also bring experience of successfully setting-up and growing a new venture, and provide a wide range of contacts and networks. For further information see National Business Angel Network (www.nationalbusangels.com)	100%+	Early	£5,000 to £50,000 (£500,000 total)	Shares, Board &/or Legals
Venture Capital	Venture capital is a type finance that is focused mainly on funding the expansion of businesses, but specialist funds may also focus on the very early stage of set-up as well ('seed funds'). See British Venture Capital Association (www.bvca.co.uk) or European Venture Capital Association (www.evca.com)	50%+	(Early) to Middle	(£50,000) to £250,000 to £1million+	Shares, Board & Legals & Targets/Floors
Banks	Banks will be of most use to business when you can show a track record of sales. They will then be able to help with leasing arrangements, overdraft facilities, loan guarantees, factoring and other commercial requirements.	Repayment + Interest (Base +2/4%)	Middle to Late	£1,000 to £1 million+	100%+
Corporate Venturers	Large businesses may provide a particularly valuable source of funds for growing ventures. 'Corporate venturing' has become a substantial source of investment for new and growing businesses. See link from www.ukbi.co.uk/other for more information on how corporate venturing works.	Mix of VC & Bank	Middle to Late	£10,000 to £1 million+	Shares, Board &/or Legals

6.5 Non-Financial Routes to Access Resources

The assumption underpinning all these notes so far is that finance is needed to buy the resources needed to set-up and grow the business (e.g., the people, office space, equipment, sales channels etc.) But a good entrepreneur knows that there are more ways of accessing resources than just buying them. Entering into strategic partnerships with other companies may allow the entrepreneur to access resources without having to raise finance. For example, if a software entrepreneur persuades a hardware manufacturer to 'bundle' the software with the hardware, then the need for expensive marketing to the end user is much reduced.

6.6 The Basic Principles of Accountancy

Running a business generates numerous "transactions". Each transaction creates current (cash) or future financial benefits/obligations. In accounts these are recorded as "debits" and "credits" (financial equivalent).

- **Debits** indicate expenses, or adding to an asset (e.g., stock).
- **Credits** are money that has been paid (e.g., for sales) or is owed.

6.7 Why Have Accounts?

Accounts provide a means to measure the performance of the business over time and between different activities. This has useful **internal** purposes (e.g., the management needs to know how business is performing to ensure that targets are being met, and to identify and address problems) and **external** purposes (e.g., those with an interest or share in the business such as investors, analysts and the Inland Revenue).

There is also a statutory duty to keep accounts and to publish them annually (See table 2). Directors of any company are responsible for ensuring that these duties are undertaken. Failure to do so can result in imprisonment. Information on what needs to be done can be provided by any professional accountant, banker, Inland Revenue Office or Companies House.

A set of accounts comprises a Profit & Loss, Balance Sheet and Cash Flow. For larger companies whose shares are traded publicly these are issued in an Annual Report, which as well as comprising these three key financial statements and related notes, will also include reports from company directors and the auditors of accounts and may also include statements and reviews from the Chairman, Chief Executive and general information on the progress of the business.

Table 2: Legal requirements for any business

Keep proper books of account
Books must be kept in a recognised format and be a true, honest and fair statement of the company's finances. Every year, the directors must ensure that the following are made available: • The trading (profit and loss) account • The balance sheet • A historic cash-flow statement
Annual audit
The company's accounts (the 'books') must be checked (audited) by a professional accountant. The aim of the audit is to provide independent confirmation of how well or badly a company is doing.
Solvency
A company must be able to pay its bills. If a company does not have money but has a justifiable belief that it will have sufficient money available by the time the bill is due for payment, then this is acceptable. If a company cannot pay, and does not believe that it will be able to access the money to pay the bills, then the law requires that the directors declare the company bankrupt and shut the company down. Failure to do so is fraud.

We will consider in more detail each of these financial statements in turn.

6.8 Profit and Loss Account

Profit and loss account shows how much profit is generated through activities:

Table 3 – Profit and Loss Account

Sales	*Money coming in from selling a product or service*
- Cost of goods	*How much it costs to make, advertise and deliver the product or service*
Gross Profit	
- Operating expenses	*Indirect costs and depreciation*
Operating Profit	
- Cost of Debt Finance	*Bank loan interest*
Net Reported Profit (Loss)	*The balance remaining*

6.9 Balance Sheet

A balance sheet lists at a particular moment values of everything owned and everything owed by an organization. The things that are owned are called assets and those that are owed are called liabilities.

Assets: The investment of money in resources which will product future benefits e.g. cash, stocks, fixed assets, debtors

Liabilities: Any amounts owed to those financing the organization e.g. shareholders funds, amounts owed to creditors

On the balance sheet assets must equal liabilities. The basics of the Balance Sheet are show in Table 4 below:

Table 4 – Balance Sheet

Assets	**Liabilities**
Fixed Assets: *Equipment, buildings, cars etc* Current Assets: *Stocks, debtors and cash/bank balances*	Shareholders funds: *Capital, retained profits* Long-term Liabilities: *Bank Loans with more than 1 year outstanding* Current Liabilities: *Creditors, bank overdrafts, long-term loans with less than 1 year to pay*
Total Assets	Total Liabilities

This is a horizontal format for the balance sheet, but equally it could be presented in a vertical format and changed so that it highlights certain figures, for example Net Current Assets (or Working Capital)
Some Definitions:

Current Assets: Assets that in the normal course of events will be used up and turned into cash in a year e.g. cash in hand, cash in the bank, stocks, debtors (money owed to the company

Current Liabilities: Debts that must be settled for case in a year e.g. amounts due to creditors and others payable within a year.

Working Capital or net current assets

Working Capital (Net Current Assets)	= Current Assets – Current Liabilities
	= Shareholders funds + Long term liabilities – Fixed Assets

Net Assets

Net Assets	= Total Assets – Current Liabilities – Long term Liabilities

This provides a value of the business to shareholders who have invested which is known as the book value. However it does not include intangible assets such as intellectual property, brands or reputation of the business which may increase the value of the business. There will be more about valuation later in these notes

6.10 Cash Flow

Cash flow and its management is absolutely critical for the early stage business. Many entrepreneurial ventures go out of business because they run out of cash. You will need to keep on top of income from debtors (people or businesses who buy your products or services, but who may take up to 60 days to actually pay) and payments to creditors (suppliers of goods and services whom you may have to pay within 30 days).

A Cash Flow Statement can be prepared in 2 bases: (1) Receipts & Payments; and (2) Integrated Cash Flow. The former is simpler and basically mirrors the “in’s and out’s” of the businesses bank (cash) account. The latter is more work to prepare and difficult to understand but does integrate better with the information in the Profit & Loss and Balance Sheet statements. The Receipts and Payments basis is particularly useful for short-term cash flow forecasting.

Receipts	*Cash to be received in bank*
Monies from debtors/sales	*Receipts for sales from product/service*
New capital/loans raised	*Investment monies raised from third-parties*
Interest on cash balances	
Payments	*Cash to be paid from bank*
Monies to trade creditors	*Payments for purchases made to make product*
Salary/wage monies	*Payments to employees/directors each week/month*
Monies for overheads	*Payments for rent, rates, phone, electric, etc*
Interest/Charges on loans	
Movement in Bank Balance	

Integrated Cash Flow

Profit/(Loss)	*See P&L*
Plus: Depreciation	*P&L charge made in period (non-cash)*
Less: Capital Expenditure	*Equipment paid for in period (in full)*
+/-: Working Capital	*Change in the stocks + debtors - creditors*
+/-: Loans Raised/(Repaid)	*Investment monies raised/paid from/to third-parties*
Movement in Bank Balance	

Depreciation is a charge made to the profit and loss account for an asset such as an item of equipment. It relates to the cost of the item and its 'economic life'. For example a machine costing £10000 and estimated to run for 5 years may be depreciated at £2000 per year. Depreciation is a non-cash item, but obviously if the machine was purchased during the accounting year the expenditure would be included in full in the cash flow statement.

6.11 The Importance of Boundaries

For accounts to be meaningful there must be well-defined and consistent boundaries of what is being accounted for. Without consistent boundaries the accounts will be meaningless and it will be impossible to track progress accurately. Three key points need to be defined:

- The **entity** to which the accounts refer. E.g., the company as a whole, a department within the company.
- The **period** to which the accounts refer. For comparisons to be made, a consistent accounting period must be used.
- The **basis of valuation** for assets within the entity. E.g., an item of software being developed could be considered to have no value until it is complete. An item of equipment such as a computer has value when new but a much smaller value if the company needed to sell it. In practice, as it is assumed that the company will continue as a going concern, the value of something like a part finished item of software would have value proportional to the amount of effort expended in its development. The value of the computer would be depreciated over its life (typically assumed to be no more than three years).

6.12 Company Accountants

of an accounts system. Such assistance can be provided by small accountancy firms, but there are benefits in using one of the larger n A professional accountant will provide a new business with advice and guidance in the set-up and management ational / international companies. Larger firms may have higher fees, but if a firm is planning to grow fast, raise money and develop an international presence, having a major firm of accountants can add to the businesses early-stage credibility and provide useful contacts. It is important to note that a firm's accountant and auditor need to be separate entities.

6.13 Taxation

A company will be liable to pay **corporation tax** on annual profits. The rules relating to corporation tax are complex and should be checked with a professional accountant.

If a company has a turnover of more than (as of January 2002) £52,000 then it will need to be registered for **Value Added Tax** (VAT). VAT (currently at 17.5%) will affect invoices raised and goods purchased.

As an employer, in addition to wages, you will also need to pay 'Pay as You Earn' (**PAYE**) and **National Insurance** (NI) to the Inland Revenue.

6.14 Test of Financial Standing

A company's accounts provide the raw data to allow tests to be applied to measure its performance. Table 5 below shows some of the most common means used.

Table 5: Tests of Financial Standing

Name	Value	Results
Current Ratio	Current assets / current liabilities	2 is good, less than 1 indicates potential cash flow problems.
Acid Test / Liquid Ratio	Liquid assets (current assets minus stocks) / current liabilities	1 is OK, but less than 1 indicates potential cash flow problems.
Gearing	Net borrowings (long-term debt) / shareholders' funds (equity)	Low gearing is desirable as it shows the business does not have a high reliance on borrowed money.
Return on Investment (ROI)	Profits before tax / shareholders' funds	Efficiency. Should be over 40% for sustainable high growth.
Price / Earnings (P/E) ratio	Share price / net profit per share	High-growth companies should have P/E of between 10-20 in normal times.

For further information on how to analyse the performance of businesses based on their accounts, see Parker, R.H., *Understanding company financial statements*.

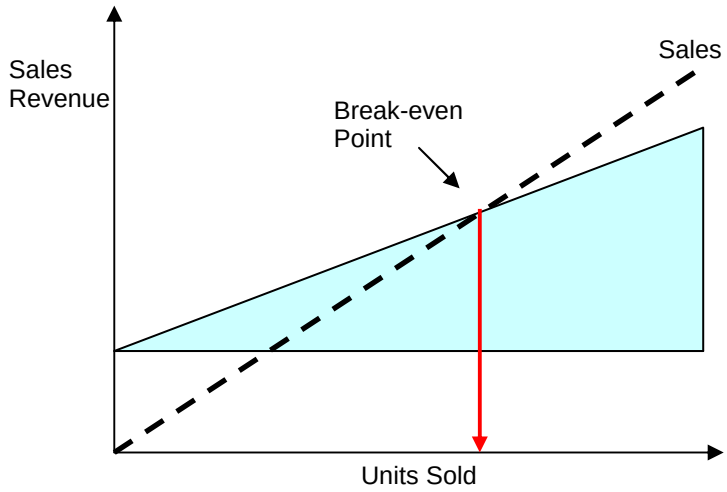
6.15 Financial Projections

Forecasts describe a company's predictions of how much, where, how and when it plans to sell its products or services over a period of time. Based on these forecasts, a **budget** or financial plan is drawn up, broken down into time intervals (typically months), showing where and when money needs to be spent, and from where and when it will come back.

These forecasts and plans will be based around the financial statements listed above and will provide the basic financial model for the business plan. Normally business plan financial forecasts are prepared on a month-by-month basis for the first two years and then annually for a further three years.

Break-even analysis is a useful way to represent a company's costs and sales revenue by showing the volume of sales required to cover the company's total costs which is known as the break-even point. Some simplified assumptions will need to be made regarding fixed costs (those which are unchanged regardless of the output of the business) variable costs (such as raw materials) which vary linearly with output and the price of each unit or output sold. Figure 2 illustrates a break-even chart.

Figure 2 – Break –Even Chart



The break-even point is the stage when a business starts to make a profit – that is when the sales revenue begins to exceed both the fixed and variable costs.

Sensitivity analysis tests are then applied to the forecasts and budget to see how much impact certain changes will have on the outcomes. E.g., if sales only reach 50% of planned in the first six months, what impact will this have on the profits at the end of the year?

A simple **budget** will illustrate planned income and expenditure when it is due or spent. However, as commercial systems are not perfect, the time taken for invoices to be paid can be two months, so a more accurate budget is usually drawn-up based around **cash flow**. This will attempt to plot the actual time the money comes in or goes out of the company. The benefit of this is that it shows clearly when there will be a shortage of cash. This will allow the company to cope with this through bank overdraft or loan to provide working capital to cover a gap in income. See http://www.startingabusinessinbritain.com/downloadsyobuk.htm for some downloadable templates for business plan financials.

6.16 The Value of Money

Money has a value that varies with time and this also needs to be accounted for when preparing financial forecasts. Due to inflation, £1 today is not worth the same as £1 in one year's time. This is very important issue for businesses seeking to assess the cost of investments in new assets, or when it comes to showing potential customers how valuable a product or service is.

The term **present value** (PV) is used to describe value today of a certain amount in the future. A customer of a particular business will need to be convinced that spending money now on a particular product or service will lead to savings in excess of that investment at some time in the future. A simple equation for calculating PV:

$$PV = I/(1+r)^n$$

Where:

I = the amount
r = the interest rate
n = number of periods

Net present value (NPV) is used to sum several periods over which a potential investment is being assessed.
An alternative way of looking at assessing the value of an investment over a period of time is the **internal rate of return** (IRR). This is the interest rate needed to generate a particular cash flow. IRR can be calculated buy driving the NPV calculation backwards to fund an apparent interest rate, given an investment today and a set of income figures. IRR is therefore the interest rate that would give an NPV of zero. We will revisit this further in the context of valuation.

6.17 Equity Finance - Venture Capital?

An excellent source of information on venture capital is the British Venture Capital Association (www.bvca.co.uk) who provides information for both entrepreneurs and investors and has a directory of over 170 private equity (venture capital) firms in the UK.

What is Venture Capital?

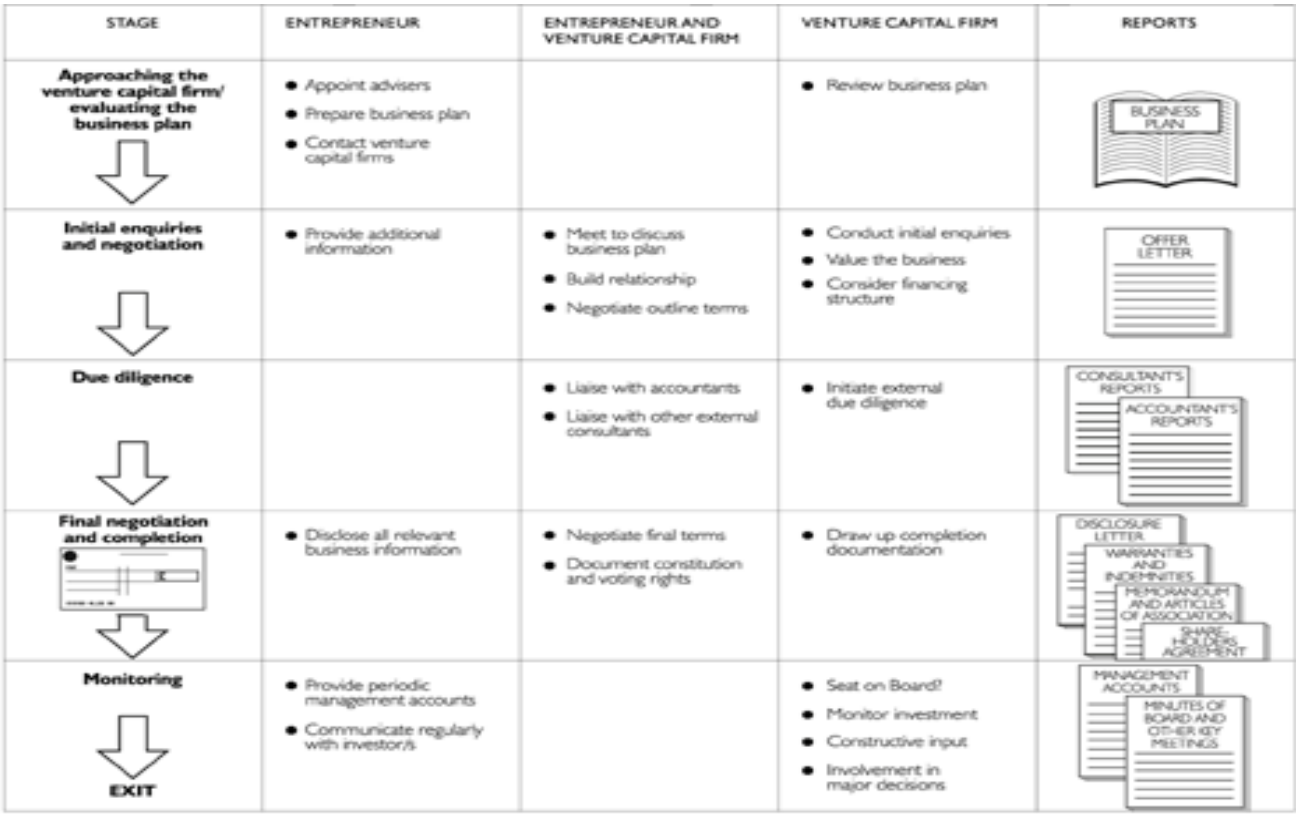
Venture capital provides long-term, committed share capital, to help unquoted companies grow and succeed. If you are looking to start-up, expand, buy-into a business, buy-out a division of your parent company, turnaround or revitalise a company, venture capital could help you to do this. Obtaining venture capital is very different from raising debt or a loan from a lender, such as a bank. Lenders have a legal right to interest on a loan and repayment of the capital, irrespective of your success or failure. Venture capital is invested in exchange for a stake in your company and, as shareholders; the investors' returns are dependent on the growth and profitability of your business.

Venture capital in the UK originated in the late 18th century, when entrepreneurs found wealthy individuals to back their projects on an ad hoc basis. This informal method of financing became an industry in the late 1970s and early 1980s when a number of venture capital firms were founded. There are now over 100 active venture capital firms in the UK, which provide several billion pounds each year to unquoted companies mostly located in the UK. In the UK, Continental Europe and much of the rest of the world, "venture capital" means the equity financing of unquoted companies ranging from small early stage companies to large management buy-outs. In the USA, however, "venture capital" refers only to investments in early stage and expanding companies. "Private equity" is an increasingly widely used term in Europe, but some commentators use it to refer only to the management buy-out and buy-in investment sector.
From www.bvca.co.uk

6.18 The Venture Capital Process

The venture capital investment process has a number of key stages where actions will be required by either the entrepreneur or the venture capital firm and there will also be a need for them to meet and negotiate at certain points. We have already discussed the business plan, and we will consider some of the other key stages later, but first and as the aim is to gain investment in return for shares in the business we need to discuss issues of ownership.

Figure 3 – The Venture Capital Investment Process



6.19 Ownership and Dilution of Ownership

An entrepreneurial business in its very early days, perhaps when it is still just an idea, will belong solely to the inventors of the idea or the entrepreneurial founders. Once the business is actually started a number of formal legal documents will need to be drawn up to register the company and establish initial shareholdings among the founders (see the later notes on Getting Underway).

If the entrepreneur chooses to raise finance through the route of selling equity in the business venture, then issues of valuation, dilution and ownership will become paramount. Dilution of ownership is something that some entrepreneurs fight against. In order to grow the business, resources need to be accessed, and finance will be needed to pay for these in some way. If equity finance is the route selected, then this will mean that the entrepreneur will have to give up part of the ownership of the business – ownership will become 'diluted'. The smart entrepreneur knows that owning a small(er) part of a very successful and hence valuable business is much better than owning all of a less successful and less valuable venture as Figure 4 shows.

Figure 4 – Dilution of Ownership – Who owns the Business?

When gaining investments from venture capitalists they may ask what valuation the company is seeking or may volunteer a ball park figure. Venture capitalists often base their valuations on the entrepreneur's predictions, but will also benchmark with other deals done in the industry by other companies. Obtaining information on comparable companies that have received venture financing can help an entrepreneur establish the right valuation.

Example and Definitions
As an example and to highlight definitions of some venture capital terminology let's consider a venture capitalist who wants to put £2 million into a business that is worth £3 million pre-money.

Pre-money – means the valuation put on the business before the investment takes place

So before the investment the company will be worth £3 million and with the £2 million investment from the venture capitalist the company will be worth £5 million post money.

Post-money – means the resulting valuation after the investment has taken place.

In return the venture capitalist will expect to become the owner of a corresponding proportion of the equity in return for the investment. In this case it will be:

£2 million/£5 million = 40%

This will therefore mean that if the founding team prior to the investment own 100% of the business, after investment it will be diluted to 60%.

6.20 Valuation

In order to sell part of the business at a fair price, a value must be put on the business as a whole. Four important facts must be kept in mind when considering the value of a business:

1. The value of a business changes over time – and any attempt at valuation is linked to trying to predict the future
2. The buyer and seller of equity in any business will have different views on what is a 'fair' valuation at a given time
3. Valuation is more of an art than a science – there is no proven formula that will determine the value of your business
4. Valuation is linked to different perceptions of financial risk

An investor is seeking to buy partial ownership of a new venture at a low cost, then (hopefully) do all they can to ensure that the overall value of the business increases such that they can sell their partial ownership at a much higher price. Two key questions relating to this are:

1. How do you value a business?
2. How does the value of a business increase?

The main methods of valuing a business are not particularly difficult, but each will deliver different answers. Some of the main methods of valuing a business are[2]:

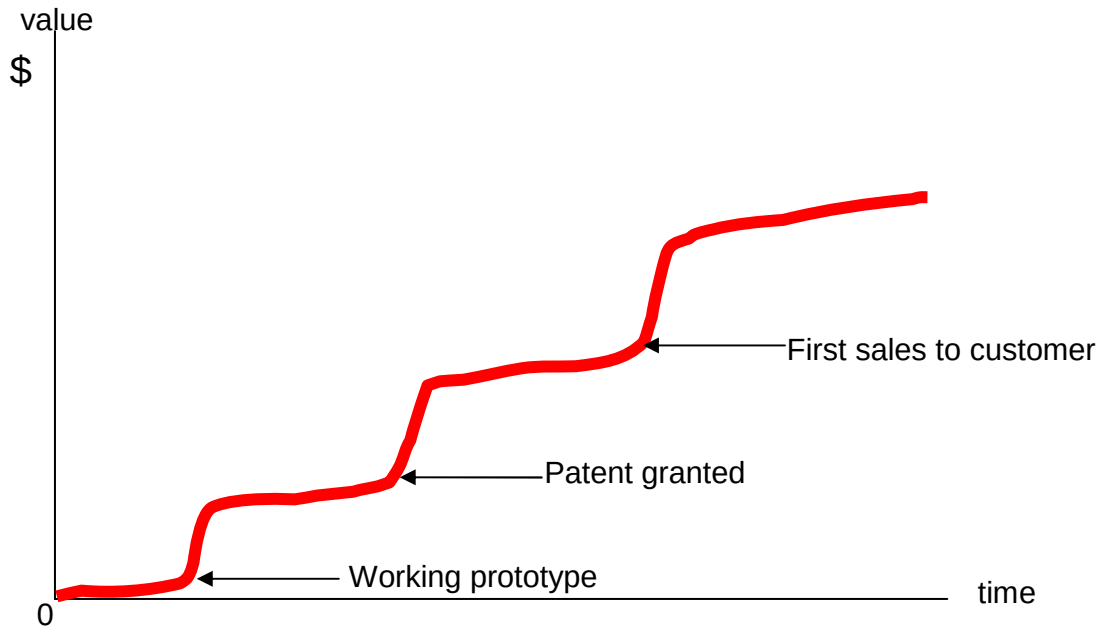
- What someone will pay for it
- The assets of the business less its liabilities (net asset value)
- Price earnings (P/E) ratio – a multiple of profits based on industry sector norms
- Discounted cash-flow methods that look at future income streams (e.g., pay-back analysis, Net Present Value (NPV), risk-adjusted NPV, internal rate of return (IRR))
- Probability-adjusted methods (e.g., decision analysis, options-based pricing theory)

There are a large number of activities that will be impact upon the value of a business (see Figure 6). The most significant of these are those that demonstrate endorsement of the success of the business, e.g.

- **Getting initial funding** –shows that someone (other than the entrepreneur) believes in the idea
- **Building a team** –shows that the entrepreneur has a group of people committed to the success of the business
- **Making a working prototype** – shows that the product or service really works
- **Customer endorsement** – shows that real users like the product or service
- **Meeting a earnings / profit forecast** – shows that the product or service really does sell and bring money into the business as planned

[2] Information on these and other methods can be found in books such as Sullivan (1995), Copeland, T., *et al.* (1994), Lang (2001). Detailed references are at the end of this section.

Figure 6 – Events which have an impact on the value of the business



6.21 Valuation Methods

Three different valuation methods will be investigated more fully using an example.

Table 6 - Balance Sheet for Widget Co. at 31st December 2002

	£m
Fixed Assets	1.2
Property	0.5
Equipment	0.7
Current Assets	
Stocks	0.4
Debtors	0.2
Cash	0.3
Total Assets	2.1
Liabilities	
Creditors	0.3
Bank Loan	0.4
Total Liabilities	0.7
Net Assets	**1.4**
Equity –Share holders Funds	**1.4**

In this example the Net Asset Value is £1.4m

The net asset value includes some assets at historic costs, some at current value (e.g. property) and some written down over their estimated life using some kind of depreciation method. So depending on the type and age of the assets held by the company, the net asset value will be somewhere along the spectrum between historic cost and the current market value. It should be noted that the balance sheet generally only contains values for tangible assets and does not include any intangible assets.

There are a number of ways in which the net asset value can be adjusted to give a much better estimation of value:

1. If there are details on the tangible assets of the business such as property and equipment and their ages, it may be possible to gain a better estimate of the current value of these and adjust the book value accordingly. For example if Widget Co owns some property as part of its fixed assets which is included on the balance sheet at £0.5m, the value at which it was purchased 3 years ago, it may be more relevant to adjust the figure to £0.7m – a value gained from a revaluation which took place in February 2003. This will therefore increase the Net Asset Value of the Business to £1.6m
2. Estimates may be included for tangible assets such as expenditure on research and development, brand values and intellectual property. These intangibles are very difficult however to assign values to.
3. Off-balance sheet items – for example certain forms of leases for capital equipment for example may not be included in the balance sheet. These are forms of debt finance and should be accounted for in valuations.

Market Values including P/E Ratios

The start point for estimating market based values for companies is to consider the values of companies whose shares are listed on stock exchanges. Share prices for companies listed on stock exchanges give an instant picture of a company's value. For example if another company Reciprocator Co was listed on the London Stock exchange with a share price of 83p and had 30 million shares issued the value of the company (or Market Capitalisation) would be £24.9 million.

The most popular method for valuing companies is to use a price to earnings ratio or P/E ratio. This is determined as:

$$\text{P/E Ratio} = \frac{\text{Share Price}}{\text{Earnings per Share}} = \frac{\text{Market Capitalisation}}{\text{Earnings for Shareholders}}$$

If we consider Reciprocator Co. and find out from its Profit and Loss Account that its earnings per share for 2002 are 7p then the P/E ratio =83p/7p = 11.9.

P/E ratios can be used to value any company whether listed or not by multiplying its earnings by the appropriate P/E value as P/E values can be calculated for sectors and markets.

So if we assume that Reciprocator Co and Widget Co operate in the same sector and we want to determine a valuation for the unlisted Widget Co we can base it on a P/E ratio of 11.9. So if Widget Co's earnings per share are 4p and they have 5 million shares, then the value of Widget Co can be determined as:

Value = P/E ratio x Earnings Per Share x No of shares
= 11.9 x £0.04 x 5000000
= £2.4 million

This is substantially higher than the Net Asset Value of the same company!

There are however a number of factors which should be taken into account to ensure that the comparison between companies is valid, for example:

- Accounting methods used by each company may be different
- The financial year ends may be different – so they will relate to different parts of the economic cycle
- One company may have experienced atypical drops in earnings – this will have the effect of boosting the P/E ratio.

Discounted Cash Flow Technique

Discounted cash flow techniques can be used to value to the enterprise and hence determine a value for the equity involved. There are six steps to completing a valuation by this method:

1. Determine a time horizon for the forecast
2. Forecast operating cash flows for the period
3. Determine the residual value of the enterprise at the end of the time horizon
4. Estimate the cost of capital
5. Discount the cash flows
6. Prepare any financial statements that are required.

In determining the time horizon one would need to consider both the economic and business cycles and the growth that you would expect the business to achieve within this period. For example if a new business was to be built around a new computer software package – you might estimate that a relevant time horizon is just 3 years as development can be fast and the package may be obsolete after this time. However for products which have longer development cycles a longer time horizon of 10 years may be better.

You will then need to forecast cash flows for the period which include future sales, operating profits, capital expenditure, taxes etc. Table 7 shows some cash flow forecasts for Widget Co for the first seven years of its operation. The following assumptions have been made:

1. There is a one off capital expenditure of £600K now
2. There are £1M of sales in year 1 and these grow at 20% per year
3. Operating costs are 80% of sales
4. Tax is levied at 30%, one year in arrears

Table 7 – Cash Flow Forecast for Widget Co

Widget Co - Cash Flow								
	£000's							
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Sales	0	1000.0	1200.0	1440.0	1728.0	2073.6	2488.3	2986.0
Operating costs	0	-800	-960	-1152	-1382.4	-1658.88	-1990.66	-2388.79
Operating Profits/Earnings	0.0	200.0	240.0	288.0	345.6	414.7	497.7	597.2
Capital Expenditure	-600	0	0	0	0	0	0	0
Pre Tax Cash Flow	-600.0	200.0	240.0	288.0	345.6	414.7	497.7	597.2
Tax	0.0	0	-60.0	-72.0	-86.4	-103.7	-124.4	-149.3
Cash Flow	-600.0	140.0	168.0	201.6	241.9	290.3	348.4	597.2

The residual value is the value can be calculated in a number of ways depending upon what is envisaged for the business after the forecast time horizon. For example if the business is to be closed down, then one might say that the residual value is the remaining value of fixed assets such as equipment. An alternative if the business is set to continue into the future is the use the ratio of EV/EBITDA.

EV is known as the enterprise value which is defined as:

EV = Market Value of Equity + Value of Debt

So for Reciprocator Co which has a Market Capitalisation of £24.9 million and if we assume that in addition it has a £5 million loan outstanding the enterprise value would be £29.9.

EBITDA is earnings before interest, depreciation and amortisation. If we assume that for Reciprocator Co earnings are £4 million in the current year then the ratio of EV/EBITDA is around 7.5.

As Reciprocator is in a similar industry to Widget Co we can, like the P/E ratio apply this to the business, however it should be treated with caution as we are applying a figure that is relevant now, to events a number of years into the future.

So if we apply an EV/EBITDA of 7.5 to Widget's earnings in year 7 we gain a residual value of the enterprise of around £4.5 million.

We still need to take into account the time value of money over this seven year period. For this we need to estimate the cost of capital for the business. This will depend on the levels of debt and equity in the business, the level of interest that the bank expects to be paid for debt finance and the returns that equity investors expect to make. For the case of this example we will assume that the cost of capital is 10%.

With this cost of capital in mind we can determine the present value of each of the cash flows for each year by applying a relevant discount factor. The present value can be determined using the following equation:

$$PV = I/(1+r)^n$$

Where:

I = the amount
r = the cost of capital
n = number of periods

The discount factor to be applied for each year is therefore simply $1/(1+r)^n$, so for year 7 the discount factor can be determined by:

$$1/(1+0.1)^7 = 0.513$$

Table 8 shows the discounted cash flow for Widget Co over the seven year period. In addition it also shows the net present value or NPV which is sum of the present values for the seven years of operation – this is estimated at £0.665 million.

Table 8 – DCF For Widget Co

Widget Co - Cash Flow								
	£000's							
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Sales	0	1000.0	1200.0	1440.0	1728.0	2073.6	2488.3	2986.0
Operating costs	0	-800	-960	-1152	-1382.4	-1658.88	-1990.66	-2388.79
Operating Profits/Earnings	0.0	200.0	240.0	288.0	345.6	414.7	497.7	597.2
Capital Expenditure	-600	0	0	0	0	0	0	0
Pre Tax Cash Flow	-600.0	200.0	240.0	288.0	345.6	414.7	497.7	597.2
Tax	0.0	0	-60.0	-72.0	-86.4	-103.7	-124.4	-149.3
Cash Flow	-600.0	140.0	168.0	201.6	241.9	290.3	348.4	597.2
Discount Factor	1	0.909	0.826	0.751	0.68	0.621	0.564	0.513
PV	-600	127.26	138.768	151.4016	164.5056	180.2788	196.4777	306.362
NPV	665.0537							

To complete the estimation of value we need to add the present value of the residual value of the enterprise – this will be:

0.513 x £4.5 million = £2.3 million

So the total value is £0.67 million + £2.3 million = £3.0 million.

6.22 So What's the Value?

So far we have used three different techniques to determine a value for Widget Co and have come up with three different answers as illustrated in Table 9.

Table 9 – Valuations for Widget Co

Valuation Method	Value £ million
Net Asset Value	1.4 (but could be adjusted to 1.6)
P/E Ratio	2.4
Discounted Cash Flow	3.0

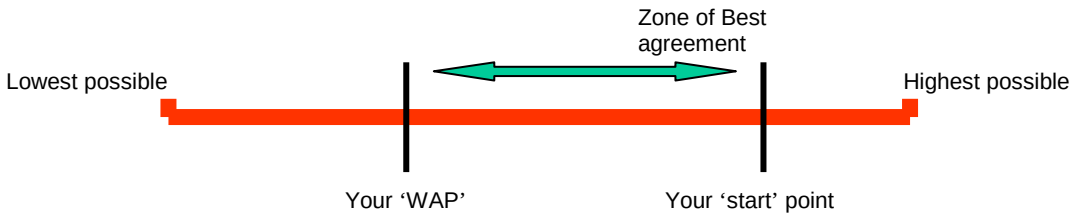
The key question is which value is correct? These values can provide the entrepreneur and investor with some ballpark figures but, when doing the deal with an investor which involves money in return for equity, the answer will come down to negotiation.

6.23 Doing the Deal - Negotiation

The value of your business will ultimately depend on what someone is prepared to pay for it and what you are prepared to sell it for. You will come to the final price through negotiation. The key to successful negotiation and getting what you want from the deal is preparation.

Before going to negotiate you should make sure that you know your business plan well. You should also work through a number of deal options and work out the range of prices you would be prepared to accept or the 'Zone of Best Agreement' (Figure 7). This range will be bounded by the ideal price (the greatest value that you could possibly expect from the deal) at the top end and the walk away point – the lowest price that you could possibly accept, below which you are no longer interested in this deal. You will also need to think about why you would be prepared to drop the price.

Figure 7 – Zone of Best Agreement



In order to play the negotiation game you will also need to prioritise the various elements of the deal from both your side and the VC side by working out what is important for you and what is important for them.

6.24 Doing the VC Deal – Points to Watch Out For

Aside from getting the right valuation for the business and the equity involved, there will be a number of other points which must be negotiated with venture capital investors[3]. These could include the following:

- **A Seat on the Board of Directors** – investors may want to have a representative on the board. Like other directors they should add value to the company and not just act as an observer for the investor.
- **Share structure** – investors usually want a substantial minority (between 25% and 50%). You will need to consider the impact of this when shareholders vote on new resolutions
- **Veto rights** – investors often wish to enhance their position as minority shareholders through having veto rights on some key decisions such as: changes to share rights, constitutional documentation, expenditure over certain thresholds, issue of further shares or options, disposal of assets , changes to the nature of the business and so on
- **Warranties** – investors often ask for warranties from management as to the business and assets of the company. These need to be considered carefully and limits on management's liability needs to be agreed.
- **Restrictive covenants** – investors may want to prevent management setting up competing businesses or poaching staff and employees
- **Share transfer restrictions** – departing directors or employees may be required to sell their shares when they leave. Other rights such as tag-along rights (procedures used to protect a minority shareholder whereby if a majority shareholder sells their stake then the minority shareholder has the right to join the transaction and sell their minority stake in the company) and drag-along rights (rights enabling a majority shareholder to force a minority shareholder to join in the sale of a company but under the same price, terms, and conditions as any other seller) may also be negotiated.
- **Exit -** Equity investors will also want to see a clear route for exit and realisation of their investment usually within 3-5 years, through listing on a stock exchange, seeing a trade sale or carrying out a re-financing.

6.25 Term Sheets

Part of the documentation used during the venture capital process is a term sheet which this sets out the details of the investment. A typical term sheet may include the following sections:

1. **The investment** – details of how much is to be invested, the valuation of the business and the number of shares the investor will gain
2. **Conditions of Investment** – which deals with the need to complete due diligence and may also include requirements for co-investment from other VC firms
3. **Founder shares** – conditions placed on the founders and the shares that they hold and what happens to these if and when they leave the business
4. **Terms of Investment** – which deals with warranties, the appointment o an investor to the board of directors and their fees, information flows about the business, rights of founders and investors to acquire shares, intellectual property issues
5. **Confidentiality** – basically states that the details of the term sheet should remain confidential and that both founders and investors will enter into a non-disclosure agreement
6. **Applicable Law** – states which legal jurisdiction the term sheet complies with
7. **Expiry date** – provides a time-line within which the founders and company should accept the offer
8. **Exclusivity** – which may state that whilst this deal is in progress, the founders should not seek alternatives

[3] These points are highlighted further in Mills and Reeves's Launch Pad.

For a more detailed standard term sheet see
www.tjguk.com/plain_dealing/pdf/standard_term_sheet.pdf

6.26 Due Diligence

Once an initial offer has been negotiated the investor will want to perform 'due diligence' – a detailed assessment of the technical and financial feasibility of your business proposition. The venture capital firm will often use external consultants to consider the market prospects and technical aspects of the business and chartered accountants to report on the details of the financial projections and other financial aspects.
The aim of the due diligence review is to either support or contradict the venture capital firm's own initial impressions of the business plan and to sift out any fundamental problems that exist.

Role of Investor after the deal is done

A "hands-on" or active approach aims to add value to your company. In addition to advising on strategy and development, the venture capital firm will have many useful business connections to share with you. The venture capital firm aims to be your business partner, someone you can approach for helpful ideas and discussion. A hands-on investor is particularly suited to a company embarking on a period of rapid expansion. However, day-to-day operational control is rarely sought. In order to provide this support, some venture capital firms will expect to participate through a seat on your board. The director may be a venture capital firm's executive or an external consultant and fees will need to be paid for the director's services. The venture capital firm will expect to:

- Receive copies of your management accounts, promptly after each month end
- Receive copies of the minutes of the board of directors' meetings
- Be consulted and involved in, and sometimes have the right to veto, any important decisions affecting the company's business. This will include major capital purchases, changes in strategic direction, business acquisitions and disposals, appointment of directors and auditors, obtaining extra borrowings.

Some investors will have a less active role in the business, a "hands-off" or passive approach, essentially leaving management to run the business without involvement from the venture capital firm, until it is time to exit. They will still expect to receive regular financial information. If your company defaults on payments, does not meet agreed targets, or runs into other types of difficulties, a typically hands-off investor is likely to become more closely involved with the management of the company to ensure its prospects are turned around.
Most venture capital firms in reality tend to operate somewhere between these two extremes.

From www.bvca.co.uk

6.27 Sources of Non-Equity Finance

There are a number of sources of finance which are available to very early stage entrepreneurs which are non-equity based. The following provides a guide and a list of web links. These are constantly changing and are correct as of June 2004. This is by no means an exhaustive list – you may find other sources which are relevant to your business idea.

1. Grants for Research, Development and Innovation

DTI Research & Development Grants http://www.dti.gov.uk/r-d/	Provides grants to help individuals and small and medium-sized businesses research and develop technologically innovative products and processes. These were formerly known as the SMART award scheme and incorporate four different types of grants.These grants are available in England. (Scotland, Wales, and Northern Ireland have their own initiatives). • Micro Projects are simple low cost development projects lasting no longer than 12 months. The output should be a simple prototype of a novel or innovative product or process. A grant of up to £20,000 is available to businesses with fewer than 10 employees. • Research Projects typically involve planned research or critical investigation lasting between 6 and 18 months. The result of the project could be new scientific or technical knowledge that may be useful in developing a new product or process. A grant of up to £75,000 is available to businesses with fewer than 50 employees. • Development Projects involve the shaping of industrial research into a pre-production prototype of a technologically innovative product or industrial process. A grant of up to £200,000 is available for businesses with fewer than 250 employees. • Exceptional Projects involve technology developments which have higher costs. These projects are likely to generate much wider economic benefits and must be recognised as of 'strategic' importance for a technology or industrial sector. A grant of up to £500,000 is available to SMEs with a qualifying project. These grants are now awarded on a competition basis, rather than ongoing, so it's worth consulting the website for details of the dates for the latest rounds, as well as for application forms and frequently asked questions.
National Endowment for Science, Technology and the Arts www.nesta.org.uk	NESTA was set up to pioneer new ways of supporting and promoting creativity and innovation - to find new ways of keeping talent in the UK, for the benefit of the UK. They mainly do this through core funding programmes, but are keen to explore other opportunities as they arise. NESTA is building a network of partnerships and collaborations to do just that. There are a range of different grants and awards available in the following programmes: • Invention and Innovation • Learning • Fellowships • Graduate Pioneer Programme • Ignite • FutureLab • Planet Science • Partnerships and Competitions The awards available are different in each programme both in terms of their size and purpose.

2. Grants for Collaborative R&D and Networking

EU FRAMEWORK PROGRAMME 6 (FP6) http://www.ost.gov.uk/ostinternational/	Projects must involve several partners from different countries. Framework Programme 6 (FP6) is the European Union's main instrument for the funding of research and innovation in science, engineering & technology. Funding is provided to businesses undertaking projects in the following seven key areas that have been chosen as the priorities for the five year period starting January 2003: • life sciences, genomics and biotechnology for health • information society technologies • nanotechnologies and nanosciences • aeronautics and space • food quality and safety • sustainable development, global change and ecosystems • citizens and governance in a knowledge-based society. The programme is open to EU public and private entities of all sizes.
LINK COLLABORATIVE RESEARCH http://www.ost.gov.uk/link/info.html	LINK Collaborative Research brings together industry and academia to undertake pre-commercial research projects, with Government providing up to 75% of the total cost for feasibility studies; 50% for core research, leading to 25% for nearer market development. Through LINK Collaborative Research, businesses can engage with some of the best and most creative minds in academia, to tackle new scientific and technological challenges so that they can go on to develop innovative and commercially successful products, processes and services. Government provides up to 75% of the total cost for feasibility studies; 50% for core research, leading to 25% for nearer market development, which is matched by industry (through either in kind contributions, cash or a combination of the two). The average size of a core LINK Collaborative Research project is around £500,000, with the average duration being 3 years. Companies of any size and research organisations based in the UK can participate in LINK Collaborative Research projects. Each project needs to involve at least one company and one research base organisation (universities, research and technology organisations, public sector research establishments, etc).
EUREKA www.globalwatchonline.com/eureka	EUREKA is a pan-European network for encouraging near market, collaborative research and development projects which lead to the development of advanced products, processes or services. It involves organisations from 33 European countries and the Commission of the European Union. Funding of up to 50% of eligible costs may be available for projects, which must involve a minimum of two independent organisations from two member countries. A project can be in any technological area chosen by the participants. Any UK-registered company, research organisations and Higher Education Institution may be eligible to apply for funding.

3. Grants to help with Market Research

EXPORT MARKETING RESEARCH http://www.chamberonline.co.uk/exportzone/emrs	To be a successful exporter it is essential to plan your entry into the market. Marketing research is crucial in the development of a market entry strategy and professional advice and financial support is available. As well as providing information and other resources about exporting on its website, Trade Partners UK provides financial support to companies to undertake export marketing research through the Export Marketing Research service. This service is managed by the British Chambers of Commerce. Financial subsidies are available of up to 50% towards the cost of conducting marketing research either in-house or through the use of consultants.

4. Grants to help with Financial Issues

Research and Development Tax Credits http://www.inlandrevenue.gov.uk/randd/index.htm	Research and Development (R&D) Tax Credits for SMEs were introduced in 2000 to encourage small firms to invest in research and development. Under the scheme a company can increase the amount that it deducts for qualifying R&D spending when it computes its profits for tax purposes to 150%. A company that is not in profit can surrender its qualifying R&D losses (including the R&D tax relief) to the Exchequer in exchange for a cash payment, worth 24% of the spending on R&D. This is called the payable R&D tax credit. The Inland Revenue makes the payment. R&D tax relief and the payable R&D tax credit can be claimed by a company even though it has not started to trade for tax purposes.
Small Firms Loan Guarantee Scheme http://www.dti.gov.uk/sflg/	Small businesses with viable business proposals may not be able to obtain a conventional loan because of a lack of assets to offer as security against the loan. The Small Firms Loan Guarantee helps to overcome this by providing lenders (banks and financial bodies) with a guarantee against default. Guaranteed loans – which are intended to supplement and not be used instead of normal commercial finance – are only made available in those cases where a lender would be prepared to lend, but for the lack of security. The Department of Trade and Industry's (DTI) Small Business Service, along with 23 approved lenders (including all the main banks), are able to provide the security needed by guaranteeing the outstanding loan. The DTI guarantees 75%, with the remainder being guaranteed by the lender involved. Minimum loan £5,000. Maximum loan £100,000 (£250,000 if applicant has been trading for two years or more at the time of application). Guaranteed loans are available to businesses with no more than 200 employees and a turnover of not more than £3 million in the last 12 months (£5 million for manufacturers). Eligibility is also dependent on the type of business and the purpose for the loan.

5. Grants to help with People

Knowledge Transfer Partnerships (KTP) www.ktponline.org.uk	(Formerly TCS) – Small and medium-sized businesses with the potential to grow, and larger companies as well, can participate in a Knowledge Transfer Partnership (KTP) and benefit from the expertise of academics in universities, tutors in further education colleges or researchers in a research based institution (a Knowledge Base Partner). No direct financial assistance is provided to businesses participating in KTPs. However, a grant is paid to the Knowledge Base Partner as a partial contribution to the project costs. The company is invoiced for the balance of those costs. These can vary depending on a variety of factors relating to the agreed project, but it may be around £32,000 for a two-year project.
Step www.step.org.uk	The Shell Technology Enterprise Programme (STEP) aims to help businesses develop their potential by utilizing the skills of undergraduates at an affordable cost. STEP can help a business to define a project and identify an appropriate undergraduate to work on it for the business during 8 weeks in the summer (July and August). Shorter non-summer placements and longer projects (up to 12 months) can also be arranged, subject to the availability of suitable undergraduates, especially on Electronic Engineering projects. The student will undertake an agreed business related project pre-defined by the company. STEP projects are particularly suitable in an area where the company does not have the time, resources or in-house skills to devote to it. STEP students are paid a weekly training allowance of £170 per week, free of tax and national insurance, for an eight-week summer project. Depending on local circumstances, businesses participating may be eligible for a subsidy. Companies may also be asked to make a contribution to the student's travel expenses.

6. Grants for Sustainable Technologies, Environmental or Social Businesses

SUSTAINABLE TECHNOLOGIES INITIATIVE (STI) www.oakdenehollins.co.uk/sti.html	Companies of any size can apply for grants in support of the development of new technologies or the adoption of existing technologies which will contribute to sustainable development and competitiveness. The grants are awarded in collaboration with the science base. Businesses which aim to utilize technology and the design process to decouple economic growth from adverse environmental impacts are likely to benefit from the grants provided by the STI Businesses are especially encouraged to submit proposals which incorporate truly novel approaches to the development and production of processes, products and services. These proposals will have integrated sustainability into the processes and products during the design stage. Therefore, sustainability should be integral to the design process and not a bolt on.
THE CARBON TRUST www.thecarbontrust.co.uk	Works with businesses and the public sector to help them move to a low carbon future and exploit the commercial opportunities this presents. Supports a wide range of research, development and demonstration projects within the UK that demonstrate the potential to reduce greenhouse gas emissions. They look for genuine innovation, clear need or demands for outputs of the project, value for money and evidence that the funding will make a clear impact. It will accept applications from any UK organization including businesses, universities, public sector and voluntary organizations. The maximum amount of funding a project can receive is a grant of £250,000 which is repayable on successful commercial exploitation.

7. Places to search for more grants

EUROPEAN UNION http://europa.eu.int/comm/secretariat_general/sgc/aides/index_en.htm	This website is an excellent start point to find out more about all of the grants available from the EU
J4B www.j4b.co.uk	Comprehensive UK based searchable database of business grants and loans

8. Business Plan Competitions

CAMBRIDGE UNIVERSITY ENTREPRENEURS BUSINESS PLAN COMPETITIONS www.cue.org.uk	Three annual business plan competitions open to students within the University of Cambridge.
RESEARCH COUNCILS BUSINESS PLAN COMPETITION http://www.rcuk.ac.uk/businessplan/	The competition is open to researchers based in UK HEI's or PSRE's, from across the whole spectrum of academic research - from arts and biosciences, to environmental, physical and social sciences to technology. Postgraduates, postdocs and academic staff who have a business idea arising from their research and want to develop this further are encouraged to participate.

References and Further Reading

Copeland, T., Koller, T., and Murrin, J., 1994, *Valuation: Measuring and managing the value of companies*, Wiley.

Lang, J., and the University of Cambridge Entrepreneurship Centre, 2001, *The High Tech Entrepreneurs Handbook*, Pearson

Parker, R.H., 1999, *Understanding Company Financial Statements*, Penguin

Ramsden, P., 1996, *Finance for Non-financial Managers*, 'Teach Yourself' series Hodder and Stoughton

Sullivan, N.F., 1995, *Technology Transfer: Making the most of your intellectual property*, Cambridge University Press.

7. Building Teams

7.1 Introduction - Why Build a Team?

It takes much more than just one person to make an idea happen. No one individual has all the necessary skills, so it will be necessary to form a team. As well as providing a greater range of skills, your idea will probably be much better received by investors if you have a team in place. Venture capitalists rarely consider a business proposal based on the talents of a single individual but rather the skills and experience of the entire venture team. Although investors will look for a driving force that brings the team together.

There are many different teams involved in the start-up of a new venture including the founding team, the board of directors, the scientific advisory board and the project teams that actually develop the products. At the start there will probably be a lot of informality but as the venture grows, it becomes necessary to start formalising the structure of the organization and taking the legal issues of recruiting staff very seriously.

7.2 Aim of these Notes

This section will look at:

- How founding teams form and grow
- The roles of senior management team members
- Organizational structure and cultural issues
- The legal issues

7.3 The Role of the Entrepreneur in Building the Team

The entrepreneur and the opportunity are the key driving forces behind forming the entrepreneurial management team. Building a team to deliver the vision of the business is a core competence of an entrepreneur.

A lot depends on what skills, know-how, business strengths, and networks of contacts and so on that the entrepreneur has, and what they envisage getting out of the venture. The nature of the opportunity, and how value is to be generated from it might also require a particular set of skills and capabilities that can be derived from additional team members, and external resources that are critical to getting the venture off the ground and succeeding in the particular market place.

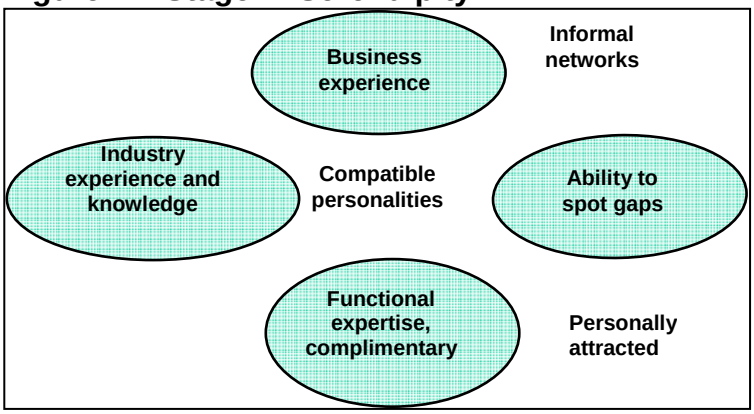
7.4 The Formation of the Team

Entrepreneurial teams frequently form out of existing relationships of one sort or another and this can relate to the formation of the business in three different ways:

- the idea comes first and then the team,
- the team are already together but for another purpose,
- the team forms first and then has the idea.

The founding team usually comes together in a very informal way

Figure 1 – Stage 1: Serendipity



What is critical for the start-up and early performance of the business is that the founding team members share the same clear vision for the direction and growth of the business.

Other key team factors that affect the performance of the team at the venture creation stage are:

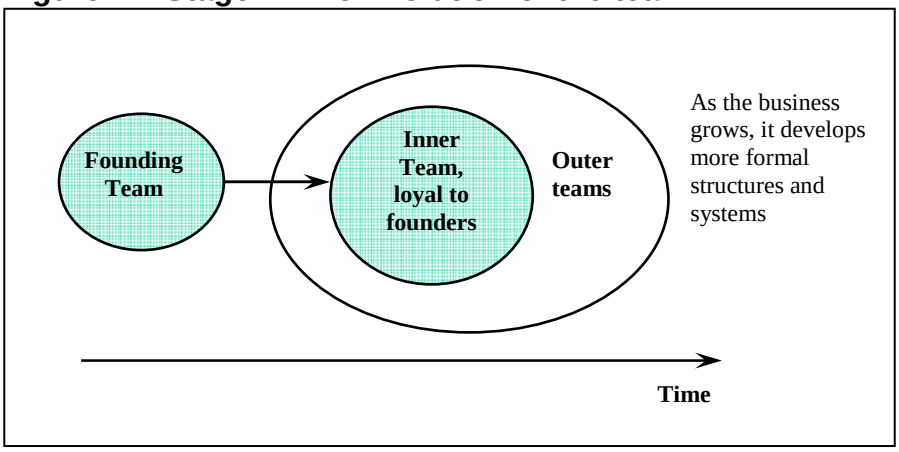
- The depth of experience and expertise
  - Prior industry experience
  - Prior work experience
  - Team size
  - Previous joint work
  - Team Tenure

- The breadth of experience and expertise
  - Variation in functional background
  - Variation in industry experience
  - Variation in team tenure

7.5 Evolution of the Team

Once the founding team has come together there will be a period of evolution towards a more fully formed team which can address the growing issues of the development of the venture. This occurs through a number of processes such as communication and sharing of the vision for the business, building trusting relationships, clarifying and formalising roles through the business plan and starting to develop the structure of the company. This second stage is illustrated in Figure 2.

Figure 2 – Stage 2: The Evolution of the team



Careful selection of new team members is required at this stage and there are a number of issues relating to new team entrants. The following checklist is a guide:

- Experience of growth
- Ability to fit the culture
- Market/personal credibility
- Financial input
- Technical competence
- Particular expertise
- Personal contacts
- Headhunting strangers
- Previous business together

There are a number of other team factors that are relevant to the development of the venture at this stage:

- Team Building:
  - Social Integration
  - Communication – existence, frequency and informality

- Task Leadership:
  - Perceived clarity of goals
  - Shared understanding of team's goals

- Personal/Task Integration:
  - Commitment to task
  - Degree of personal integration into the task.

7.6 The Roles of the Key Team Members

Informal roles may be sufficient before the venture actually starts, but as the business idea develops more formal roles will need to be created. These will include:

CEO – Chief Executive Officer – responsible for the day-to-day running of the company, and for formulating policy proposals and implementing the Board's decisions

CFO – Chief Financial Officer - Keeps the books and is usually a qualified accountant, prepares management reports and budgets, advises on fundraising, may also act as Company Secretary (keeps board minutes, official papers and shareholder records), and run the company administration.

CSO – Chief Scientific Officer

CTO – Chief Technical Officer

COO – Chief Operating Officer

VP – Vice President – for example for Sales, Marketing etc

May have one or more of these senior team members depending upon the company and how it operates. They are responsible for the scientific, technical (new developments and technical or scientific strategy) and operational (manufacturing, shipping, etc) work of the company.

7.7 The Board of Directors

These key players will form the basis of the company's board of directors, but there will be other Non-Executive directors on the board too. These are usually drawn from business or industry experts and frequently include a representative from the lead investment company or venture capitalist. As well as helping to steer the company they can also provide credibility.

Directors have direct responsibilities to the company, their fellow directors, shareholders, creditors and employees. The duties of directors fall mainly into two categories:

- duties of honesty and good faith (fiduciary duties) - acting in the interests of the company, using powers for their proper purpose and not exceeding these powers and conflicts of interest (i.e. not taking advantage of the position to pursue personal interests)
- duties of care and skill – displaying the skill, attendance at board meetings, conduct at board meetings and delegation to qualified people within the company.

There are also other duties and requirements which relate to fraudulent trading, wrongful trading and wrongful exercise of authority. See the publications section of www.companieshouse.gov.uk and look at their Directors and Secretaries guide or visit www.launchpadonline.co.uk for an outline of the legal duties of directors

7.8 Scientific Advisory Board

This is another area where credibility can be added to the company if it is involved in the areas of science and technology. This board does not have a legal role as the board of directors does, instead it advises on the scientific direction of the company. Many companies try to engage very senior figures from that particular area of science onto the advisory board.

7.9 Growing the Team - The Legal Issues

Once the new venture gets off the ground there will probably be a requirement for the recruitment of new members of staff. People one of the most important assets of the company, and it's important to understand the key obligations towards the employee and to decide on the best way to reward motivate and retain employees.

There are many legal issues surrounding the employment of staff. The relationship is governed by both contractual and statutory rights. It's important that all employees are provided with a contract, (directors need a written service agreement). The reasons for this are numerous and include:

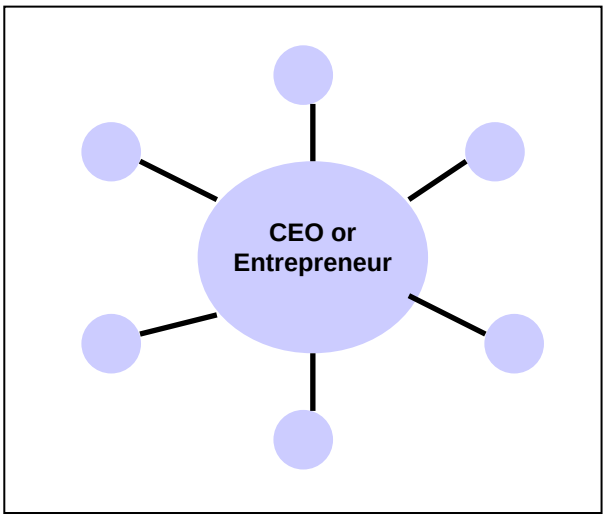
- certainty about the terms of employment
- protection of the company after termination of employment e.g. with respect to IP and working for the competition
- to fulfil statutory provisions which require some information in writing

For more details on these issues see www.launchpadonline.co.uk.

7.10 The Structure of the Organization

At the start of the venture, operation will probably be very informal with many of the team members reporting directly to the CEO.

Figure 3 - Entrepreneurial Structure



This will eventually become unmanageable, so a second issue of growth will be the need to put a more formal structure in place for the company and its employees. There are many possible options which include:

Figure 4 - Classical Functional Hierarchical Structure

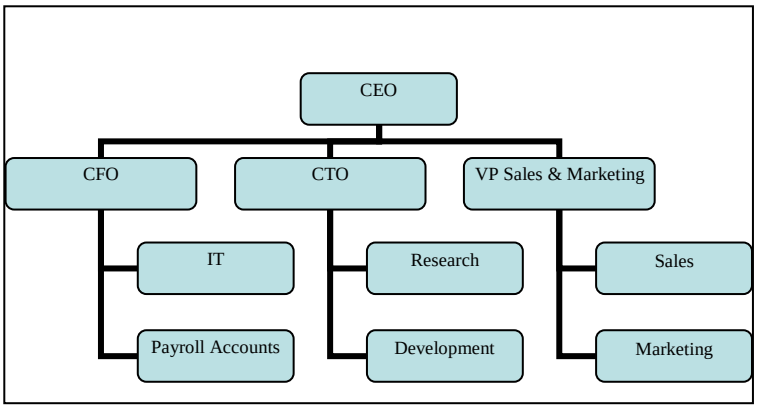


Figure 5 - Product or Service Structures

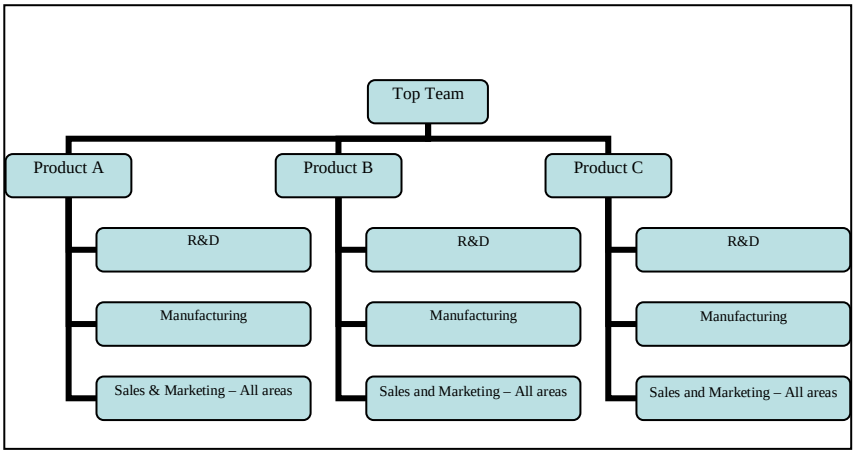


Figure 6 - Geographic Structures

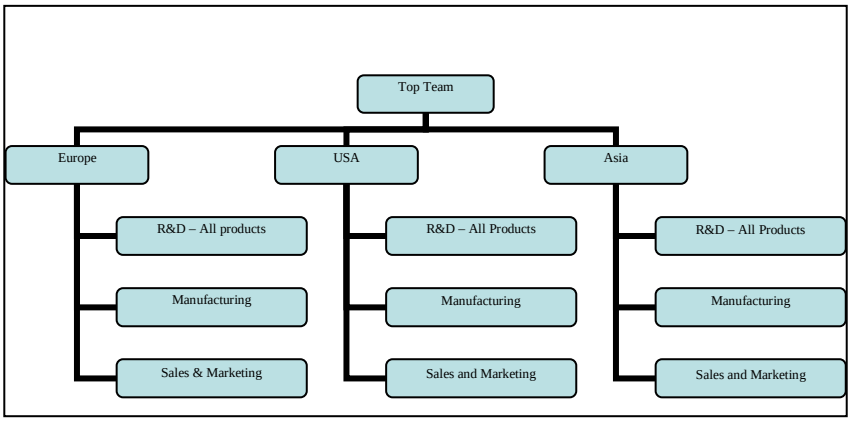


Figure 7 - Matrix Structures

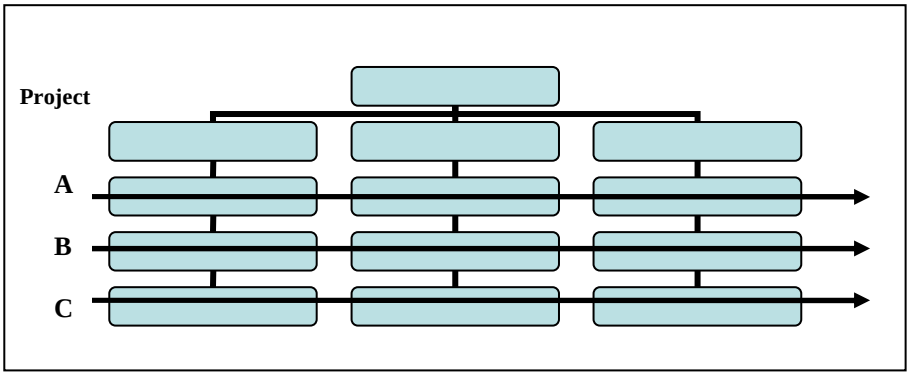
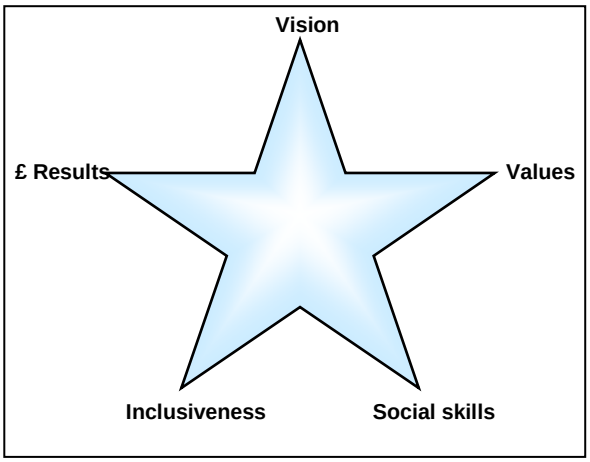


Figure 8 - Star Teams



Summary

In summary to build a star team you need:

- ***Vision*** – Turning vision into reality through clear task leadership
- ***Values*** – Combining social, personal, and task integration
- ***Social Skills*** – Communication and other soft skills, trust building and networking
- ***Inclusiveness –*** See Figure 2
- ***£ Results*** – Task integration and delivering on promises

You need to recognise that:

- Teams are not built over weekends – it is hard work and has to be sustained
- The recruitment process can never be perfect
- Getting it really wrong can be terminal for the venture
- A team is more than a group of individuals
- So - it is crucial to integrate recruitment with development issues right from the start.

Background Reading

Handy, C. Understanding Organizations, 4th Edition Penguin Books 1993

Vyakarnam, S., Jacobs, R., and Handelberg, J. (1999) Exploring the Formation of Entrepreneurial Teams: The key to rapid growth business, Journal of Small Business and Enterprise Development ***6*** *pp 153-165*

Vyakarnam, S. and Handelberg, J. Five Models of the impact of Management Team on Organizational Performance: Implications for Theory and Practice of Entrepreneurial Teams.

Timetable

Day One - Saturday 28th January 2006

9.00 – 9.15	Welcome and introductions
9.15 – 9.40	The structure and content of winning plans
9.40 – 10.40	Critique of the NewCo business plan
10.40 – 11.00	Break
11.00 – 11.40	How judges and investors appraise a plan
11.45 – 12.45	Legal issues – protecting and presenting your IP
12.45 – 13.30	Lunch
13.30 – 14.40	Researching markets and competitors
14.40 – 15.00	Break
15.00 – 16.00	The MARKETS approach - evaluating and presenting the opportunity
16.10 – 16.40	The entrepreneurial team
16.40 – 16.45	Wrap-up

Day 2 – Sunday 29th January 2006

9.00 – 10.00	Raising money (Parallel sessions for CUBIC and 3P contestants)
10.00 – 10.15	Short Break
10.15 – 11.15	Business Plan Financials
11.15 – 11.40	Coffee Break
11.40 – 12.10	The pitch – 'Presenting your case effectively'
12.15 – 1.00	How to win business plan competitions
1.00 – 1.05	Close
1.10 – 2.00	Lunch and networking