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Businessplan Handbook

aws best of biotech bob

The international Biotech & Medtech business plan competition

Pre Start up > Start up > Growth > International

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1 From an Idea to a Company – Getting started

The game plan of a company start-up breaks down into a number of phases. It begins with an insight that grows into a business idea, followed by the preparation of a business plan, and finally, the formation of the company.

Your interest in this book indicates that you have probably already taken the first step: the germination of a business idea. The basics of the idea should now be thought through and formulated in writing. This outline lays the groundwork for the business plan. The idea evolves through a number of planning stages, during which it is adapted to the business environment. In the course of this process you test it, look for its strengths and weaknesses, and form a picture of the opportunities and risks associated with its implementation. If you make a good job of drawing up your business plan, you should have a chance of interesting investors in it.

In Anglo-American business parlance the early stages of the translation of a business idea into an actual enterprise are referred to as the seed or start-up phase. For this, investors prepared to accept a high level of risk are needed, like venture capitalists, business angels or public funding agencies.

From seed phase to market*

The **seed phase**is the first stage in a company's life, during which it has not yet been founded, and normally consists of no more than an idea and a business plan. The full management team is still being assembled, and the planning work is incomplete. During this phase the capital requirements of the future enterprise amount to several ten thousand Euros. The early seed phase is also called pre-seed phase.

By the time that the subsequent **start-up phase** has been reached, the company has been founded and the initial management team is in place. Work can now start on product development, registering patents, obtaining licenses, and perhaps preliminary marketing. During this phase, the investment volume may rise to several hundred thousand Euros.

By the time that the **early stage** is reached, product development has been concluded and a marketable product exists, but no revenue is yet being generated. The enterprise is preparing for its market launch. Financial requirements vary at this point.

At the so-called **later stage** the business is already generating revenue but is not yet profitable. Additional finance - again in widely varying amounts - is required in order to attain the target revenue.

Shortly before the IPO a further injection of capital is required, in order to finance the issue itself. This is known as the **bridge** or **pre-IPO phase**.

The **third** or **mezzanine stage** is marked by preparations for the final expansion phase. The company is already profitable (rarely in the Biotech-sector), and is preparing for its flotation or initial public offering (IPO). The aim is to reach the so-called "pre-IPO level".

*Since there is no internationally standardized definition of these project phases, no precise distinction can be made.

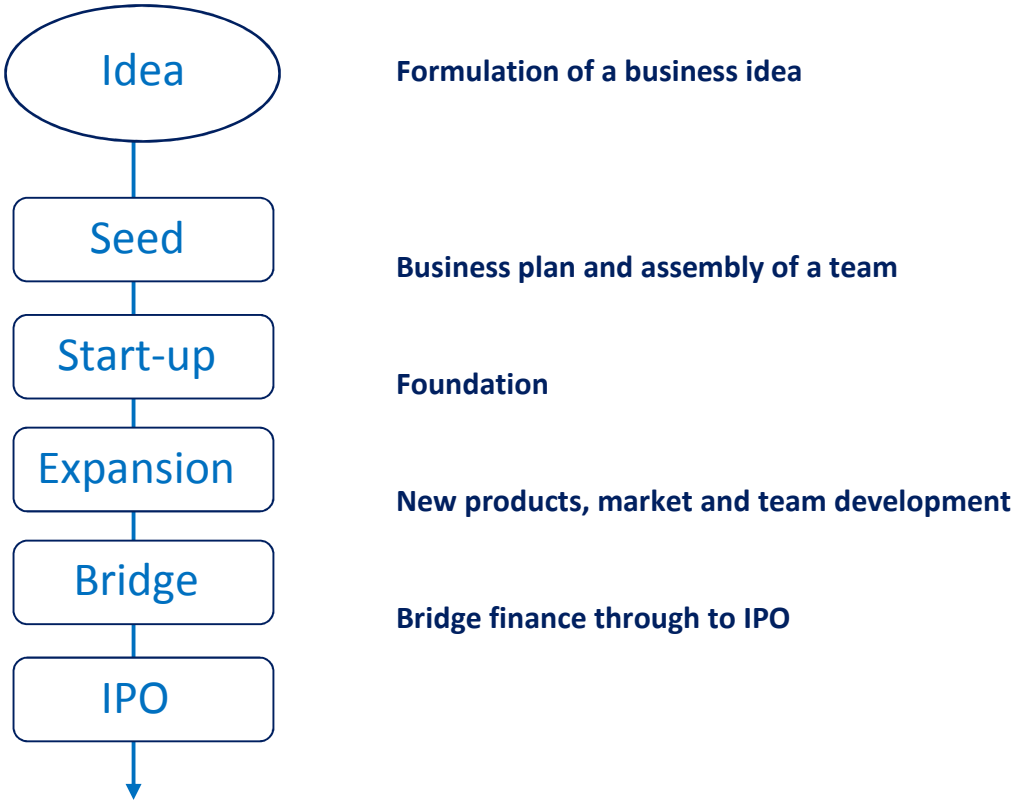
However, the financial structure of a new venture will vary greatly according to the nature of its activities. Distinctions are therefore commonly drawn between three types of biotech business:

- Enabling technology: This type of firm develops tools that enable other companies to rationalize their operations or perform development work.
- Product technology: Such firms do everything from research through to production internally.
- Fee-for-Services: Such companies offer services for payment. These may concern sequencing or synthesis services, or commissioned research.

Naturally, there are also companies that represent mixtures of two or more of these plays.

The following Chart gives an overview of the path from business idea to IPO:

Figure 1: Phases of company development



This manual is intended to help you take the first step, from idea to seed phase, successfully.

2 The Business Idea

The founding of an enterprise occurs in two steps: first, a business idea is devised. If this idea arouses potential investors' interest, it is refined to a business plan in a second step.

The business idea should enable you to bring your concept to paper and analyze its marketability based on a few integral factors. During this phase, your biggest challenge is to gain the interest of investors and convince them of the value of financing your idea.

The business plan develops the business idea further. In this phase, receiving funding to finance building your business will represent the largest obstacle.

An "inspiration" or a "sudden idea" is at first nothing but a worthless idea, no matter how brilliant it may be. Until such an idea becomes a fully developed business idea, it will generally have to be developed and elaborated. Most importantly, however, the idea's plausibility must be evaluated, meaning that:

1. market opportunity must be roughly evaluated
2. feasibility must be examined
3. the level of innovation must be determined („Does a relevant patent already exist? ")

To find investors as partners for your future business, you need to explain your business idea in terms that match an investor's perspective. Show what customer benefits the business will bring, what market it will serve and how it will make money. You have to show what makes your idea an irresistible proposition!

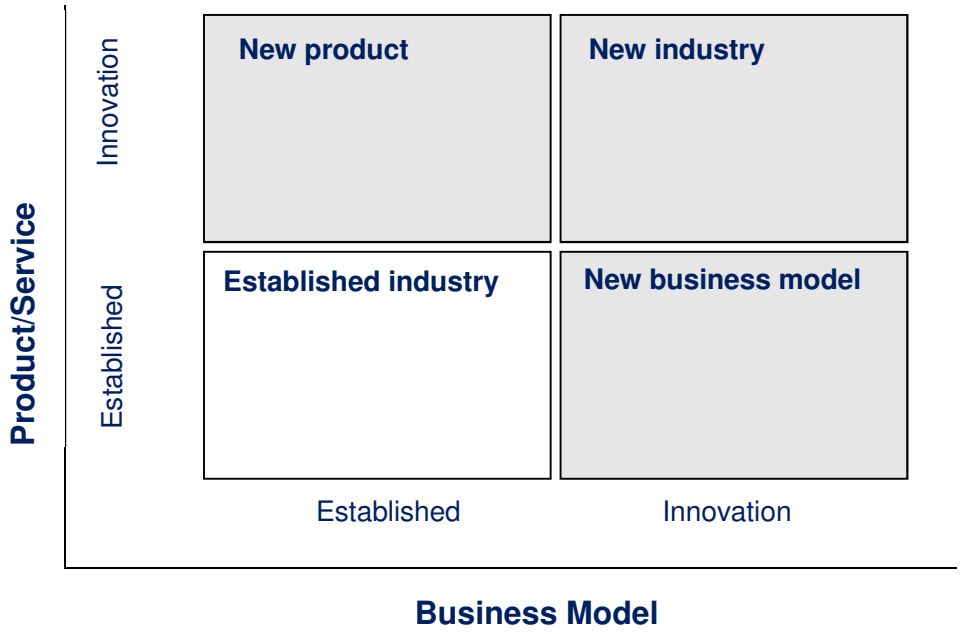
In this chapter you will find out,

- what an innovative business idea is
- how you can roughly evaluate the market
- how you can roughly evaluate patent conditions
- how to present the business idea in writing the best way

2.1 *Innovative Business Ideas*

It is essential that the written form of your business idea emphasizes the innovative character of your invention, since ideas which are not innovative typically hold only minor market potential and are therefore uninteresting for venture capitalists!

Figure 2: Business Innovations



Business ideas can be categorized either as products/services or business systems, whereby both categories allow established structures to be extended as well as new structures to be implemented (see **Figure 2**). In simple terms, "business systems" describe how a product/service package is developed and marketed.

Notice that in Figure 2 not only new products carry the label "innovation", but also such that are innovatively distributed: if your business idea involves opening an "online pharmacy", it deserves to be described as an "innovation", even if it "only" offers Aspirin. If, however, you intend to open the 8th pharmacy in Vienna's 16th district, it is definitely not an innovative business idea!

2.2 *Benefit to the customer*

In the development of new products or service (let´s for the sake of simplicity use the term "product" to represent both for the further reading), the various aspects of customer benefits are the prime consideration. A customer requirement is to be fulfilled either for the first time (unmet need), or in a better way than before.

Needs, wants and products

To economists, a **need** is the feeling that one lacks something, while a **want** is the desire for a specific product or service that can meet a need. A want becomes **demand** when a consumer has sufficient purchasing power to buy it.

A **product** is anything that can be offered on a market to satisfy demands.

For products to be marketable, the following must thus be present:

- A lack of something
- A want
- Purchasing power and the intention to purchase
- Market

Innovations, in the narrow sense, are entirely new products or elements of existing ones, while **product variations** are improvements of existing products or services, or means of producing unchanged products or services at lower cost, and thus selling them at lower prices.

Your business idea must represent the solution of a problem of significance to potential customers in a future market. Many founders of enterprises initially have a product and details of its design and production in mind when they talk of having a "solution". Investors see things differently. Their starting point is the business idea as viewed by the market, i.e. the customer. For them, the customer benefits are the prime consideration, and everything else is secondary. Customer benefits always come before product. What is the difference? If you say "Our new machine can perform 200 operations a minute" or "Our new device has 25% less parts", then your thinking is product driven. Say "Our new machine saves 25% of production

time, and thus 20% of the customer's production costs" or "Our new solution enables customers to carry out new types of work" and your approach is customer driven. The product is a means of providing customer benefits, not an end in itself.

Core benefit

It is worth noting that the **core product** often differs from the **actual product**. For instance, when a customer buys an electric drill, she/he is actually buying a hole in the wall. In other words, the core product adds up to the core benefit - what the customer really needs. The actual product is a means to the end of creating a benefit, and in particular is expected to provide the core benefit. Performance specifications such as drill speed or power are features not of the core product but of the product as a whole (irrelevant if the wall is made of plasterboard).

Core benefits are easy to define where products like drugs are concerned - provided that the patient is also the customer. But if the buyer is a health insurance the core product may not be the therapeutic effect but:

Low cost	Availability in sufficient amounts
A good press	Ethical arguments

When expressing the customer benefits, and thus the business idea, it is thus essential to think hard about the core benefit and relate it to the question: "Who are our customers?" Only when you know who the actual customers are (where your profits are going to come from) can you tailor the benefits to their needs.

The **customer benefits** of a product or service thus represent whatever is new or better about it compared to the competition's offerings or alternative solutions. They are thus key "differentiators" and play a crucial role in the market success of your business idea. If possible, you should also express customer benefits in figures, as this helps to win investors over.

2.3 *Unique Selling Proposition (USP)*

Marketing specialists talk of expressing customer benefits in terms of **unique selling propositions (USPs)**. This has two implications:

- *Your business idea must add up to a selling proposition that is relevant to the customer.*

Many start-ups fail because customers do not understand the advantages of the product and therefore do not buy it. It is no good blaming them for this.

- *Your selling proposition must be "unique ". The customer must opt not just for a new solution that appears on the market, but specifically for yours.*

You have to persuade the customer that your product or service offers greater benefits or better value - only then will you make the sale.

Features of promising business ideas

- Meet a need - solve a problem for customers
- Innovative
- Unique
- Clear objectives
- Profitable in longer term
- Room for expansion

2.4 *Market*

First and foremost, investors are interested by the following two aspects:

1. How big is the market?
2. Who is the primarily targeted audience?

At this stage, a detailed market analysis is too time-consuming and expensive. Use your knowledge and common sense! Use the internet as a source of information and read publications from specific associations if they are easily available. Speak to future users of your invention and request assessment from them. Essentially, your business idea must clearly show that you have invested thought in this issue.

Also, regarding the issue of your targeted audience, a first lead will suffice. Consider who may be eligible for treatment with a new pharmaceutical. Maybe after thorough research is conducted, a larger scope of application will be conceivable.

Asking yourself to which degree your invention differs from already available products or business systems is a vital question (differentiation). Are there similar or alternative products (substitutes) that match the same customer needs? Your business idea must convey that you understand the competitive situation! Name your competitors! Sooner or later the venture capitalist will confront you with such names, and it will be an advantage if you are able to explain why your product outdoes competitors. At a later stage, you can consult the "tecnet" program offered by Austria Wirtschaftsservice GmbH to an in-depth perform market and technology analysis and arrange meetings with experts. However, this service is provided at a charge.

2.5 *Patent situation*

Similar to your market analysis, you will only be able to perform a rough analysis in the course of your patent research at this stage. The two largest and internationally relevant patent databases of the USA (www.uspto.gov) and the European Patent Office (www.espacenet.com), however, are accessible via Internet free of charge and provide elaborate patent research. Your business idea should mention the global patent situation with regard to your invention. A detailed illustration pertaining to patents can be found in section 3.5.2. on page 49.

2.6 *Profitability scenario*

Traditional manufacturing companies buy materials from suppliers and process them to products, which are sold to customers. If your business idea operates along the lines of this traditional value chain, there is no need to elaborate this aspect in the description. Instead, you should discuss such details later in your business plan (see section 3.9., page 92).

If, as customary in the field of biotech, your profit mechanism differs from the "traditional" one, you should address this in your business idea and mention whether you are planning on generating income from license fees or wish to provide services at a fee.

By the way: the following should be kept in mind for fast growing enterprises as a general rule: During the initial phase, a gross margin (profit after deducting direct product costs) should amount to 40-50%.

2.7 *Protecting your idea*

Truly potent ideas are generally the result of a lot of hard work. To protect them, they need to be put into practice fast. After all, a vast amount of effort and expense lies between a bright idea and a successful business operation. This expenditure of time and money which is one of the so-called barriers to entry may put off potential imitators. In many cases, however, it is also advisable to obtain legal protection, for instance by:

- **Patenting your product:** Particularly where the life sciences and chemistry are concerned, early patenting is often a good idea. Moreover, before putting their money into an idea, investors will want to be sure that it will not be rendered worthless by imitation. (For more on this topic see the section on patenting strategy).

  CAUTION: Keep in mind that when patenting your invention at a later date that "novelty" will be a decisive factor. Although the term "novelty" is variably defined in the relevant national patent laws, in Austria, Germany and under the European Patent Convention (EPC), everything that is not in the "public domain" at the time of patent registration is defined as new. The "public domain" comprises all information that is made available to the general public, may it be orally, in written form, electronically or otherwise. Consequently, if you publish your invention in a trade journal or present it to a larger audience at a scientific congress or trade fair before it is patented, it automatically becomes "public domain" and forfeits its novelty. **By doing so, you deprive yourself of the basis for a later patent![1]**

- **Confidentiality agreement:** Lawyers, accountants and bank employees are obliged by law to maintain confidentiality. A good venture capitalist will also

[1] In the USA, Canada and Japan the "first to invent" principle applies, granting the inventor a grace period of one year (USA) for publications.

have a strong interest in keeping your ideas confidential, and the same applies to your professional advisers. When talking to other people it may be helpful to ask them to sign a confidentiality agreement.

- **Material transfer agreement:** Material transfer agreements enable you to continue to give the product as a whole, components of it or materials more wide-ranging protection than a confidentiality agreement would do. A material transfer agreement can be used to lay down the scope of cooperation with a business partner, use of the product/materials, exploitation of results obtained with the assistance of the product, collaboration with third parties and transfer of products, materials or information to them, and much else besides.

2.8 *Formal presentation of the business idea*

Title page

- Name of the Product/Service
- Names of the entrepreneurs
- Reference to confidentiality
- Illustration of the product "in action“, if appropriate

Text

- Max. 5 pages
- Clear structure, optically structured with titles and tabs
- Abbreviations should be explained

Charts/pictures/tables

- Maximum of four illustrations as attachments
- Only if necessary for comprehension

- ❖ Explicitly refer in written text
- ❖ Simple, clear illustration
- ❖ Consistent format

Business Idea Checklist	✓
What is new about your invention?	
How realistic is your idea?	
Is it patentable?	
Are there already any patents held by others?	
To what extend is the business idea unique (USP)?	
Who are the potential customers for the product or service?	
What need or want is the product or service capable to fulfill?	
Do potential customers have sufficient purchasing power to pay for it?	
Does the planned product provide the intended core benefit?	
How can the idea generate revenue?	

Practical advice for business ideas:

- Devote plenty of time and care to formulating your business idea: it is the seed from which your future company will grow!
- "Seeing is believing": use visual as well as verbal forms of communication.

- An illustration of the prototype, finished product or service "in action" or a flow diagram of a process will help the reader to form a clearer picture of it in his/her mind.

- The more simply and clearly you explain your idea, the better it will be understood: try it out on a layman.

3 The Business Plan

The purpose of the business plan is to indicate how you see the realization of your idea in the business environment you are confronted with. It also explains your intentions to outside investors such as venture capitalists, and demonstrates to them that your idea is realistic and has good chances of success. Moreover, it shows that it makes sense to invest in your planned enterprise.

Potential financiers will attach particular importance to a simple, clear and well-founded overview of your plans, not least, in order to be able to judge whether their money would be well invested with you.

Apart from containing hard facts - these are discussed in detail below - the business plan should be treated as it were a living organism. As your idea develops, some aspects of your concept will have to be revised and updated on an ongoing basis. As is usual for business planning in general, your plan should not be static, but should develop dynamically, in step with your company.

Good preparation is half the battle. This is mainly a matter of sound analysis, realistic forecasts, and justification of assumptions. At the same time, you need to pursue your plans energetically.

A business plan should also observe a certain basic structure, and answer a set of questions that are bound to arise. The main focus is on making quantitative and qualitative statements about the projected development of the company, its potential and the risks that it faces. The planning horizon should normally be between three and five years.

How to draw up the plan

When preparing the final draft of the plan, bear the following points in mind:

- The style should be clear, factual and concise
- The contents should be understandable for laymen - investors are often non-scientists
- Criticism is a source of strength: ask outsiders to review your plan for weaknesses, and improve it accordingly
- Revise your plan several times
- Use tables and diagrams - illustrations usually put the point across better than words
- Seek expert advice at an early stage, e.g. from Life Science Austria
- Don't give up too fast - difficulties are there to be overcome
- If you are planning to market a variety of products develop a strategy for each, and show how the various strategies will fit together.

The business plan should consist of ten sections and an annex.

1. Executive summary
2. Product Idea incl. technology & scientific data
3. Team
4. Market and competition
5. Barriers to market entry and patent strategy
6. Marketing and distribution
7. Organization
8. Milestone plan
9. Finance
10. Opportunities and risks

This structure is based on investors' information requirements. The various sections contain information on your business idea, corporate philosophy, objectives, market and competitive situation, plans, capital requirements, potential return on investment, opportunities and risks.

3.1 *Executive Summary – the showcase of your plan*

The key component of your plan is the executive summary. This contains the main elements of the business plan, expressed in a clear and concise form. As the summary of your plan, it is like a sketch of your future enterprise, while the remaining part of the business plan gives the full picture.

It is vital to write this section of the plan in such a way that it can be read and digested in no more than five minutes. Devote plenty of time and care to the summary. It needs to awaken the interest and enthusiasm of the reader. Do not forget that the people the plan is aimed at will not necessarily be specialists in your field. Complex scientific reasoning must therefore be presented in a simple form. Your description of the future business should be distilled down to the basic idea you will have room enough to go into detail later on.

Make sure that the summary is clearly constructed, persuasive and complete. By giving a logical and consistent account of your idea you will demonstrate to the reader that you know your business.

Finally, compiling a summary offers you an additional benefit; as the essence of your findings, it can serve as a basis for compact communication – like an oral short presentation; within five minutes everything essential has been said.
The summary should cover the following points:

- *Object of business / business idea:* Describe the product(s) and/or service(s) you wish to supply and the target markets for them.
- *Business mission:* Remember to explain **why** you want to go into business, and what your motives for the venture are. Agree a mission statement with your team.
- *Corporate objectives and visions:* Set out the goals, visions and growth opportunities of the planned enterprise. Make no secret of your optimism, but keep your feet on the ground.

- *Success factors:* Explain what makes your idea unique, and describe the customer benefits and your competitive advantage.

- *Management team:* Give an account of your expertise; your career and experience are of crucial importance. A well-balanced team matters!

- *Financial targets and capital requirements:* Set out your turnover and earnings targets, and provide estimates of your capital requirements. It is important to introduce some key data in support of your ideas. However, the detailed information on which your forecasts are based should be presented in the financial plan itself.

Executive Summary Checklist	✓
Is your executive summary easy to understand and readable?	
Is your summary short and to the point?	
Does your summary explain the business idea properly?	
Will a layman be able to understand the summary?	
Will the executive summary awaken readers´ interest and invite them to go on to the rest of the plan?	
Do you know what your goals are and what *you* want from the venture?	
Will a potential investor recognize why he/she should invest?	

Practical advice for executive summary writing

- Make sure that the typography and lay-out will not put readers off.
- Try your summary out on friends and colleagues.
- Reread the executive summary after drafting each chapter of the business plan and revise it accordingly.

3.2 *Product Idea*

In this chapter of your business plan, you clearly and simply explain which problem your business idea convincingly solves with which specific offer. Before arranging your business plan, you have already roughly illustrated integral fundamentals of your future business plan within the framework of your business idea: customer benefits , market and profitability scenario. Now, you must go into greater detail and view your business idea from a more detailed point of view. Generally, this will result in an "iterative" process, since new findings in one element of the business plan will have a repercussive effect on others.

When presenting the product idea, make sure that contexts are also understandable for laymen:

- Describe the problem and its solution.
- Describe the innovativeness of your product; describe how your solution provides the customer with a distinct benefit and quantify this benefit.
- Communicate visually: A picture of a prototype (for instance, a laboratory apparatus) or a flowchart of a process can allow the reader to tangibly imagine something. Be specific!
- Integrate technical and scientific data in such a way that they are in-depth yet easily understandable also for non-scientists. Focus only on relevant data and results.

Chechlist Product Idea	✓
Which problem do you solve with your idea?	
Which customer needs are fulfilled?	
What kind of product or service do you want to sell?	
What exactly do you offer?	
What make your product/service innovative?	
How is your product/service unique?	

How do you intend to safeguard this uniqueness?	

3.3 *Team*

To a professional investor, the management team is a crucial element in a start-up. Ultimately, it is the people behind an idea who hold the key to its success. Only a team can overcome the difficulties faced by a start-up company. And a team made up of people with complementary skills can achieve the necessary division of labor. A start-up involves a wide range of activities, including general management, human resources management, cost accounting, raising finance, facility management, dealings with the authorities and negotiations. Success depends on much more than on merely getting the science right. An efficient team, used in the right way, will constantly come up with better solutions than a stand-alone entrepreneur, however experienced he/she may be. Moreover, teamwork has the advantage that everything does not depend on one person; that reduces the risk that the loss of one key individual will cause the collapse of the whole company.

In this chapter you will find out:

- How to build a "dream team", and what characteristics your line-up should have.
- How to introduce your management team to investors.
- How to achieve effective teamwork from day one.

3.3.1 Building a strong team

A good principle to start out from is the tenet that "not every friend makes a good business partner". The choice of your co-founders is an extremely important decision. Long acquaintance or friendship is not a sufficient qualification. Many other factors play apart.

Your venture's chances of success will be considerably better if you ensure that you and your co-founders set about the job as a genuine team. A strong team is characterized by:

- Complementary strengths and skills
- A common vision - everyone is genuinely committed to the success of the company
- Flexibility and willingness to compromise when difficulties arise

- An ability to stick together, even when the going gets rough
- Resilience in the face of setbacks, determination to keep trying

There are teams and teams. Often a so-called team is no more than a group of individuals, and the members' collective performance is no more than the sum of their personal contributions. A true team adds up to more than the sum of the parts but this requires the right line-up and working methods.

3.3.2 Putting people first

Devote a lot of your energy to assembling a trusting team. Investors will be far more impressed by people who are committed to an idea than they will be by the idea itself. If you and your team are halfhearted about your idea, why should an investor believe in it?

Personality, professionalism, interpersonal skills and commitment on the part of the initiator and his/her team account for as much as 80 percent of the investor's decision for or against a project.

This is why it is particularly crucial for a team to send the right signals in the initial phase. Someone who is unable to gain the enthusiasm of a group of people for an idea at an early stage may have trouble later on attracting customers to it. Someone who lacks the interpersonal skills to carry his staff through the uncertainties of the start-up stage may subsequently have difficulty in managing a larger company.

3.3.3 Team profile highlights strengths and weaknesses

To prevent "blind spots" in the business development, the composition of your team should reflect the main capabilities needed by the firm as a whole. One way of gaining a comprehensive overview of the necessary skills is to review the organization step by step. The list of human resources requirements will naturally differ from company to company.

With the aid of a team profile matrix (see section 3.3.4, page 29) you can spot possible gaps in the team's know-how when you compare the tasks to be performed with the abilities available. Often, filling these gaps is not an easy matter. Frequently, the necessary contacts will be lacking in one's personal circle of friends (engineers tend to know other engineers, but may not number people with business qualifications among their acquaintances). Hence, you

need to expand your network to identify additional team members. Finally, team members can learn new skills by attending training courses (entrepreneurship, management, etc.).

3.3.4 Drawing up a profile

You can use the preprinted matrices below to draw your team profile. You should set about this as follows:

- Score each team member (A-E or more) from 0 up to 4 according to the extent to which he/she possesses the ability in question.
- Enter the maximum score on a given line in the "max" column.
- Use a red pen to enter the maximum scores as dots in the right-hand column for the profile curve.
- Link up the dots to form a profile of your team (“red”).
- Calculate the averages for individual lines and enter them in the ∅ column.
- Use a green pen to enter dots for the average scores in the right-hand column.
- Link up the dots to obtain a profile of your team's average abilities (“green”).

Once this profile has been completed you can analyze the results:

The **red** profile is particularly useful as a guide to the weaknesses of your team. Dips here (scores lower than 3) show that the skill in question is completely lacking; peaks in the line show that the skill is present. You should be looking for a line between 3 and 4. This means that at least one team member is sufficiently able in the area concerned.

The **green** profile gives you a picture of your team as a whole. Peaks in the line indicate common strengths, a line down the middle points to a well-balanced team, and dips show that perhaps only one team member has the skill in question. This is where training for the other members may be helpful. The aim is a line that does not fall below a score of 3.

When expanding your team, you can assess candidates in the same way. At the very least, the profile of the potential team members should spike in the areas where your team has weaknesses. An alternative could be to compensate for weaknesses - particularly overall team weaknesses (green profile) - by means of training.

You can also use this profile, or a similar one, for your business plan. It will give a clearer picture of the step up of your team than a written account.

Team profile entered by _____ on _____

		A	B	C	D	E	max	∅	0 1 2 3 4
Technical expertise	Research								
	Technology								
	Development								
	Routine work								
	Quality enhancement								
	Information procurement								
	Project organization								
General skills	Visualization								
	Presentation								
	Creativity techniques (brainstorming etc.)								
	Planning techniques								
	Project management								
	Spreadsheet calculations								
	Word processing								
Business skills	Bookkeeping								
	Cost accounting								
	Finance								
	Marketing								
	Sales								
	Cost-consciousness								
	Budgeting								
Management skills	Empathy								
	Persuasion								
	Negotiating skill								
	Ability to get things done: technical								
	Ability to get things done: Teamwork								
	Motivation								
Intellectual capabilities	Abstraction								
	Judgment								
	Gen. Creativity								
	Innovativeness								
	Foresight								
Social skills	Relationships								
	Manner								
Summary									

3.3.5 The founders and their shares

Few founders of companies are in a position to employ and pay the team members (co-founders) they need at market price. Often they compensate the lower wages they pay by giving out shares to employees. To prevent disappointments on who gets how many shares for what, it is a good idea to establish a clear idea of the ownership of the start-up at an early stage. The team of entrepreneurs should agree on this before entering into discussions with investors. A good approach to deciding on the relative shareholdings is to look at the previous and future inputs of the founding team members. For instance, the "inventor" of the idea and the future chief executive should have higher shareholdings than other members.

3.3.6 Introducing the team

Forming and strengthening a team of entrepreneurs marks a big step forward. Make sure that potential investors get to know your team, its motivation and dynamism. For instance, you could provide the following types of information to highlight the members' abilities and its collective strengths:

- **The team as a whole:** Discuss team members' complementary skills, show evidence of their ability to work and stick together even when the going is rough, proove the personal commitment shown by the team, the ownership structure outline and the roles of individual team members. This is also an opportunity to present your team profile, so as to show how the responsibilities are divided, and which slots remain to be filled (the investor at whom the plan is aimed may even be able to help here!).

- **Individual team members:** Major milestones in their careers, such as their educational background, professional training, practical experience, foreign experience, employment record including management experience and activities demonstrating their abilities as communicators: Also, if relevant, indications of special talents might be added. Keep these profiles brief, a maximum of a third of a page per team member is sufficient you can include full CVs as an annex.

Your team for the competition

What do you do if you have a good business idea, but your team of entrepreneurs is not complete in time for the BOB business plan competition? The right approach is to describe the present team, and compare it with the range of talents you will need to assemble. What needs to emerge is your ability to assess your team's strengths and weaknesses realistically and to take the necessary steps to add to its expertise.

It is worth remembering that an important reason for taking part in the competition is the opportunity to network with like-minded people. Who knows? Perhaps this is how you will find the missing team members. Comparing team profiles might be a help.

Management Team Checklist	✓
Who do you have on your team?	
What are their strengths and weaknesses?	
What does your team profile look like as a whole?	
Are there any gaps or particular strong points?	
How well matched is your team as a whole?	
Are the capabilities roughly evenly distributed?	
Are you aware of the weaknesses of your team?	
Do you know how to compensate for these?	
Why do you and the other founders want to work for yourselves?	
Are your motives and aims really the same?	
Is the division of roles in the team clear?	

Has the ownership structure been clarified?	
Is there an exit scenario for members who want or need to leave the team?	

Practical advice for team building

- Pictures of the team members will help investors to get a better impression of the team.
- CVs belong in the annexes to the business plan. They should show your team in a good light, but not make exaggerated claims.

3.4 *Market and Competition*

This and the following chapter ("Barriers to market entry") provide your potential investors with the probably most significant basis for their investment decision. Take your research in the course of preparation very seriously and take your time. Be as thorough as you are used to being in the course of your scientific endeavors, such as performing research in "PubMed". If unavoidable, you should be prepared to buy information (e.g. from market research institutions) or consult a patent attorney. You can only gain from the data obtained, it will focus your attention and help you define your future strategy better.

Your company can only be successful if the market is receptive to your product. A good understanding of the market, of the customers and their needs is the foundation of the success of any business. It is the customers that justify a company's existence. Ultimately it is they that determine whether and to what extent your company will be successful by deciding to purchase your product or service. They will only buy your product if they expect greater benefits for themselves than they would derive from opting for a competing product or foregoing the purchase. Consequently, you must also analyze your competition. You have to convince the investor that your business idea has a market, from which you can ultimately make a profit.

In addition, the investor will want to make sure that you can fulfill its expectations in terms of the growth opportunities presented by the venture. Here it is important that you make clear, logical statements about the attractiveness of the target market and give a realistic assessment of the strength of your position vis-à-vis the competition.

In this chapter you will learn:

- How to define your market
- How to assess your competition

3.4.1 Defining your market

It is relatively easy to define an existing market to which you want to offer an "improved" product. There will be statistics including time series, industry reports by associations, market studies by business consultants, and annual reports published by market players. Such materials can also be obtained from Tecnet at Austria Wirtschaftsservice for payment of reduced rates for start-ups.

Fortunately, the internet offers an immense abundance of data and information. **Table 1** offers you several useful websites. As a general rule when searching for information, keep in mind: practice makes perfect.

The task is more difficult for innovative companies that have invented products for entirely new applications particularly in the fields of life sciences and chemistry. First you have to either find or create your market. In this case you have to infer the market's size and growth potential. You will probably undertake market research of your own by interviewing potential customers or opinion leaders, and by using basic data, e.g. from the Central Statistical Office on demographic and social trends. In addition, with the aid of relevant publications in scientific databases you can get an idea of the current trends and potential target market.

Table 1: Internet links market analysis

Internet Address	Type of information	Costs[2]
INDUSTRY ORGANIZATIONS		
www.bio.org	Biotechnology Industry Organization (USA)	n
www.phrma.org	Association of US pharmaceutical companies	n
www.bioindustry.org	Bioindustry Association, BIA (UK)	n
www.biotechindustry.at	Association of Austrian Biotechnology firms	n
www.pharmig.at	Association of Austrian pharmaceutical companies	n
www.fcio.at	Association of Austrian chemical industry	n
portal.wko.at	Austrian Federal Economic Chamber	p
INDUSTRY NEWS		
www.biospace.com	Clinical trials, industry news	p

[2] n: free, y: fee required, p: partially fee required

Internet Address	Type of information	Costs[2]
www.windhoverinfo.com	Healthcare industry news	y
www.bioprtfolio.com	Life Science/Pharma Industry news	n
www.biocentury.com	Industry news and weekly newsletter	y
www.bioworld.com	Biotech news and information	p
COMPANY INFORMATION		
Annual reports are published by publicly listed companies (Investor relations section)		
www.hoovers.com	Company databank	p
JOURNALS		
www.genengnews.com	American industry journal „Genetic Engineering News“	n
www.biocom.de	German-speaking Life Science industry journal „Transkript“	n
www.chemiereport.at	Austrian Chemical/Life Science journal	n
www.devicelink.com	Industry journal – medical devices	n
http://www.boerse-express.com/	Austrian stock market news, incl. weekly newsletter “Venture Woche”	n
PUBLIC INSTITUTIONS, AGENCIES AND REGULATORS		
www.sec.gov	„Securities and Exchange Commission“, US regulator of all public companies. EDGAR databank contains all annual reports	n
europa.eu	European Union	n
www.help.gv.at	Online help of Republic of Austria	n
www.ris.bka.gv.at	Austrian Chancellor’s office with link to “Rechtsinformationssystem”	n
www.fda.gov	Food and Drug Administration	n
emea.europa.eu	The European Agency for the Evaluation of Medicinal Products	n
www.cdc.gov	Centre for Disease Control	n
www.nih.gov	National Institute of Health	n
www.who.int/en	World Health Organization	n
STATSTICAL/MACREOECONOMIC DATA		
www.statistik.at	Central Statistical Office	n
ec.europa.eu/eurostat	EUROSTAT	n
www.oecd.org	Organization for Economic Cooperation and Development. Look for biotechnology section.	n
www.eiu.com	The Economist Intelligence Unit	p
VENTURE CAPITAL		
www.evca.com	European Venture Capital Association	n
www.avco.at	Austrian Venture Capital Organization	n
CONSULTING FIRMS		
www.mckinsey.com	McKinsey & Co	y
www.bcg.com	Boston Consulting Group	y
www.ey.com	Ernst & Young; published yearly biotech industry report “Beyond Borders”	y
MARKET RESEARCH REPORTS		

Internet Address	Type of information	Costs[2]
www.marketresearch.com	Lists professional market reports	n
www.the-infoshop.com	Lists professional market reports	n
www.ims-global.com	Professional market reports	y
www.imshealth.com	Professional market reports	y
www.datamonitor.com	Professional market reports	y
www.freedonigroup.com	Professional market reports	y
www.frost.com	Professional market reports	y
www.qxhealth.com	Professional market reports	y

The following definitions will help you to systematically analyze the market for your product: The **market size** or **volume** is the sum of all solutions to a given problem sold by all competitors. Here again, we are faced with the problem of defining the core benefit and the customer. To take the example of the electric drill, here the market size can be the sum total of all electric drills sold, but could also be the total of all electric drills, percussion drills, hand drills and other like tools. The market size tells us how much business there is to be done. The market volume is usually defined as the total turnover of a given **industry** (see our definition of benefits) expressed in Euro. In those markets that are essentially defined by a product type (e.g. cars or basic chemicals), the market size is also defined in terms of the total volume sold, e.g. by units or tonnage. In any case make sure you concentrate on relevant markets. Overstated data derived from irrelevant markets will not make a good impression to investors.

Market growth is usually expressed as annual absolute or percentage revenue or volume growth.

The **market potential for your product** consists of the total volume of, or revenue generated by your product or service that is theoretically possible in a given year. In the case of a treatment for Alzheimer's disease for instance, this would be all cases around the world times the prescribed annual dosage of your medication. But as your medication will not be prescribed to all Alzheimer's sufferers, and some will not be able to afford it, what really counts is the **attainable market potential,** i.e. the total prospective annual sales. The attainable market potential will always be smaller than the total market potential. For some industries and products historical figures can be used as a reference, otherwise you will have to rely on estimates.

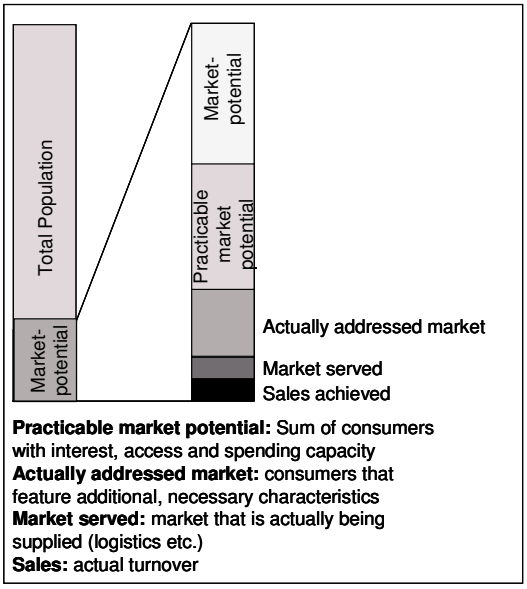
Your **market share** is defined as your total sales relative to the volume of the market as a whole, or your total budgeted sales relative to the attainable market potential for a coming year. In other words it is that share of total turnover that is or will be claimed by your company. The size of this share will depend on the strength of your competitors. Here again, you have to rely on estimates, but can also make comparisons on the basis of historical figures.

Figure 3: Market parameters

	Volume	*Potential*
All companies	**Market volume** Sales generated by all	**Market potential** Market volume + Potential customers + Customers w/o
One company	**Sales volume** Sales generated by	**Potential sales** Sales volume + Customers that can be

Additionally, find a summary of the context between potential, achievable potential and the actually used market in figure 5 below:

Figure 4: Market potential



3.4.2 Market growth and market life cycle

Market growth is generally defined as **CAGR**the compound Annual Growth Rate in form of a certain percentage.

Being aware of the growth rate of a market can have a considerable impact on strategic issues. Generally, four phases can be distinguished in the life cycle of a market: introduction, growth, mature market and downturn (see **Table 2**). Regarding competition, barriers to market entry and pricing markets in an introductory or growth phase are easier to supply. Consider this in your business plan!

Example: Deducing market potential

In order to assess the market for a new vitamin preparation, one could conduct studies on vitamin deficiency or conduct consumer surveys. This research might show that about one in ten consumers is potentially interested in the vitamin preparation, meaning that the **market potential** is 10% of all consumers (in a population of ten million this would amount to a market potential of one million people).

But it is not enough for a consumer to express an interest in a product without realizing it - the consumer must also have purchasing power. Furthermore, the product must be obtainable, e.g. available at a nearby chemist's. Thus, not all potential customers can be reached, which means that the **attainable market** is still smaller (perhaps 40% of the market potential, hence 400,000 customers).

In addition, the product could compete with other preparations. Assuming that the other preparation is taken by 20% of the population, the **addressed** or **qualified attainable market** in this example thus consists of only 320,000 customers.

As an entrepreneur you may decide not to supply certain sales territories owing to such factors as exchange rates and trade barriers. This would make the **actual market served** even smaller - say, 250,000 people.

Finally, not all of these potential customers will actually buy the product - the **actual sales** might be reduced to 200,000 people. Often, it is this last figure that is used to define the market for the product.

Table 2: Market life cycle

	Life cycle phase			
Characteristic	***Introduction***	***Growth***	***Mature market***	***Downturn***
Market growth	> ?% GNP.[3], small quantities	> ?% GNP, large quantities	~ ?% GNP	< ?% GNP
Product technology	Highly innovative.	Emphasis on product variations	Small innovations based on balancing cost cutting vs. improvement	Small amendments to product
Production technology	Flexibility dominates	Production flow is specialized	Efficiency dominates, specialization	Small amendments to production technology
Price	High, but strongly fluctuating	Pricing drop due to growing competition	Gradual decline in prices due to decreasing expenses and increasing productivity	Low and stable
Advertising	Innovators act responsively, rising awareness	Brand establishment	Splitting of the market into segments	Market limitation
Market entry and exit barriers	A few pioneers investigate the market	Strong growth attracts an abundance of companies	Saturated market leads to market adjustment	Few survivors supply the market
Competition	Limited, focused on production	Growth can conceal the success of competitors	Peak	De-escalation
Investments	Substantial	Growth financing	Simple investments	Sale of corporate assets
Profitability	Unprofitable	Profitable, but negative cash flow	Sinking profit, positive cash flow	Low profits, small positive or negative cash flows

3.4.3 Competitors analysis

Anyone who wants to supply the market with a product will be faced with competition. In order to take on the competition you have to find out who the most important players are in the market, how their products, innovation and production costs differ from yours, what market share they hold, how they operate and what their strengths and weaknesses are. And you have to gauge whether another competitor may enter the market with a similar product

[3] GNP, Gross National Product: Overall income of a national economy.

and how that would affect the success of your business. Above all, you have to ask yourself whether your idea could be copied by other companies and, if so, how long that could take. Furthermore, you need to take care to protect your ideas against imitation by other firms - patents, etc. have already been mentioned above.

In analyzing market volume and core benefit it was already pointed out that various products may create the same core benefit (as with an electric drill, percussion drill, nail, etc.). So, in addition to existing and potential competitors, you will also have to devote some attention to **substitutes**. These are products and technologies that provide the same or similar customer benefit in another way, as is the case with railways and buses.

Thus, your analysis of the competitive situation will have to be somewhat broader, factoring producers of substitutes into the equation.

One of the keys to effectively analyzing the competitive situation is to scrutinize your competitors just as carefully as you do your own company. In addition to examining your competitors' product portfolios and catalogues public research reports can also help you in assessing a competitor's business activities. The financial statements of public companies are easy to obtain and can reveal a great deal about a competitor's liquidity and financial room for maneuver. And you should not forget the possibility of forming strategic alliances with competitors.

The most important points to address in analyzing potential competitors are:

- Their product ranges
- The advantages and disadvantages of their products in comparison with your own
- The potential additional benefits offered by their competing products and the possibility of combining these with others
- Their market shares
- How long they have been in business, and the value of their brand awareness
- Their appeal to customers relative to all other market players (customers easy or hard to poach)
- Their innovative capabilities (stick to established products or have a major development effort ongoing and frequently launch novel products)

- The size of their research departments and of their marketing and advertising expenses
- The strength of their balance sheets and earnings figures
- The history of the competing products (you can learn a lot from this for your own business)
- Their recent acquisitions

Of course, there are many other points that could help complete the picture. Just try to examine your competitor as carefully as you can from every possible angle. A precise analysis can furnish numerous points of reference for your other estimates and plans, as well as showing that you have examined the market in depth.

Getting estimates right

Estimation is an integral part of planning and decision-making processes. It is extremely rare to have all the facts and figures needed to be sure of making an absolutely right decision. This is especially true when it comes to estimating the size of the total market or customer segment.

Those who work in the natural sciences are used to dealing with exact figures. But in market analysis it is more common to use estimates based on plausible assumptions to reach a reasonable approximation rather than to calculate to the fifth decimal place a purportedly precise number, which simply cannot be correct owing to the uncertainty surrounding the assumptions. It is better to have an estimate with known risk factors than a precise figure that is devoid of a realistic background or involves undue expenditure of time and money.

Here are some advices for making estimates:

1. Build on firm foundations: True, there may be many unknowns, but if you rely on figures that are easy to verify, e.g. those obtained from statistical offices, your estimates will have solid foundations. It is essential to say what your assumptions and estimates are based on in the business plan.

2. Logical methodology: It should be easy to trace the logic behind an estimate, meaning that you argumentation should not jump around or be based on unnamed assumptions. Again, it is essential to justify all assumptions.

3. Compare sources: Whenever possible, verify information by using a variety of sources. In particular, market studies and survey data can often be obtained from different institutes.

4. Creativity: The best way from A to B is not always a straight live. If a variable is unknown, look for substitute variables related to the unknown magnitude.

5. Verify plausibility: Does the result really make common sense?

6. Check the coherence of the case you are making again: Will the unknown investor understand how you arrived at your assumptions?

Market Analysis and Competition Checklist	✓
Do you know what your market is?	
Who are the potential buyers and end-users for your product?	
What is the market volume today? What will it be in the next five to ten years?	
What are the assumptions behind your estimates?	
How could the market volume develop in the long term?	
Who are the main competitors?	
What are their products compared to yours?	
What is the financial standing of your competitors?	
What are your strengths and weaknesses?	
How large are competitors' market shares?	
How strong is the competitors' hold on the market; how loyal are their customers?	
How fast would competitors be able to imitate your idea?	
What market shares can you/do you want to achieve?	
Under what conditions?	

3.5 *Barriers to market entry and patentstrategy*

Successful products and profitable businesses usually attract imitators. This competition almost inevitably leads to a reduction in the originator's market share and as a result to dwindling profits. To prevent this, one should at the earliest possible opportunity consider how to build effective barriers to entry in order to prevent potential competitors from entering the new market one has created.

In life sciences and chemistry patents play a crucial role in this respect, which is why we put so much emphasis on them here. If your product is not readily patentable or if you intend to offer a service, you should describe briefly in your business plan the barriers you intend to use to keep the competition at bay, as well as your strategy for breaking into or building a market.

In this chapter you will learn:

- Which market barriers or strategies (apart from patents) you can deploy against the competition;
- How you can use technology analysis to develop a patent strategy tailored to your needs.

3.5.1 Designing a strategy to keep the competition out

The analysis of potential competitors has already been discussed in detail in earlier chapters. Of itself, of course, competition is the spice of economic life; it enlivens the market and stimulates innovation, but how does one cope with it in practice?

When you found a company you are either creating a new market or entering an existing one. In both cases, you naturally need to consider how you will tackle the existing competition and how will protect yourself against future entrants.

You need both to develop a **market entry strategy** and to create **barriers to entry**. A well-designed market entry strategy can serve at one and the same time as a barrier to competitors and as a way of overcoming a competitor's barriers. It is important to explain in your business plan how you intend to put clear water between yourself and the competition. You may have already come up with many of the answers in your marketing strategy, but you will still need to spell it out.

Some typical situations and strategies that you may encounter in the marketplace are described below.

3.5.1.1 Niche strategy

As in all sectors, there are numerous businesses and individuals in the biotechnology industry that specialize in particular niche markets. They deliberately refrain from addressing the whole market and concentrate on their chosen segments. This approach is particularly suited to small businesses because it enables them to make efficient use of their limited resources. (Beware: small units of large firms often cover niches, and must be considered in a competitor analysis).

By adopting a niche strategy, you can make good profits even from a small market share. A major advantage of this strategy is that the supplier knows his small group of customers better than his competitors who address a wider market, and can better respond to their needs. The niche product or service represents significant added value for its customers because it is specialized, and it will hence command a premium price and thus higher margins.

Niche marketers can choose to pursue different variations of this strategy:

- **Specialization in an end use:** Concentrating on a particular application of the product.
- **Specialization in a particular part of the distribution chain**: For example, operating as middleman, broker, supplier of raw materials, logistics sub-contractor, etc.
- **Specialization by customer size:** For example, supplying small businesses, or only hospitals above a certain size. Concentrating on relatively neglected small customers can be particularly rewarding.
- **Specialization in a given type of customer:** This occurs mainly in relation to sub-contract research for a very restricted circle of customers.
- **Product specialization:** The business concentrates on a single product or a very restricted range of products. This is typical of the early phases of new ventures. If the business subsequently expands, one should not forget the possible need for a change of strategy.
- **Quality specialization:** It is possible to target products at particular quality or price niches.

- **Services:** Many new ventures partially or completely specialize in given services.

Niche marketers can also profitably choose to combine several niche strategies.

Niche strategies are however not without risks: there is always the danger that a niche market will disappear or that the competition will invade your niche. Planning well ahead and continuing product development are the best defense, together with occupying several niches.

3.5.1.2 First mover advantage

This is where market players deliberately exploit their position as market front-runners. Let us examine the example of L'TUR, the last minute travel agency that was the first to exploit the possibility of branding the unutilized capacity of tour operators and selling it cheaply. By the time that others entered the market it was hard to attack L'TUR's dominant position. This type of strategy often leads to market leadership. An organization that opens up a new market profits from any subsequent enlargement of the overall market due to the efforts of its competitors. It will therefore also try to expand the market itself. The expansion can come from attracting new customers to the product or by stimulating increased consumption.

First movers are facing on the other hand higher risks as thea have to bear thhe costs of establishing new markets. Suppliers of probiotics for instance follow both strategies, attempting to raise consumption through advertising, and to attract new users by emphasizing the health aspects. First movers with well established brands in this market also benefit from the communication activities of their competitors.

3.5.1.3 Technological leadership

This strategy is similar to the first mover approach and may also result in market leadership. The main aim is to establish one's product as the standard for the whole market. In the 1970ies, for example, CPI successfully introduced its new lithium technology pacemakers (first mover in this market). The market leader, Medtronic, wanted to reap the full benefits of its existing product range and delayed investment in new technologies. This delay allowed CPI to capture market shares with its new technology and take over as the technology leader. "Leadership" in this context does not need to mean that the technology is the newest or the

best in the market: market penetration alone may be enough. There are many instances of technologies that were not the best, but still won out: take the triumph of VHS over the Beta system, for example.

3.5.1.4 Product differentiation or cost leadership

Like technological leadership, product differentiation can be used to sideline the competition as an identical product can only be successful at a lower price. However, market leaders often react to low price strategies by immediately cutting their prices, so that the competitive advantage of the new entrant disappears. A solution to this kind of price war could either be a reduction in production cost or an increased investment in marketing activities.

In principle, these strategies are similar to those of niche marketers (Section 3.5.1.1., Page 44), with the difference that the target market is less restricted than in the case of a niche supplier.

3.5.1.5 Economies of scale

Established organizations usually have volume advantages leading to lower production costs over new ventures, so that the latter are obliged to take approaches other than price leadership, such as product differentiation. Hence, new ventures often need to create new markets and in the process they can establish barriers that will be difficult for imitators to breach.

3.5.1.6 Free riders

This is a way of circumventing the problems mentioned above. A new venture avoids head-to-head competition with the market leader. Instead it exploits its pioneering role by offering new products that resemble the market leaders' but are superior in a few respects.

Providing similar products with better documentation or additional software is an example. If you adopt this strategy, **be particularly careful not to infringe patents or other protected rights.**

Challenging existing organizations

As a new market player you need to consider carefully how to overcome or circumvent existing barriers. The most successful new ventures use the barriers to entry erected by the market leaders to the latter's disadvantage. As the examples show, the trick is often to exploit the inflexibility of existing organizations.

There are various strategies for attacking established businesses:

- Head-on challenge: The challenger attempts to be better than the competition in all respects - quality, price, availability, etc. To do this, the challenger needs to have more resources. A good example of this was Google´s assault on Microsoft Internet Explorer.

- Flanking attack: Here the challenger attacks the weak points in the competition's defenses. Thus Airbus successfully challenged Boeing by concentrating initially on planes with different specifications (range, payload, etc.).

- Encirclement: In this case the competition is forced out of the market by the speed and sheer mass of the attack. All customer groups are addressed and offered a wide range of differentiated products. The competition may not be able to stay the pace.

- End-run: This is comparable to the technology leadership strategy. The next product generation is developed in secret (e.g. analysis software) and as soon as the new product is launched, existing suppliers are replaced.

If you create a **new market** yourself, you must keep checking that the barriers you have erected are high enough to keep the competition out. However long a firm has been on the market, it will still need to defend its position against new players who will often have better skills and who may add new dimensions to competition. Regular monitoring of the competition is the essence of market leadership or a successful niche strategy.

3.5.2 Patents – essential market entry barriers in the life sciences

Companies operating in the life sciences and chemistry need to invest very large sums in product development. It is not unusual for research costs to amount to several million Euros, so that over a period of years very high losses are accumulated.

However, the value of the results of the research can compensate for this. In order to be in a position to realize this value, an organization can protect its inventions. Were it not for such legal protection, a competitor could simply copy the newly developed product and sell it at a much lower price, because of not having had to bear the costs of research and development.

The most elegant method of keeping competitors at bay is the patent, which serves to protect the inventor's market position and is in effect a temporary monopoly.

During the formation of a new venture and in its early phases of growth, the patent is useful in a second way: it greatly increases the willingness of a venture capitalist to invest in a business or an invention. Under certain circumstances, patents, industrial property rights, inventions not legally protected and other business advantages (sometimes including trademarks) can be included in the balance sheet of the organization as assets. For this reason entrepreneurs should consider in the early stages which patent strategy they wish to employ in order to protect their product and commercialize it. Six factors should influence your choice of patent strategy:

- Technology analysis
- Consolidating your patent position
- Securing freedom to operate and developing a licensing strategy
- Patent portfolio management
- Ongoing patent and technology monitoring
- Monitoring infringements of rights

The first three to four factors need to be dealt with in the start-up phase, while the others usually only become of importance when the business has actually gained a foothold on the market.

Patents

A patent gives its owner the exclusive right to exploit an invention commercially for a limited period, generally 20 years, so that the owner has the right to prohibit others from commercially exploiting the invention. The patent is valid only in the jurisdiction of the country that granted it. There are a number of different ways for patent holders to exploit their invention:

- They can produce, distribute and sell the patented products themselves,

- Alternatively, they can leave their patents unexploited, with the idea either of exploiting them later on, when a market has developed for the inventions, or of using them as "blocking patents" to make it more difficult or impossible for competitors to enter a certain market segment,

- The holders of patents can grant licenses, sharing their rights and thereby earning licensing fees,

- Finally, patent holders can sell their patents,

Trademarks

Trademarks are also important. A trademark establishes a direct link between a product and its producer, and can be of very great value. Like patents, trademarks are intellectual property rights and are the concern of the patent agent or lawyer. Once you have found the right name for your product or technology, you should definitely have it protected.

3.5.2.1 Technology Analysis

The result of the analysis should be an overview of the state-of-the-art in the technology and a detailed knowledge of the competition's relevant patents. In addition, as many as possible of the key patents held by third parties which are in the widest sense in the same area as one's own inventions or planned projects should be identified. For the analysis, the following are useful:

- Literature searches and participation in specialist conferences
- Patent searches in the patent offices' databases on the Internet[4]

[4]USA: www.uspto.gov, EPA: www.espacenet.com

- A professional patent search, e.g. by your patent agent or at the patent office (free to Austrian diploma/PhD candidates)
- Evaluation of the results in conjunction with your patent agent.
- aws Consulting / Patent Research

A good technology analysis will both identify the technology leader and reveal the extent to which one is dependent on other patents (restriction of "freedom to operate"). It can also identify competitors who are infringing one's own patents.

Businesses active in the life sciences and chemistry often need to operate internationally. Where this is the case, patent analysis needs to be carried out for all the countries in which one wishes to operate or in which the product is to be sold. Information on this is available from patent offices or patent agents.

3.5.2.2 Consolidating your patent position

An invention can only be patented if it is truly novel. If an invention has already been published, it counts as an established technology and can no longer be patented. Where and by whom the invention has been published is irrelevant: for this purpose "publication" means making it known to any person not bound to secrecy. Presentations, lectures and publication in trade journals are definitely damaging to novelty, and for this reason you should not forget to enter into *confidentiality agreements* with partners.

Note:

Discussions with BOB experts naturally remain confidential. By entering the competition, you do not risk damaging the novelty of your invention.

Protecting one's own patents involves:

- **Filing patent applications as soon as possible (first to file principle):** The date of first filing establishes priority in respect of similar patents filed subsequently.

- **Covering all aspects of the technology/product/value chain:** This means that every aspect of an invention should be protected, which sometimes involves separate patents.

- **Filing follow-up patent applications:** Most importantly, subsequent applications filed in other countries within a year of the original filing are deemed to have been filed with the original priority date (for Patent Cooperation Treaty [PCT] filing, see section 3.5.2.4).

- **Analysis of patent application loopholes (one's own and those of others):** This helps one remedy one's own weaknesses and identify the weaknesses of others.

- **Closing the loopholes** with additional patent applications and in cooperation with third parties.

3.5.2.3 Securing freedom to operate and developing a licensing strategy

If the patent analysis has revealed that one is infringing patents or property rights belonging to others, this is no reason to throw in the towel at once. Organizations often own patents which are not of great importance to their corporate goals and therefore are of no great strategic interest to them. In such cases an agreement can often be reached, which might take the form of:

- Taking out a license/cross-licensing
- Purchase of the industrial property rights
- Cooperation
- Legal action (e.g. appealing the award of the patent)

Moreover, there may be a loophole in the competitor's patent, so that one's own relevant process is not covered. Careful research with expert assistance is often helpful. The same applies to loopholes in one's own patents open to exploitation by competitors.

It can also prove rewarding for you to license out your idea, thus increasing your profits, so you should give this option serious thought.

Types of licenses

- Non-exclusive or simple license: The licensor grants licenses to several licensees.

- Exclusive license: The license award excludes others - including the licensor - from the exercise of the rights protected. This can be part of a successful patent management strategy.

- Sub-license: If authorized by the original licensor to do so, the licensee grants a sub-license to a third party.

- Cross-licensing: If two inventors find themselves blocked by each other's patents, they can grant cross-licenses. In some countries, cross-licensing is even legally enforceable.

3.5.2.4 Patent portfolio management

A patent portfolio is a bundle of patents functioning together to provide protection against competition. One patent alone is no longer sufficient to give any real protection against imitators. Where possible, it is therefore advisable to patent an idea different levels. Thus, with a chemical compound one can patent the compound itself (substance protection), the method of synthesis and production (process patents) and product applications (applications patents). A good patent portfolio limits the opportunities for competitors to find clever ways of circumventing the original patent.

For effective portfolio management it is helpful for the inventor and the patent experts to meet frequently to discuss current problems arising in relation to projects and property rights. This can help make clear whether a project is necessary for the protection of strategic patent interests, in order to close a loophole in the patent portfolio.

Finally, good patent portfolio management can save costs. A PCT application, for example, which is an international patent application, permits the postponement by up to 30 months of patent applications abroad, thus delaying the high cost of translating the patent into the relevant local languages.

3.5.2.5 Ongoing patent and technology monitoring

Once the business is established on the market, procedures should be put in place to ensure that the relevant areas of technology are kept under permanent observation, in order to identify new developments at their early stages. A "technology watch", as it is often called, involves monitoring both competitors' new publications and patents and the legal status of one's own patent applications and patents. This work can well be delegated to the patent agent or to patent information centers. In addition, one should always keep an eye on emerging technologies which, though not in exactly the same field, may have the potential to provide similar customer benefits (technology scouting).

3.5.2.6 Monitoring infringements of rights

Patent rights are **exclusive rights**. The inventor has an economic interest in identifying infringements and using a patent agent or lawyer to assert his/her rights.

3.5.2.7 Application strategies

As a general rule, filing a patent involves the publication of the invention. If such publication is not desired, keeping the invention within the business as a trade secret is advisable. On the other hand, however, the opposite may be desired. By publishing an invention (e.g. in a scientific journal) it enters the public domain and competitors are deprived of patenting the invention themselves! This particularly applies if the relevant technology cannot be imitated due to a lead in know-how or an insufficiency of investments: no one needs a patent for themselves!

Market Entry and Patent Strategy Checklist	✓
Which market entry strategy will you select?	
Can you occupy market niches or define industry standards?	
How do you intend to protect yourself against imitators and competitors?	
Can you protect your business or product idea?	

What kind of protection do you envisage (copyright, patents, trademarks, registered designs, etc.)?	
How extensive should the protection be (on a market by market basis, AT, EU, the Triad, globally, etc.)?	
Which existing patents cover rights in the same areas?	
Do they have loopholes? Do your patents have loopholes?	
How different are your patents from existing ones?	
Do you enjoy freedom to operate?	
How do you intend to consolidate your patent position?	
Do you need to acquire licenses?	
Do you intend to grant licenses under your own patents?	
What is your long-term intellectual property strategy?	
What are your rough estimates of the size and timing of patent and licensing costs?	
What profits can be expected from your licenses?	

3.6 *Marketing and Distribution*

Satisfying customer requirements and doing it better than the competition must be every company's central concern. The basic idea behind marketing is to direct all of the company's activities towards achieving this goal. By considering the ideas presented in Chapter 3 on your market and competition, you have already done some of the marketing work.

Marketing is not an exact science. Nevertheless, this chapter will help you take a structured approach to the subject. Specifically, you will learn:

- How to select and evaluate your target market

- How to position your product
- What marketing tools are available and how to use them

3.6.1 Choosing your target market

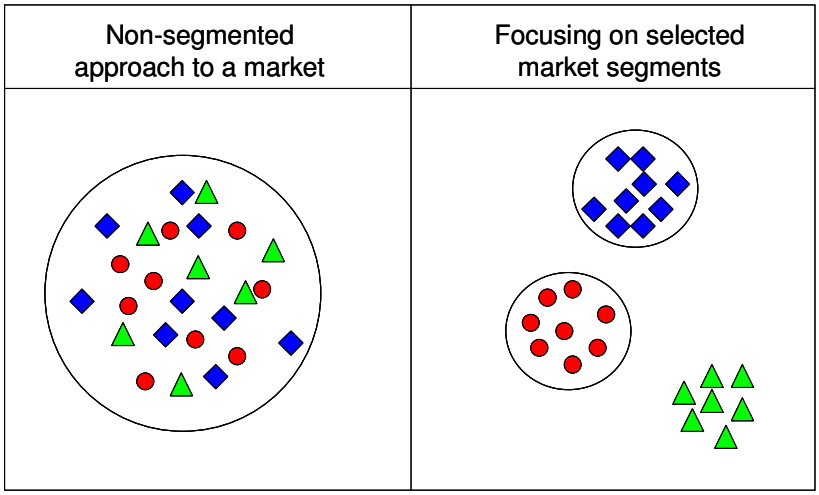
Your business idea will not be equally appealing to all potential customers, because their needs will differ. So you have to detect the group of customers within the market that would benefit most from your product or service, that you are able to reach and that have the willingness to pay for it. This means choosing a target market (the market served) and determining its characteristics. Hence, your business plan has to answer the following questions:

- Who are your potential customers or customer groups ("segmentation ")?
- Which potential customers or customer groups are particularly attractive to you from a financial point of view?
- What market share and turnover can you expect to reach with these customers?

3.6.2 Market segmentation

Your aim is for your product or service to address and satisfy a customer need as precisely and efficiently as possible. As it would not pay to tailor the product and advertising to each individual customer, you will have to segment your potential customers into groups, according to meaningful criteria as illustrated by the following diagram:

Figure 5: Market segmentation



The left-hand graphic depicts an approach whereby the whole market is serviced without making any distinctions. The right-hand graphic shows potential customers divided into groups with common features, so that the marketing strategy can be adapted to suit each group. A customer segment can even be left out. As the smaller size of the circles suggests, the effort (and cost) involved is substantially lower. Thus, successful marketing begins by examining the structure of the market and its possible segmentation, and selecting target segments.

Criteria for customer segmentation

For **consumer goods** (all goods that are sold directly to the end-user) the following are potential segmentation criteria:

Geographical: Country or population density

Demographic: Age, gender, income, occupation, company size, etc

Lifestyle: Techies, greens, generation X, etc.

Behavior: Frequency of product use, type of use, etc.

Purchasing behavior: Brand preferences and price consciousness.

For **capital goods** (goods that are sold to businesses to enable them to produce other goods and services), on the other hand, segmentation can be different:

Demographic: Company size, sector and situation

Operational: Technology applied

Purchasing behavior: Centralized or decentralized purchasing, purchasing criteria, contracts with suppliers, etc.

Situational: Urgency of need, order size, etc

Customer segmentation accomplishes two **objectives**: First it helps you to define the market for your products. One of the worst mistakes made in marketing is not to define the real market for the product precisely enough and consequently to under- or overestimate it.

Second, customer segmentation helps you tailor your marketing strategy to suit each customer segment, thereby increasing its impact. Different customer segments may be interested in your product for very different reasons. Children may like a new toothpaste because it tastes good, whereas parents may prefer it because it is more effective in fighting tooth decay and working parents may like the fact that it is available everywhere. If consumers are segmented into uniform groups according to these needs, appropriate measures can be taken to "position" the product accurately.

3.6.3 Choosing your target segments

The cleverer and more homogeneous the success and risk factors are within a market segment, the easier it will be to develop a tailor-made marketing strategy. The market segments you will want to enter are those that promise to generate the most profit in the long term, i.e. those segments:

- Where the product best corresponds to the customer's requirements, hence the benefit is the greatest
- Which offer the most possibilities to differentiate your product from those of your competitors, in other words where the customer can be convinced the most easily

- Where the market volume, growth and profitability are the greatest, thus the ones promising to earn the highest profits

- Which are known as trend-setters in their industry, and can consequently make a significant contribution to the reputation of your new product

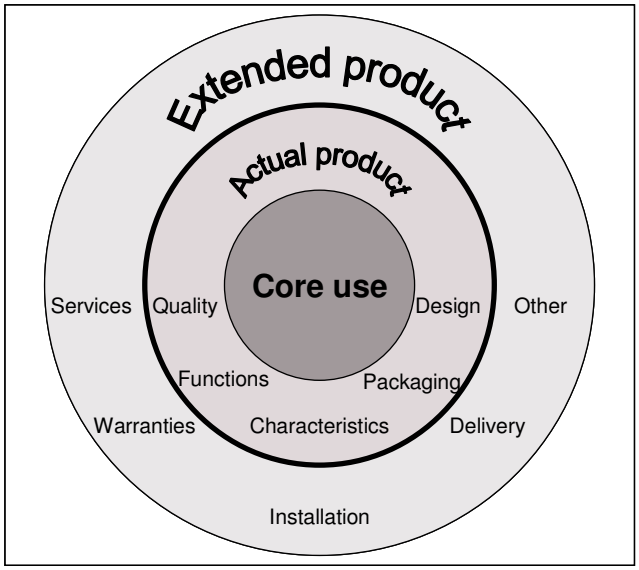
3.6.4 Positioning vis-à-vis competitors

Why should a customer choose your product in preference to that of a competitor? Because your product offers the customer greater rational or emotional benefits! In the case of branded goods, customer expectations are primarily based on the product's characteristics, which are thought always to be the same and thus equally good. As for industrial products, which are more complex and customized and include "service" as well as hardware, the positioning of the seller is also important especially if your product or service is an integral part of the customer's value chain.

When you set out your business idea you were already endeavoring to draw up a unique selling proposition (USP). What you have to do now is validate the uniqueness of this proposition and then firmly lock it in the customer's mind by means of effective communications. The expression used for this is "positioning" a product, brand or company. This is then your image in the market which you should actively mould yourself before others do it for you in their own interests, not yours. Here again, the key is to view your image from the customer's point of view. It is not a matter of presenting specific product features, but rather the benefits that these features have for the customer.

We already used the so-called "core benefit" as a yardstick earlier. Now let's take another look at this criterion as it relates to the product.

Figure 6: Core useand extended product use



A product can be distinguished from the competition's and firmly embedded in the customer's mind (**positioning**) in a positive context in all three spheres of the product, but most frequently this differentiation occurs in the extended product sphere, which is where the additional benefits come in.

You may not succeed in positioning your product convincingly the first time around. You will have to work very hard on it, repeatedly revising your positioning before you finally convert your target audience. Since positioning is so crucial to market success, and hence to the long-term success of your company, it is well worth devoting a great deal of attention to this aspect.

Important aspects of successful positioning

The following points can serve as a guide to position your product successfully:

1. Detect relevant customer needs or problems

2. Define clear, discrete and sufficiently large customer segments

3. Offer a competent range of products and additional services

4. Define the uniqueness of your product by differentiating it from the competitors

5. Continually monitor customer satisfaction after the sale is made

3.6.5 Use of marketing tools

You have made it your company's goal to achieve a specific market share, turnover or image. Now you have to give some thought to the measures needed to accomplish these goals. In general, you will need to use the "4Ps" of marketing: product, price, placement and promotion. To this we add a fifth "P", one that is particularly important for young, research-oriented, innovative businesses: partnering. The instruments are defined by the following questions:

- **Product:** Which features does your product have to have to meet the relevant customer needs?
- **Price:** What price can you charge for your product and what objective are you pursuing in your pricing strategy?
- **Placement:** How do you intend to reach customers with your product?
- **Promotion:** Which communications tools do you want to use to get across the advantages of your product and induce the purchasing decision?
- **Partnering:** Which other companies can you cooperate with to improve your product and achieve a strong market position?

3.6.5.1 Product features

When you came up with your original business idea you had already described the features of your product and had defined your USP. You will also have carefully considered its core benefit and the differences from competing products. Now it is time to look at the design of the final product, its appearance, quality and packaging. After conducting a more precise analysis of the needs of different customer segments you must ascertain whether your actual product truly meets these needs and to what extent it has to be adapted. This raises the

question of whether you want to make a uniform product for all customer segments or adapt it to satisfy the requirements of individual customer segments.

You also have to design the *extended* product. This product sphere may include service. In the case of technical equipment, this would mean product maintenance. To supply consumables for analytical instruments or keep spare parts for complex equipment in stock can also be part of the product.

3.6.5.2 Pricing

When positioning your product, you decided how you wanted to differentiate your product from the competitor's products. When setting a price for your product you should carefully consider the following:

- What price can you ask for your product?
- What kind of pricing strategy do you wish to pursue?

3.6.5.2.1 What price can you ask for your product?

The basis for an attainable price is the customer's willingness to pay it. A classic misconception is the belief that the price is defined by adding together unit production, distribution and administrative costs and then adding a mark-up. Your costs are only relevant to pricing if they are not covered by the attainable price. Of course, costs do play a role in the sense that your profit is the difference between the price and the costs. Ultimately, the objective of any company in a market economy is to maximize its profits.

The price you can charge depends solely on the benefits the customer receives by acquiring your product. This can be analyzed and calculated. In making the purchase, the customer is striving to maximize his/her value gain. This is the difference between the product's positive value and the "negative value" of all the various cost components. Put simply, if the customer saves €100,000 by buying your product and has costs of €50,000, then his/her **financial benefit** is €50,000. However the time saved can also be considered a positive benefit and this is often hard to quantify.

The **attainable price ceiling** will be somewhat lower than the financial benefit to the customer, and the **price floor** somewhat higher than your production costs (cost of goods

sold), and temporarily somewhat higher than the variable production costs. In determining the sales pitch, this "value-based pricing" is a very promising approach.

Fixed costs vs. variable costs

Let's take the example of a simple production line. Maintaining the line costs €500,000 a year and 100,000 units are produced, with the production itself costing an additional €1 per unit.

In this example the total production costs are €600,000. The fixed costs, which are not dependent on the volume produced, amount to €500,000, while the variable costs, which are dependent on the number of units produced total €100,000.

The profit (at a sales price of €7 per unit) is € 100,000. If the price falls to €6 per unit, the revenues will be just barely enough to cover the variable and the fixed costs. The **price floor** has been reached.

If the attainable price should decline to €1 per unit, a unit of production will still not incur a loss, but you will have to find another way to cover the fixed costs.

If the price falls below €1 per unit each unit of production will incur a loss, so your losses will increase in live with output volume.

The variable costs are thus the absolute price floor, while the total costs are the long-term price floor for a product.

3.6.5.2.2 What is your pricing strategy?

Your pricing strategy will depend on the objective you wish to pursue. Do you want to penetrate the market fast by aiming at high sales numbers and pitching your price low ("**market penetration pricing**") or do you want to generate the highest possible revenues right from the start by setting a high price and then gradually lower the price as time goes by ("**market skimming pricing**")? New companies, especially manufacturers of unique innovative products with patents pending, tend to pursue the latter strategy for good reasons:

- Thanks to its patents, a new and innovative product will not yet be exposed to competition from imitators. Consequently, rapid market penetration will not be a matter of life and death.

- For an innovative high-tech product, it is easy to put across the cost advantage for the customer by comparing it with the current state-of-the-art, and as a result customers feel that the higher prices are justified (psychological effect).

Note that it is easy to cut prices, but it is much harder to raise them again!

In contrast to the market skimming strategy, penetration or "barrier" strategies generally require large initial investments to ensure that there is sufficient capacity to meet the greater demand. This increased investment risk and the related *fixed cost burden* should be avoided by a young business with a small capital base. You should also remember that your competitors will normally be better established on the market and may have better distribution channels. Under the penetration strategy, not only does production have to be geared towards large volumes but your distribution channels too.

But if you want your new technology to become the industry standard and you have sufficient financial reserves, the penetration strategy can be effective. By selling large volumes, you are "occupying" the market swiftly by claiming large market shares which a competitor could only win back by making great financial sacrifices. This is a costly marketing strategy, oriented towards the long-term, such as that adopted by Microsoft with MS-Word.

How to determine your pricing strategy

Your pricing strategy is determined by the following factors:

- The customer benefit you offer
- Your costs
- The ratio of supply to demand
- The customer's willingness to pay the price
- The intensity of the competition
- The targets you have set for market shares and turnover

3.6.5.2.3 Placement: Distribution

Your products or services must be physically delivered to your customers. Behind this simple statement is another important marketing decision: How do you want to sell your product, i.e. through which distribution channel? The distribution channel you choose is influenced by several factors:

- How many potential customers do you have? Where are they located?
- Where do consumers usually shop for products like yours (e.g. chemist chains, specialist retailers or via internet)?
- How important is it for you to have direct contact with the market, i.e. the end-user (feedback and market analysis)?
- Does your product need explanation to the customer and after-sales service?
- How large are individual orders? Is your product in the upper or lower price segment?
- Can you afford distribution all the way to the consumer?
- What kind of treatment does your product need during transport? Can it be stored for long periods?
- Can your product be posted? Are there regulations that have to be observed?
- Are there import or export restrictions?

Generally speaking, you have to consider whether it is better for your company to handle distribution itself (direct distribution) or outsource the job to a specialist (indirect distribution):

Direct distribution is your best bet if your product or service is complex, high-priced and requires customer service, or if direct contact with the end-user is important for further development of the products. For companies operating in the life sciences and chemistry this may be the right distribution channel. However, setting up your own distribution system can

be very expensive. If a company primarily manufactures diagnostic or therapeutic drugs it is often better to negotiate a deal with a major international pharmaceuticals company to use its marketing and distribution systems.

Direct distribution via the Internet can be particularly effective as an additional distribution channel for new research and technology companies. In principle, it is possible to sell your product around the world at low cost. However, your e-commerce system must operate properly, because mistakes here can be especially harmful to your business due to the high degree of transparency and contact between customers.

Indirect distribution is the right choice for self-explanatory, less complex products such as branded and consumer goods sold to customers in remote locations, goods that can be stored for long periods and those for which there are many small orders. Even if outside sales agents are able to explain the product and its use and provide assistance in how to use the product, or if your product supplements other products in the agent's own product range, you should still examine this option. Compare the agency's commission costs with the costs of setting up your own sales branch.

The choice of distribution channels has a great influence an your company's organization and business system, as well as the other marketing decisions. In any event, the distribution system must suit the intended positioning of your product. For instance, once you begin selling a homeopathic remedy intended for an organically-minded target group via supermarket chains instead of health food stores, you will have watered down your "natural" brand.

3.6.5.2.4 Promotion: Communication with the customers

Potential customers have to know that your product exists before they can consider buying it. It is up to you to get the word out by communicating (and advertising). The purpose of your communications effort is to attract attention, inform, persuade and engender confidence. Your communication must explain to the customer the advantages (customer benefits) of your product or service and convince them that it meets their needs better than competing products or services and alternative solutions (indirect competition).

In the case of consumer goods, conventional "above-the-line advertising" is frequently used such as print and online advertising, as well as radio, TV and cinema commercials. In the life sciences and chemistry, however, many products are sold on a business-to-business basis, in which case other communications channels make more sense and cost less:

- **Direct marketing:** Direct mailings to selected customers, telemarketing and the internet
- **Advertising in trade, scientific and medical journals (on& offline)**
- **Conferences and trade fairs**
- **Customer visits**

Calculate exactly how much advertising you can afford per unit sold and choose your communications media accordingly. When addressing customers, focus on those who actually take the purchasing decision. Often these are not the group leaders or senior scientists, but rather assistants or even technicians.

Particularly for innovative products in the fields of high tech, chemistry or biotech, it is rarely the purchasing manager that makes the decision. This individual merely does what he/she is told by those who evaluated your products in terms of the technology and costs. As a general rule, these are product developers and production heads, and henceforth you should target them with your advertising messages. These people have a scientific mentality, so your pitch will have to be factual, informative and rationally argued and generally packaged in a manner likely to obtain their approval. Find out first who is authorized to make decisions and then make your advertising decisions.

Do not confuse public relations and advertising

The above promotional strategies are not be confused with public relations, which is just as important, but quite different.

In contrast to above-the-line advertising, public relations (PR) is not concerned with selling a product, but rather with creating a positive corporate image in the minds of so-called "communications groups" - not of customers. So it is a matter of creating a conducive climate of opinion for your business activity.

A few Do's and Don'ts in public relations:

- Constant informal contact with the media can be advantageous.

- Avoid paying for articles - that is what adverts are for.

- Give journalists top priority. If you don't constantly look after them, they will obtain their information elsewhere.

- In most cases the media cannot be bribed - even with small ads.

- Good stories are always in demand. When you have interesting news, offer it to the media (but do not advertise).

- PR can help to shape your corporate identity, as can your employees' behavior in dealings with the public and your environmental policies.

- Even good PR has a hard job correcting a bad image or product.

3.6.5.2.5 Partnering: strategic partnerships in marketing

The idea of a strategic marketing partnership is to help you attain one of the objectives of your company and its marketing plan, whilst also benefiting the partner. Many airlines, for example, form alliances in which the major airlines profit from the regional routes offered by small airlines, while the small carriers, in turn, benefit from being incorporated into an international flight network. The next two examples demonstrate that the - seemingly unattainable - dream of a global product launch that will allow you to see the competition off can be achieved through a partnership.

Achieving market leadership through partnerships: Suppose that you have developed a test kit with which bacterial impurities in drinking water can be detected much more quickly and precisely. You can sell this test kit by distributing it directly to waterworks, where you will face stiff competition from domestic and foreign companies that will try to keep you from entering the market by lowering their prices. In your competition analysis you spotted that there is one big market leader and many small and medium-sized water treatment companies. If you succeed in entering into a strategic distribution alliance with the market leader by landing this company as your exclusive distribution partner (with a time limit, of course) and this company

replaces its own product with yours because it is objectively superior and thus offers a competitive advantage, you will have made it. You will become market leader much faster with your product in the market leader product range than you would have had you started off on your own. You will save yourself the expense of setting up your own distribution organization, while at the same time giving the market leader the benefit of your application know-how, thereby increasing its profits.

The disadvantage lies in the lower margin for your product, which you have to accept owing to the market power of the market leader. Once this partnership expires, however, you will still have the option of selling your product, which has since become well-known, through your own distribution system at higher margins.

Establishing the industry standard through alliances: Suppose that the inventor of a component for high-temperature superconductors (HTSL) faces competition from other technologies and materials; he knows that the market success of his invention depends on whether it is used by the major electrical engineering firms supplying the power stations. If he succeeds in setting an industry standard with his technology that is, in raising it to the status of the state-of-the-art in the eyes of the companies working in the subsequent stages of the value chain he will have achieved a vital breakthrough. So he joins forces with two of the market's leading electrical engineering firms, Siemens in Germany and General Electric in the USA, offering them a development alliance involving free supply of his products in the hope that these two industry trend-setters will exclusively use his HTSL component in the power distribution systems they currently sell to the electric power plants. Due to the large market shares and the excellent reputation enjoyed by these companies, which collaborate with the standardization organizations of all industrialized countries, in future solely the HTSL components of this manufacturer will be authorized, thus becoming the standard. With the help of this strategic partnership, the inventor has succeeded in setting an industry standard that secures his position as the supplier of all manufacturers of current power distribution equipment.

Marketing Checklist	✓
Is your USO carefully thought and evident to the customer?	
How is your market segmented?	
What is your target segment?	
What makes this particular segment so appealing?	
What is your positioning strategy?	
Are you aware of all the aspects of you product (core benefit, actual product, extended product)?	
Have you tailored them to your target segment (product)	
What price have you defined, what is your price ceiling and floor? (Price)	
Which pricing strategy have you adopted?	
Which distribution structures are worth considering for your product? (Placement)	
How do you intend to communicate with the customers? (Promotion)	
Do you have an integrated communication concept? (PR and Advertising)	
Have you considered strategic marketing alliances? (Partnering)	

Business System and Organization

Having completed your strategic thinking, made your appraisals and prepared your projections, you need now to give some thought to the practical details of how your venture is to be organized. The results of the preceding chapters need to be incorporated into an actual corporate structure. Moreover, the individual steps and activities must be planned in a way that they represent a unified **business system**.

The tasks and responsibilities of management and staff must be slotted integrated into the system; this results in an organizational structure.

You must also decide which operational activities your company will undertake itself, and which non-core functions it can outsource.

In this section you will learn:

- How to design a business system
- How to create an overall organization
- How to address human ressources
- How to select a location
- The principles behind make-or-buy decisions

3.6.6 Corporate Philosophy

Before getting down to the details of organization, you should ask yourself some important questions:

- **What is the company's primary objective?** This may be profit or scientific reputation or other goals such as promoting environmental protection.
- **What are the company's secondary objectives?** These should mainly be objectives that contribute to the achievement of the primary objective.
- **What is your corporate mission?** You should be capable of distilling your corporate philosophy into a single sentence.
- **What are your business policies?** These will include your approach to customers, suppliers, employees, society at large and the environment. Well formulated policies can lay the groundwork for good public relations.

You need to have clear, concise answers to these questions in written form. These can also be summarized to create a small folder for distribution to new employees.

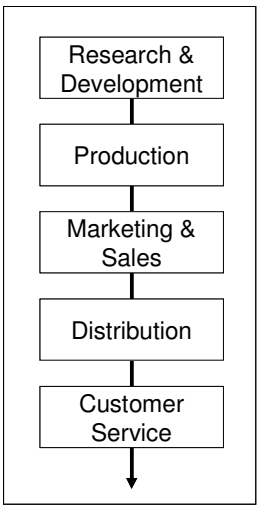
You must be seen to be running the business in accordance with the company's vision, so that is a living reality and not merely empty idle talk.

3.6.7 Business system

Running a business involves coordinating sets of individual activities. To do this properly, you need to establish business processes (**process organization**) and on the basis of these, create an operational structure (**organizational structure**). Together, these create the basis for the business system.

As an example, we can take the organization of a simple business, which develops, produces and supplies a single product. The basic structure here consists of a number of elements. The flow chart looks like this:

Figure 7: Process organization



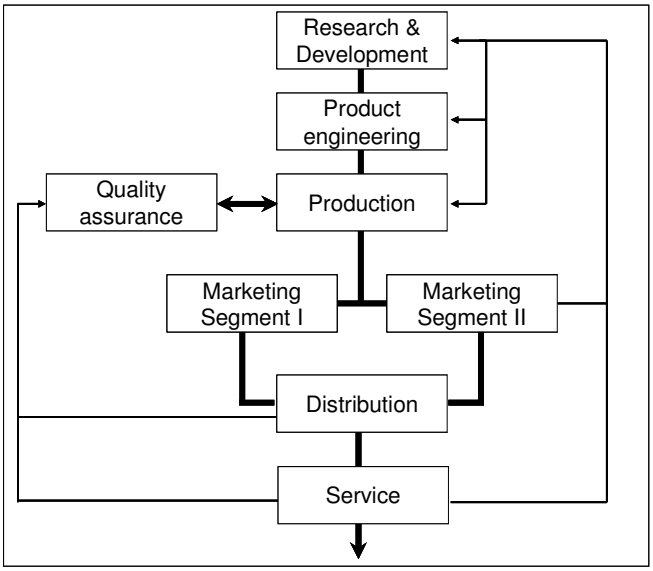
Obviously, this highly abstract structure has to be adapted to the specific requirements of your operation. You will have to modify the elements until you obtain a blueprint that works for you. This will need to be based on the processes in your company. When planning your organizational structure you should bear the following aspects in mind:

- The product, technology or service and its development as well as technological and organizational requirements
- The location chosen, with its advantages and disadvantages (distribution, for example, may be more expensive if the transport links are poor)
- The staffing structure and number of employees

- The information you will need to run the business (internal management information system)

This will result in a more complicated structure, which may look like the following:

Figure 8: Process organization



3.6.8 Human Ressources planning

The **process organization**, once established, needs to be embodied in an organizational structure. First, the work to be done is divided into appropriate units. Next, you need to think about the positions to be created in order to ensure the planned processes are carried out. An organizational chart can be helpful here.

Initially, your organization will probably not need to be very complicated. It will be enough to come up with a rough division of the areas of responsibility identified. Three hierarchy levels should be sufficient for the beginning: managing director, heads of department and staff. Leave yourself plenty of freedom with regard to your future organization, as your company is likely to undergo major changes in the start-up phase.

One mistake you should not make, though, is to tailor job descriptions to the capabilities of the currently available staff. The process model and planned organizational structure come first; then see who can fill these positions. Well structured jobs make it easier to write clear

job descriptions for vacant positions when recruiting staff and to perform well targeted searches for new employees.

The time horizon for HR planning should be long, because specialists are scarce and eagerly sought after. You may need to poach staff from other firms. With notice periods often as long as six months, it is important to think ahead.

Your planning work should also take account of the need for a manageable **span of control**. No head of department should have more subordinates than he/she can reasonably manage: 50 employees reporting directly to a single manager are too many!

Add in the necessary company-wide functions such as business management, finance and administration and your organization is complete and ready to go.

Staff costs

Good staff is not only rare, but often also expensive. The costs depend on a various factors, such as the industry, the professional experience of the employee and his or her education.

For scientific staff, you should take as an initial estimate the average academic post-doctoral salary plus 20%.

On top of these gross annual salaries, there are non-salary to be taken into account (e.g. in AT 50%).

In addition, it may also be necessary to include various other employee benefits such as employee share ownership schemes, company pensions, luncheon vouchers, etc.

Be aware that salaries can vary significantly between sectors and cities.

3.6.9 Make or Buy – outsourcing and cooperation agreements

Having decided on your core business activities and developed an appropriate model for your business system, you then need to determine which of the planned activities may lie outside the areas on which you intend to focus. It may be advisable to outsource some or all of these. Initially at least, accounting functions will certainly be among these. Later in the start-up phase it may be in your interests to transfer staff recruitment to agencies. In principle, though, the make or buy decision can arise in relation to every activity.

3.6.9.1 Make or buy

Careful thought should be given to make or buy decisions, after weighing all the pros and cons. Factors to be taken into consideration include:

- **Strategic importance:** Products and services that contribute significantly to your competitive advantage - i.e. core competencies - are of strategic importance and must of course remain under your control. Technology firms, for example, are less likely to outsource research and development. The structure of the firm, combined with your team profile can give useful clues here.

- **Available skills:** every business activity requires specific skills, not all of which the management team will necessarily possess. You should review on a case by case basis whether or not to outsource certain tasks to outside specialists. For example, a team capable of developing an enzyme test obviously has a mastery of the relevant biochemical techniques but it may not have the necessary production skills so it will be better to transfer these tasks to external specialists. They will not only often do the job better, but may also be able to bring you cost advantages due to the economies of scale they enjoy.

- **Marketability:** before you can buy a product or service, you need to find out whether it is available on the market in the required form and to the necessary specification. Negotiate with a number of suppliers, if possible. Not only can you expect better terms as a result, but you will learn more about what you are buying. Often you will even be able to help suppliers improve their products. If there is nobody providing

the required service, perhaps you yourself can develop the necessary capabilities in cooperation with a partner.

3.6.9.2 Outsourcing core skills

Even in the area of your core competencies, which may well be research and development, partial outsourcing may become necessary or desirable. Subcontract production is a typical example. Biomedical start-ups may be confronted with the problem that their production has to conform to the **GMP Standard** in order for the drug to be marketable. However the cost of a compliant production facility is extremely high and many new companies are therefore happy for their products to be made under license at the production facilities of larger organizations.

Also of importance in the pharmaceuticals industry, and again associated with high costs, is the **GLP standard**. This is mainly applicable to contract research organizations (CROs). These organizations, which do contract research for others involved in drug development must meet the FDA-mandated GLP standard. Cooperation agreements with the pharmaceuticals groups (rather than complete outsourcing) may also be necessary here.

GMP and GLP

Good Manufacturing Practices (GMP) is a quality management system covering the design, production, packaging and labeling, installation, storage and servicing of medical equipment intended for human use.

Good Laboratory Practices (GLP) is a quality management system covering all toxicological studies in Europe, the USA and Japan. This ensures that research carried out in accordance with GLP has worldwide acceptance and need not be repeated, which is also in the interest of animal welfare.

Even if your firm is not involved in GMP or GLP, bear in mind that, in order to support subsequent patent applications, you must in some cases document your research in specific ways. Examples for Lab-Books following the relevant guidelines can be found at www.eurekalabbook.com.

3.6.10 Legal forms

Having now decided on the internal structure of your organization, you need to settle its legal form. There are various possibilities:

- **Sole proprietorship:** You run your business on your own, at your own risk, without partners or investors.
- **Partnerships:** These can take the form of commercial or professional partnerships, both general and limited, and there are other forms as well. In general, they are characterized by the personal liability of some or all of the partners.
- **Corporations:** The liability of shareholders is limited. However, the costs of incorporation are higher and corporation tax is payable. The two types are AG (public limited company) and GesmbH (private limited company).

Most business entities are constituted by their articles of agreement (sometimes other documents are required as well). The agreement governs the relationships between shareholders and their rights and duties to the extent that these are not laid down by law and forms the basis for the organization's business activities.

3.6.11 Partnerships and joint ventures

Whether and to what extent to cooperate with other organizations is a particularly relevant question for new ventures. All forms of cooperation have advantages and disadvantages.

- A loose, informal relationship involves no great obligation on either side. Either party can simply and swiftly end it, but both parties must live with the certainty that supply by the one or demand from the other can suddenly disappear. And a mere supplier will probably not agree to all of a customer's special requests. Loose relationships are therefore typical for mass-produced goods, standard services and standardized components, where alternative suppliers and customers are readily available. If you enter into such arrangements, do not forget the need for confidentiality agreements to protect business secrets.

- A close relationship is often the result of a high degree of mutual dependency, and is typical with highly specialized products and services, or in high-volume businesses. In such situations, it is usually difficult for either party to find a replacement for the other. For instance, it would be hard to find another buyer or supplier of large quantities of special components. For both parties, the advantage lies in the security conferred by a stable relationship and in the freedom to concentrate on one's own strengths whilst relying on those of the other party.

At the time you're preparing your business plan, you should already be considering with whom and to what extent you will later be cooperating. The importance of this has already been explained in the chapter on marketing. To sum up, one can say that cooperation offers entrepreneurs the chance to take advantage of the strengths of established firms and to concentrate on developing their own strengths. This usually makes it possible to grow at a faster pace than you could by yourself.

Distinctions are drawn between the following forms of cooperation:

- **Co-promotions and co-marketing agreements:** Marketing and promotional activities are undertaken jointly with another firm.
- **Licensing agreements:** A business buys or sells a license.
- **Joint ventures:** Close cooperation between two firms, often for a limited period of time, e.g. in order to open up a new market or to further joint projects.
- **Partnerships:** Usually for a limited period of time.
- **Mergers and acquisitions:** The merging of two businesses or the takeover of one business by another.

There are also various types of cooperation with respect to payments:

- **The right to inspect** the technical documents of an organization in return for a payment.

- **Down payment/Up-front payment:** Pharmaceuticals companies make payments in advance for whatever is the subject of the contract. The amounts and timing of the payments (e.g. on conclusion of the contract, but before the research results are achieved) depend on the value of the rights in question and may be payments for future license fees.

- **Milestone payments:** Payments at specified stages in the development of a product, possibly on account of license fees.

- **Advance royalties:** Payment in installments by a large pharmaceutical company to a small biotech business before the product has reached the commercialization stage. The payments are calculated on the basis of imputed sales.

- **Royalties:** License fees paid by a large company to a small business, based on product sales.

Partnerships often involve high financial risks or major capital investment and may entail long-term commitments. In comparison, outsourcing gives you more freedom of decision.

3.6.12 Location planning

The choice of location is a major strategic decision, though different factors will be of varying importance, depending on the nature of the business. The choice of an advantageous location may be more crucial in the case of a CRO than that a bioinformatics business. In selecting a location, you should take the following factors into account:

- Proximity to universities and major research institutions and availability of academic support

- Size and condition of buildings and possibilities for expansion

- Cost per square meter of space and terms and conditions of the lease (e.g. minimum rental period, and reimbursement of improvements)

- Possible grants and subsidies

- Existing furnishings and fittings

- Infrastructure
- Availability of skilled labor (see universities above)
- Legal requirements (Genetic Technology Act and operating license)
- Personal motivations
- Accessibility for clients and suppliers (transport links, etc.)

In addition to these basic considerations there are further criteria to be kept in mind. For example, you should consider which facilities are essential and needed for your exclusive use and which might under appropriate circumstances be shared, depending on frequency of use. Costs arising from idle capacity should be avoided. The following table will help give you an overview:

	Own use	Third party	No. of people	m^2
General purpose rooms				
IT System				
Facility-Management (alarm system, and central control systems)				
Reception				
Seminar and conference rooms				
Central procurement				
Management and administration				
R&D Laboratory				
Laboratory L1				
Laboratory L2				
Laboratory L3				
Isotope laboratory				
Chemistry laboratory – hoods				
Cell culture				

	Own use	Third party	No. of people	m^2
Animal room				
Animal experiments rooms				
Clean rooms				
Refrigerated rooms				
Incubators				
Air-conditioned rooms				
Media supply (gas, nitrogen etc.)				
Library				
Production				
Production rooms (GMP, GLP, FDA, ISO)				
Storage area for raw materials 2-8°C				
Storage area for raw materials –20°C				
Storage area (room temperature)				
Equipment storage rooms				
Production facilities				
Airlocks and changing rooms				
Loading bay (ramp, hoist)				
Distribution				
Finished goods store: 2-8°C				
Finished goods store: –20°C				
Meeting and training room				
Internet connection				
Logistics				
Social rooms				
Quiet room				
Recreation room				
Cloakrooms, showers, WCs				

Enquiries at other firms (preferably not direct competitors) or examination of their annual financial statements (profit and loss accounts contain details of income and expenditure) offer a starting point here too.

In many cases biotech clusters or business incubators can offer attractive first locations. Review the available offers carefully against the checklist above.

Business System and Organization Checklist	✓
What is your corporate mission and what are your business policies?	
What is your business system like?	
What are your business processes like?	
How does the organizational structure look like?	
Roughly how high do you expect your staff costs to be?	
What do you intend to do yourself, and what do you mean to buy in?	
Will you comply with GMP or GLP?	
Do you want to do this quality management work yourself or are you planning to outsource it?	
What legal form will you adopt for your organization and why?	
With which partners do you want to cooperate?	
Why are they your partners of choice?	
What are your and your partners` strengths and weaknesses?	
What is the timeframe for your cooperation agreements?	
What are the potential costs of cooperation?	

3.7 *Implementation plan*

The implementation plan has a significant influence on the financing and the risks of the business. Therefore, it is helpful to you and your partners to think through the interactions between the various factors and work out the consequences in advance.

Planning realistically is not easy, particularly if you have little experience of building up a business and even more so if your business idea represents something completely new, which is the usual situation in the case of a start-up. Yet not to plan would in all probability be lethal to your business.

In this section we explain:

- How to make better plans
- The consequences of poor planning
- How to present the results of your planning work in the form of a business plan

3.7.1 Fundamentals of planning

As suggested in the preceding chapters, you have by now formulated your objectives. Planning is about making these objectives operational, i.e. making them attainable. The process can be summarized in schematic form as follows:

Who does

what with

which resources by

when and in

which way will results be monitored?

Such an outline provides the framework for all planning activities. Without allocating resources, without designating responsible individuals and without setting timeframes your planning will be incomplete. And without effective performance monitoring it will be meaningless.

The cost of good planning is often underestimated. Progress chasing has to be built into the plan from the beginning. Objectives must be clearly formulated and responsibility for putting them into effect clearly allocated. In turning objectives into plans moderation techniques may well be helpful. You will find out more about this in the course of the competition.

It goes without saying that no plan is written in tablets of stone: entrepreneurs should observe the principle of **rolling planning**. Plans should be modified in the light of experience and extended further into the future. This does not mean that plans should not be adhered to.

Your planning should be at various different levels. There is no point in planning everything down to the last detail. You should provide for analysis at several levels, planning in greater depth and detail as required.

Gantt charts can be of great help to you and the readers of your drawings. In addition, you should use flow charts to help visualize your planning so that steps that depend on others follow each other in a logical sequence. Special-purpose software (e.g. MS Project) can be useful here.

3.7.2 Effective planning

Organizational and procedural factors play an important part in efficient planning. Four simple rules are of help here

- **Grouping work into tasks:** The complexity of building up a business can be reduced by grouping individual activities into packages of tasks. The business plan should not contain more than a dozen such tasks. Divide each task into individual steps and define an explicit goal for each step.

- **Ask the experts:** Use experts' knowledge to make sure the major steps in the plan are soundly based. There will be experts for different parts of the plan, e.g. for devising a marketing campaign, but by definition, no single expert for the project as a whole.

- **Watch the critical path:** the "critical path" is the sequence of interdependent activities where a delay in any activity will inevitably hold up the whole project because the subsequent activities cannot begin. There is more flexibility in the timing

of other activities. Hence it is clear that you will pay most attention to activities on the critical path, particularly if you want to save time.

- **Minimize risks:** Wherever possible, try to undertake the activities that reduce risks at the start of the project. For example, it makes more sense to conduct a market survey at the beginning rather than just before the product launch. If the initial survey shows that your business idea has real potential, then this information can be put to good use in planning the development of the business.

3.7.3 Potential consequences of poor planning

Planning has always to be based on assumptions and there is the danger that yours will be either too optimistic or too pessimistic. Both mistakes can have severe effects on the progress of your start-up.

3.7.3.1 Consequences of over-optimistic assumptions

Excessively optimistic planning is damaging in two ways: you rapidly lose credibility in the eyes of all your partners, and you may cause the subsequent collapse of the new business, typically, as follows:

- Resources in the form of tangible assets and staff are acquired to plan, resulting in high costs. This is called a high burn rate, i.e. money is rapidly being used up.

- Somewhere a delay occurs, perhaps in developing the product, bringing it to market, or in achieving planned sales targets. This means that income is delayed while the costs of assets which can not be put to adequate use continue to accumulate. Not only is the company making accounting losses, it is also losing cash.

- Inevitably the money runs out before the planned success is achieved. The result is a hunt for new funds in the midst of a crisis.

- If nobody can be found to make the additional investment, then that is the end of the company. If investors continue to believe in success (which becomes twice as hard for them given the loss of credibility caused by poor planning), they will invest more

money, but this often results in a painful reduction in the entrepreneur's share of the business, if not the total loss of his/her equity.

3.7.3.2 Consequences of over-pessimistic assumptions

At first sight, pessimistic or conservative planning does not seem to pose any problems. You and your partners are pleasantly surprised by how good the results are, everything turns out better than planned and goes more quickly than expected. Nonetheless, the effects of excessively cautious planning can be just as unpleasant, as the following two scenarios show:

- Business is good, but there is a shortage of resources. One can either try to satisfy demand with the resources available, which will inevitably result in problems with quality and jeopardize the long-term success of the business. Or one can continue to grow as planned, knowing that potential turnover and profits are being lost and that there is a risk of competitors entering the market.

- The business grows more quickly than expected. Growth requires additional working capital in the form of liquid funds (cash) and usually also investments in production capacity. But the necessary liquidity may already have been used for other purposes, which have generated paper profits but no cash flows. As a result the entrepreneur is forced to look for more money prematurely and under pressure of events may only get it on unfavorable terms. The ultimate threat is bankruptcy - not for no reason is this known as "growing broke".

Try to be honest with yourself and plan as realistically as possible. Make allowance for uncertainties by openly acknowledging risks and taking the possible consequences seriously. By thinking through the various activities and their interdependencies, you will acquire credibility in the eyes of your partners and investors as well as increasing your business's chances of success.

3.7.4 Presenting your plans

Focus the presentation of your implementation schedule on the significant milestones and the relationships between its most important elements. As a rule, three main sections are sufficient:

- Overview of the implementation process
- Significant milestones, i.e. points by which you want to have achieved certain things
- Important relationships and interdependencies between tasks

Try to make the presentation clear and concise. Remember that charts should not be too complicated and should be capable of being understood at a glance. Flow charts convey a realistic impression of processes and how long they will take.

Don't hesitate to test presentations in advance or to engage a coach for important ones (an additional expense). Business presentations are not scientific lectures, they must convince and sell. After all the future of your business is at stake.

Implementation Plan Checklist	✓
What are your objectives (substance, timeframe, scale and geographical market)?	
What is the timing of your objectives?	
How do you plan to achieve them?	
Is every planning step analyzed in terms of the “five Ws”?	
What are the most important milestones in your plan?	
By when must they be achieved?	
Have you identified your plan´s critical steps?	
How interdependent are your plan´s steps?	
How do people outside the business react to the presentation of your plan?	

3.8 *Finance and financial planning*

The first question in connection with financing is how much capital you need in total in order to set up and start the business. Often, you will be incapable of financing your enterprise from your own assets; consequently, you depend on financially strong partners! However, especially the high tech sector displays a high risk of losing investments, making it difficult to find daring investors. Traditional forms of financing such as bank loans will only be available in exceptional cases due to the combination of high risk and no securities. Nevertheless, the high tech sector offers also a high growth potential and is consequently very attractive for certain investors.

In this chapter you will learn:

- about the different financing options for start-up companies
- why cash holdings are so important („Cash is King“),
- the basics of financial planning in your business plan, including balance, profit and loss statements as well as cash-flow and valuation calculations

3.8.1 Financing options

Generally, two forms of financing can be distinguished (see "Balance sheet"), namely financing through:

- Debt capital
- Equity
- Crowdfunding

The combination of both forms of financing comprises the **capital structure** of your company.

People or entities who participate in an enterprise by contributing **equity** are the "true owners" of the company. By contributing own assets, a series of rights are gained:

- Entitlement to a proportional share of business profits
- Entitlement to a proportional share of business profits after creditors have been satisfied
- Proportional decision-making powers

Debt capital (e.g. bank loans, corporate bonds, short term liabilities) are supplied to the company by creditors. The company owes its creditors the loaned amount including interest. In contrast to the owners, creditors neither are entitled to profits, nor do they have decision-making powers. In case of bankruptcy however, creditors will be satisfied before owners until all debts are paid. Debt may be secured or unsecured. Particularly company assets (e.g. machines, buildings, property) are suitable for collateralization. Since unsecured loans constitute a high risk for creditors, they are generally expensive. Subordinate debt capital is always unsecured and, in case of bankruptcy, subordinate to non-subordinate claims. Since the risk of total loss is higher for subordinate loans, they are generally more expensive than non-subordinate claims.

State funds (grants, subsidies etc.) are of particular significance in the high tech sector. Governmental funding can be project or company related. Even though grants represents are a distortion of the market, considering the value of research and development for the long term economic growth of a country, they can contribute to avoiding market failure. The following chapter also offers a short overview of forms of financing and aid facilities in Austria that are supportive of high tech start-ups.

3.8.1.1 Equity

Keep in mind that you grant partners who contribute to your efforts with equity share control over your company and control and a portion of profits.

3.8.1.1.1 Family, Friends & Fools (3Fs)

Initially, equity is what you, your relatives and friends invest in the enterprise from your own pockets. This first financing is of utmost importance, since it demonstrates your **commitment** to future investors.

3.8.1.1.2 Business Angels

Finding investors for your risky high tech enterprise beyond your “aunt's savings account”, however, may prove to be more difficult. One option are so-called „Business **Angels**“. Business Angels are people who have accumulated experience in a certain field over the career (courage of their professional e.g. CEO of a pharmaceutical company) and are willing to invest

some of their capital and time in new ventures. A business angel will participate in your enterprise and offer you his management expertise. However, business angels do expect revenue for their invested capital. Austria Wirtschaftsservice GmbH have created a certain program named „**i2**“, acting as an exchange for business angels that can assist you by referring such business partners.

3.8.1.1.3 Venture capital

A further source of equity can be found in **venture capital** (risk capital). Venture capitalists collect funds from institutional investors such as pension or insurance funds, wealthy individuals or financially strong companies and invest them in a portfolio of young businesses with strong growth potential, hoping that strong **capital gains** will render their investments fonds profitable. Thus, venture capitalists want to make their investments to money in the medium term (investment term of approximately 5-10 years), either by selling the company under the framework of a **trade sale** or in an initial public offering "**IPO**". As a general rule, initial public offerings are more profitable and preferred to a trade sale.

The volume of venture capitalist investments highly correlates with the atmosphere in international markets and is consequently dependent on the overall economic situation. Additionally, structural issues in countries with underdeveloped capital markets – such as Austria – prevail. Low readiness to assume risk and the pursuit of security as a "national character" are additional limiting factors in the venture capital scene, considering the fact that institutional investors and the partners of a venture capital entity carry a high and often personal risk. As a result, unsurprisingly Austria (together with Portugal, Greece and Italy) has been dwelling at the bottom of the European league for a long time regarding risk capital investments. Highly developed venture capital cultures can be found in the USA, where the majority of the biotech industry was financed with venture capital as well as parts of northern Europe (UK, Sweden, Denmark, Finland and the Netherlands). **Cross border risk capital investments** that could compensate for the absence of venture capital in Austria are rare.

The already inadequate availability of venture capital in Austria was worsened by the bursting of the technology bubble in the year 2000. As a consequence, venture capital firms generally act more cautiously and are more conservative when investing immediately after the founding of a company (seed phase) or even before it's founding (pre-seed phase).

The above should provide you with realistic expectations regarding the possibility of receiving venture capital in the initial phase of your company's founding.

Life Science Austria disposes of excellent contacts with important international venture capital firms. If you decide to approach venture capitalists, be sure to make a short and well-arranged presentation of your business plan with a concise executive summary. Often this will be the only portion that has a chance to be read. International investors often receive hundreds of business plans a week as well as numerous interesting investment offers; this is where you should stand out!

3.8.1.1.4 Process of a venture capital: investment

The process that leads from a first meeting to a investment agreement is similar with all venture capitalists. If common interest (also you should be prudently choose your investors and gather references) is established, a thorough analysis of your company will be performed, so-called **due diligence**, which may take four to twelve weeks. During this time period, a non-binding **term sheet** will often be concluded. The term sheet outlines key financial and other terms of the investment such as type of share, valuation and milestones, liquidation preference, redemption, conversion rights, information rights etc. After due diligence has been performed with a positive result, the term sheet is converted to a investment agreement, containing a large number of provisions.

Information about risk capital entities in Austria is offered by the Austrian Private Equity and Venture Capital organization (www.avco.at). The umbrella group for all European venture capital entities is the European Private Equity and Venture Capital Association (www.evca.com).

3.8.1.2 Debt capital

3.8.1.2.1 Bank credits and loans

A conventional bank credit will rarely be considered for financing risky high tech start ups, since sufficient collateral for the high risk will often not be available. However, credit can be mobilized with the support of **guarantees**.

3.8.1.2.2 Mezzanine financing

Mezzanine capital is **subordinate** and generally **unsecured** risk capital, often characterized as a hybrid of equity and debt financing: if the business develops as scheduled, mezzanine capital will be treated as committed assets (i.e. the loan will be repaid at interest), in crisis situations, however, mezzanine capital becomes inactive capital. Additionally, mezzanine capital will always be equipped with a performance-related yield component in favor of the mezzanine capital provider and may offer participation in the increasing company value with a so-called "**Equity Kicker**" at maturity in form of a call option for company shares. Due to the fact that mezzanine capital is subordinate borrowing additional committed assets is facilitated. Mezzanine capital providers will often invest in fast-growing sectors, though under the premise of positive cash flows and an established market position. As a result, mezzanine capital will be most helpful if you are already expanding your enterprise.

3.8.1.2.3 State funds

The government will support the financing of businesses under certain conditions. Among others, the following are instruments of corporate economic development:

- **Grants** ("lost" grants or "performance-linked repayable grants"): These are either paid at once or in installments. Lost grants must not be repaid. Performance-linked repayable grants are repaid based on pre-defined conditions. Such grants like the aws Seedfinancing must only be returned in case of sale or profitability of the enterprise.
- **Interest grants**
- **Guarantees and Sureties**: a guarantor is someone who promises to satisfy the creditor if the debtor fails to pay. Providing a guarantor can be compared with insuring the debtor. In comparison with conventional credit insurance, an aid component becomes involved if the "premium" for this "insurance" turns out to be lower than the market price.
- **Direct Governmental investment** is not available in Austria on the federal level. However, some Austrian federal states have founded participation entities.
- **Exemption from taxes**: e.g. research contribution

These instruments are intended to mobilize investments for sectors that are responsible for long-term growth (research and development). The EU requires its member states, in order to avoid distortion of competition, to inform the European Commission of existing, intended or amended forms of governmental aid as well as respective individual cases. Such may only attain legal validity if the EU Commission does not object (**notification duty**). To reduce the administrative burden, the "**de minimis**" rule allows that grants which are awarded to a company over the course of three years and do not exceed the total sum of € 200,000 are exempt from the notification duty. Furthermore, the EU has defined upper limits for maximum allowed aid[5]. These **upper limits** are defined as a portion of the **aid cash value** in overall expenses and may not exceed 70%[6] for research and development projects of young, innovative and small companies. The aid cash value (also known as **gross grant equivalent**) is defined as the gross sum of the grant before taxes, while all expected future aid is to be discounted to its present value. The discount rate is defined as the interest reference rate annually reported to the Commission by every member state. Grants, however, are calculated at a flat rate, even if they are issued in installments. However, certain particular, more favorable provisions apply for young, innovative technology companies[7] such as the aws programs Pre-Seed and Seedfinancing (see below).

Table 3: **Direct governmental aid (federal level)**

Institution	Internet	Comment
Austria Wirtschaftsservice GmbH(aws)	www.awsg.at	Specialized commercial bank for corporate development
Forschungsförderungsgesellschaft	http://www.ffg.at	Project-oriented sponsorship and free of charge consulting and support of international programs (such as the EU framework programs)
Fonds zur Förderung der wissenschaftlichen Forschung (FWF)	www.fwf.ac.at	Sponsorship of scientific basic research at academic institutions

[5] http://ec.europa.eu/competition/state_aid/studies_reports/vademecum_on_rules_09_2008_en.pdf

[6] Small and medium sized companies. According to the EU definition, a medium sized (small) company has fewer than 250 (50) employees and a turnover of less than € 50 (€ 10) Million or a balance sheet total of no more than € 43 (€ 10) Million.

[7] See EU-Publication: Official Journal C 323 of 30.12.2006: Company is small, no older than six years and has an R&E ratio of more than 15%.

Österreichische Nationalbank (OENB)	www.oenb.at	The *OeNB Jubiläumsfonds* promotes illness- and patient-oriented research projects

3.8.1.2.4 Aid instruments of Austria Wirtschaftsservice GmbH for life science entrepreneurs

Austria Wirtschaftsservice GmbH (aws) is a specialized commercial bank for governmental aid. aws is commissioned by several ministries to assign and process corporate aid. The aid instruments include grants, benefited loans, guaranties and sureties. The allocation of aid occurs in close coordination with the Forschungsförderungsgesellschaft (research aid association) and regional aid institutions (e.g. Life Science Austria Vienna Region, AplusB centers, see table 4). aws offers aid instruments for all project phases and the funding volume in the high tech sector is up to €1,000,000. Furthermore, aws offers instruments for financing patents and the referral of license holders (program „Marktrecherche“). For detailed information please contact an aid specialist at aws.

Table 4: **Regional aid institutions for biotech founders**

Province	Institution	Internet	Comment
Vienna	Life Science Austria Vienna Region	www.lisavienna.at	Corporate aid, cluster management and international location marketing for the "Vienna Region“ (Vienna, Lower Austria and Burgenland)
Vienna	INiTS	www.inits.at	AplusB's Viennese center INiTS supports with additional offers such as simulating, consulting, supervising, networking and providing further education in the areas of infrastructure and startup financing
Tyrol	CAST Center for Academic Spin- offs Tyrol	www.cast-tyrol.com	AplusB's Tyrolean center mobilizes and stimulates founding in the academic field and supports (seed funds) founders from the inception of an idea to the founding of a company.
Tyrol	Standortagentur Tirol	www.standort-tirol.at	The Tiroler Zukunftsstiftung creates and promotes structures that further new technologies and consequently innovation in the Tyrolean economy to increase the attractiveness of the business location Tyrol.
Lower Austria	ACCENT	www.accent.at	AplusB Lower Austrian center ACCENT founders service accompanies academics with comprehensive support from the inception of an idea to the successful founding of a company in Lower Austria.

Lower Austria	NÖBEG	www.noebeg.at	NÖBEG is a common brand used by to specialized corporate banks, the NÖ Bürgschaften GmbH and the NÖ Beteiligungsfinanzierungen GmbH. By assuming liability and providing sureties (risk splitting) and/or participation (capital consolidation) companies are effectively supported during decisive financing phases.
			AplusB Salzburg center
Salzburg	BCCS	www.bccs.at	The „Business Creation Center Salzburg" (BCCS) has the task of using the innovation potential in the province of Salzburg to facilitate academic company founding (Spin-offs), and consequently stimulate and support the number and quality of successful company establishments.
Styria	Steirische Wirtschaftsförderung (SFG)	www.sfg.at	Supervises and promotes Styrian companies that strive to realize innovative project in the founding phase, as well as enterprises that strive to realize investment projects in Styria.
			AplusB center Styria
Styria	Science Park Graz	www.sciencepark.at	The SPG team along with its network of experts, support academics (students, alumni and scientific staff) of all fields with professional consulting and coaching, infrastructure and financing in the early stages of a company founding.
Styria	Zentrum für angewandte Technologie	www.unternehmewerden.at	The Zentrum für angewandte Technologie is a starting platform for tomorrow"s successful high tech companies. They offer researchers and innovative personalities from the environment of the Montanuniversität a high tech environment as a base for their step into the world of businesspeople
Upper Austria	tech2b	www.tech2b.at	AplusB center Upper Austria: As an Upper Austrian high tech incubator, tech2b has specialized on the early stages financing of research-based highly innovative founding efforts.
Carinthia	Build!	http://www.build.or.at	The main tasks of Build! are the promotion and stimulation of innovative business ideas and company establishments from the academic field.

3.8.1.3 Crowdfunding

Crowdfunding is a way of raising finance by asking a large number of people each for a small amount of money. Until recently, financing a business, project or venture involved asking a few people for large sums of money. Crowdfunding switches this idea around, using the internet to talk to thousands – if not millions – of potential funders. Typically, those seeking funds will set up a profile of their project on a website such as those run by our members. They can then use social media, alongside traditional networks of friends, family and work aquaintances, to raise money. There are three different types of crowdfunding: donation, debt and equity.

3.8.1.3.1 Reward crowdfunding/Donation

People invest simply because they believe in the cause. Rewards can be offered (often called reward crowdfunding), such as acknowledgements on an album cover, tickets to an event,

regular news updates, free gifts and so on. Returns are considered intangible. Donors have a social or personal motivation for putting their money in and expect nothing back, except perhaps to feel good about helping the project.

3.8.1.3.2 Debt crowdfunding

Investors receive their money back with interest. Also called peer-to-peer (p2p) lending, it allows for the lending of money while bypassing traditional banks. Returns are financial, but investors also have the benefit of having contributed to the success of an idea they believe in. In the case of microfinance, where very small sums of money are leant to the very poor, most often in developing countries, no interest is paid on the loan and the lender is rewarded by doing social good.

3.8.1.3.3 Equity crowdfunding

People invest in an opportunity in exchange for equity. Money is exchanged for a shares, or a small stake in the business, project or venture. As with other types of shares, apart from community shares, if it is successful the value goes up. If not, the value goes down.

3.8.1.3.4 The history of crowdfunding

The first recorded successful instance of crowdfunding occurred in 1997, when a British rock band funded their reunion tour through online donations from fans. Inspired by this innovative method of financing, ArtistShare became the first dedicated crowdfunding platform in 2000. Shortly thereafter, more crowdfunding platforms began to emerge, and the crowdfunding industry has grown consistently each year.

3.8.1.3.5 Austrian crowdfunding platforms

http://www.startnext.at/
https://www.greenrocket.com/
http://www.respekt.net/
https://www.conda.at/

3.8.2 Financing planning

The first question of financing is how much capital you will need in total to successfully found the company and operate it. The financial requirements can be estimated based on a financial

plan and based on your assumptions concerning the inception of the company. The second question is how much capital must be available at a given time to keep your company operable. This is a decisive factor in financial planning.

3.8.2.1 Basics of accounting

Financial planning in your business plan involves less work than you expect. Essentially it involves three spread-sheets: The **income statement (US)/profit and loss statement (UK)** (success calculation, overview of expenses and revenue, profit and loss, statement of income), a **balance sheet** (overview of assets and liabilities) as well as a **cash-flow calculation** (=liquidity analysis, statement of cash flows). The bases of the above are calculations, such as quantity structures, forecasted revenue, and human resource expenses to make the three spreadsheets conceivable. Planning should be performed on a monthly basis for the first year and for the two following years on a quarterly one. The two following years are planned on an annual basis.

The financial planning tool Plan4You is available in the basic version free of charge unter www.gruenderservice.at/businessplan

Note that the structure of financial statements varies between countries. Each country has also specific regulations on how to set up the financial statements.

3.8.2.2 Income statement/Profit and loss statement

The profit and loss account presents the total income and expenditure of the business in tabular form. Income and expenditure are grouped and summarized by category, with the expenditure finally deducted from the income to arrive at the business result for the period, the profit or loss, both before and after taxation (principally, corporation tax). The business's sales turnover consists of the income from goods and services sold, but does not include receipts from financing. The main categories are:

- **Revenues/Turnover:** Total income from trading activities (sales of goods and services).
- **Cost of goods sold (COGS):** Materials and similar expenditures.

- **General and administrative expenses:** Personnel expenditure, i.e. wages and salaries, non-wage labor costs, legal and professional fees, utilities, insurance, office rents, office supplies etc.

- **Interest:** Interest payable on borrowings is also a business expense. Borrowings mean loans, credit and similar sources of finance on which one pays interest. Venture capital and other forms of investor participation constitute equity on which no interest is payable.

- **R&D expenses**

- **Depreciation:** The acquisition cost of capital investments used over extended periods of time is not expensed all at once in the year of acquisition; instead, it is spread over the expected useful life of the asset. So, in the case of a piece of equipment acquired for €100,000, which one plans to use for five years the annual expense is €20,000 per annum for five years. This is called depreciation. It should not be forgotten that funding of €100,000 needs to be available in the year of acquisition. Depreciation is one of the principle reasons for the difference between the theoretical profit (sales, less depreciation and other costs) and the actual funds available (operating receipts less payments and acquisition costs of fixed assets). This is why we need a cash flow statement, showing the liquid funds available.

- **Miscellaneous costs:** All expenses not directly related to the principal activities of the business.

Examples of income statements and detailed explanations can be found on www.investopedia.com.

3.8.2.3 Balance Sheet

The balance sheet shows the assets of the business and the corresponding liabilities and equity which are the sources of the funding of the assets, i.e. the capital. Therefore the following "basic accounting equation" must hold true:

Assets = Liabilities + (Shareholders or Owners) Equity

The business **assets** show how the capital is employed, and consist essentially of **fixed assets** and **current assets**.

- **Fixed assets** mean those assets which the business intends to retain in the long term. These consist of the tangible assets (buildings and equipment, etc.) required for operations, intangible assets (patents, etc.) and long-term financial assets, which include investments in other businesses and long-term portfolio investments (bonds and shares, etc.).

- **Current assets** are those assets which the business holds on a short-term basis. They include inventories (raw materials, work in progress and finished goods), cash, bank balances and other liquid funds and amounts receivable from clients (accounts receivables) which at least in principle are collectible on a short-term basis.

Equity and liabilities shows where the capital which finances the assets comes from. It comprises the owners' equity and the long-term and short-term liabilities, as follows:

- **Equity** means the capital introduced by founders, original owners and by other shareholders (venture capitalists, etc.). This is capital transferred to the company for an indefinite period. Retained profits are treated as part of equity.

- **Reserves** are also counted as belonging to equity. They normally represent undistributed profits, which are carried here in order to keep them separate from the capital with which a company was formed or the capital subsequently introduced by owners. There are also other types of reserves.

- **Provisions** are set up by a company for specific expected future expenditure or identifiable risks. Technically, provisions are counted as liabilities. One example would be a provision for litigation, to cover the legal costs of a possible patent infringement action, another the statutory provision for severance payments. Provisions are charged against operating income and anticipate future expenditure.

- **Current liabilities** are all liabilities payable within one year. They include unpaid invoices (accounts payable) and business loans and also current account overdrafts. Current liabilities constitute borrowings on which interest is usually payable.

- **Long-term liabilities** include mortgage loans, other long-term loans and credits. Interest is payable on these.

Examples of balance sheets and detailed explanations can be found on www.investopedia.com.

3.8.2.4 Statement of cash flow and liquidity

The cash flow statement is related to the profit and loss account and is designed to eliminate all non-cash transactions (transactions not causing a flow of funds). It can be defined as follows:

Cash flow is the excess of receipts over payments resulting from the business activities of the company.

Theoretically, an entrepreneur could contribute a building worth € 1,000,000 to a company and depreciate it over the years (i.e. expenditure), but does no business (no sales). This would result in an annual accounting loss although no funds would have flown (not that such a business would be legally possible). Similarly, a business could create a provision for legal costs, which would reduce the profit (provisions are anticipated expenditure see under balance sheet). But no money would be paid out, although there would be a payment planned for the future. Again, no funds have flown. The purchase of a tangible asset provides another kind of example: the business pays money out, but only a fraction of what is spent is treated as an expense (remember, fixed assets are depreciated over several years). In this case, the cash outflow is higher than the amount shown as an expense. Because of these timing differences, it is essential for a business to plan its cash flow.

Receipts and payments, income and expenses

In financial management, we distinguish between receipts and payments, and income and expenditure.

Receipts and payments are exclusively monetary inflows and outflows, i.e. cash and banking transactions. Transactions not resulting in a flow of funds are ignored. So, for example, purchases and sales on credit are not taken into account, nor are

depreciation, or the amounts added to or released from provisions, or accruals. On the other hand, the full cash amounts of capital acquisitions are included.

Income and expenditure are the amounts shown in the income statement. They include all the items that relate to the period in question, whether they are reflected in cash flow or not, i.e. depreciation, non-cash additions to or releases of provisions, accruals and movements on reserves.

The **cash flow** statement thus shows whether a business has a financing requirement or expected surplus liquidity. When a business starts up, its cash flow is negative, i.e. the outflow of funds is higher than the inflow, so that money (capital) has to be injected. The highest deficit balance of cash is the maximum amount for which the business has to find financing.

Cash flow can be calculated directly from receipts and payments, or indirectly, from the profit and loss account and the balance sheet. With experience, the task can be simplified:

Table 5: Cash-flow calculation

Profit/Loss	**Profit/Loss**
+ additions to reserves - releases of reserves + depreciation - write-ups and write-backs + additions to provisions - releases of provisions	+ non-cash expenditures - non-cash income
Cash flow	**Cash flow**

A *negative cash flow* shows that the company needs funds and may have liquidity problems. A positive cash flow shows spare liquidity, which can be used for investment.

You will meet many different variations of cash flow and liquidity forecast in practice but planning software and appropriate expert help can help make things easier.

3.8.2.5 Software for financial planning

Austria Wirtschaftsservice GmbH has developed a software for financial planning in cooperation with the "Gründerservice der Wirtschaftskammer Österreich" (WKÖ) (*Founders' Service of the Austrian Chamber of Commerce*). The product is called „Plan4You Easy" and is downloadable at: www.gruenderservice.net/businessplan.

3.8.3 Using ratios to assess a business

Providers of capital will naturally want to know what the return is on the capital they have invested in your business. Lenders (banks) need to know how well your business is doing. And you need to decide whether it can operate profitably and whether to take up bank loans, etc. Businesses often make use of ratios for these purposes. We introduce some here in order to give you a chance to familiarize yourself with the vocabulary. Ratios can and should be used as a regular part of the budgeting and control process. The ratios below represent only the most commonly used. In the literature you will find many more ratios measuring or assessing profitability, liquidity, activity and leverage.

Profitability ratios:

- **Return on Equity:** This important ratio shows the return on the shareholders' equity. The profit for the financial year is related to the equity capital employed. This indicator can thus be seen as the "rate of interest" earned on shareholders' investment. The return on equity should always be higher than the return on long-term securities in the capital market.

$$ROE = \frac{\text{Net Income after tax}}{\text{Shareholder equity}} = \frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Average Stockholder Equity}}$$

- **Return on total assets:** This ratio shows us the return on the total funds invested. Here, the interest on long-term debt is added back to the profit (the profit could be called the "cost" of equity capital, just as interest is the cost of long-term debt). The ROA for established "old economy" companies is often about 10%.

$$ROA = \frac{(\text{Net Income} + \text{Interest expense} - \text{Interest tax savings})}{\text{Average total assets}}$$

Liquidity ratios:

- **Current Ratio**: This ratio measures whether or not a firm has enough resources to pay its debt over the next 12 months. It compares a firm's current assets to its current liabilities. Generally, this ratio should be above 150%.

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

- **Working Capital**

$$\text{Working capital} = \text{Current Assets} - \text{Short term liabilities}$$

Even though working capital isn't a key company figure in the traditional sense, it is often used to describe liquidity.

Leverage ratios:

- **Equity ratio**: This tells you the proportion of equity capital total capital.

$$\text{ER} = \frac{\text{Equity} \times 100}{\text{Capital employed}}$$

This ratio should be at least 20%, because equity can be used to cover losses. You should have enough equity to cover at least three years' losses. For biotech companies, the equity ratio is usually very high (100%).

- **Coverage ratios A and B**: These ratios show the extent to which your fixed assets are covered by equity or by long-term debt. If fixed assets are covered by debt which is only short-term, your assets may be at risk when the loans fall due. Ideally the ratios should be over 100%.

$$\text{Coverage ratio A} = \frac{\text{Equity} \times 100}{\text{Fixed assets}}$$

$$\text{Coverage ratio B} = \frac{(\text{Equity} + \text{long-term debt}) \times 100}{\text{Fixed assets}}$$

- **Financial leverage**: Financial leverage is generally understood to mean the use of outside capital to finance a company. Basically, the use of debt capital leads to a higher risk for the company, because interest payments represent higher fixed costs and the debt repayment is independent of the economic success of the enterprise. Nonetheless, the acquisition of debt capital under certain circumstances can raise the profitability of the equity. If the interest rate on the debt capital is lower than that of the equity, the rate of return on the equity can be raised through the use of credit. Credit costs less than the typically required profitability of the assets, resulting in a **positive leverage** effect. In the opposite case loans should be repaid as quickly as possible, since there is a **negative leverage effect,** meaning that there is a loss on every Euro borrowed.

Finance Checklist	✓
What are the underlying assumptions of your financing plan?	
What are your financing requirements up to the break-even point?	
What liquid funds are needed in which periods?	
Where is the capital to come from?	
What return on equity can you offer investors on long term basis?	
Will you be able to take advantage of leverage effects later on?	
How will investors be able to realize their profits?	
How long is the payback period?	

Practical advice for financing:

- Diagrams can help you, your partners and your investors to understand the situation
- You do not need do the calculations for your financial plan yourself: specialized programs (e.g. Plan4You Easy) can be helpful
- Whatever happens, make sure you discuss your assumptions and calculations with experts

3.9 *Opportunities and Risks*

There is no such thing as business without risk and this is particularly true of rapidly growing new businesses. As an entrepreneur, you share the risks with the investors who are financing your project. Recognizing the risks involved openly and objectively creates confidence both for the investors, and also for you. If you fail to acknowledge the risks, potential investors will be forced to conclude that you take a too optimistic a view of the business concept and the growth of the business. But as well as explaining the risks, you should also outline the additional opportunities of your product or service concept that you have already described.

In this section you will learn:

- How to use sensitivity analysis to evaluate risk
- How to present opportunities and risks

3.9.1 Risk assessment and sensitivity analysis

Every business is exposed to risks. There are risks inherent to the business itself and risks will constantly be arising in the environment in which the business operates. What if your most important colleague drops out, or your largest customer goes bankrupt?

Risk evaluation involves looking into the future. Risks are relative and should be evaluated in terms of your chosen assumptions. Risks can be explored using scenarios which model possible futures based on varying assumptions. Your business plan should contain no more than three scenarios, which are typically:

- The **base case scenario,** i.e. the one that you are honestly convinced is the most likely one
- The **best case scenario,** i.e. the expected opportunities and the most favorable circumstances
- The **worst case scenario,** i.e. the acknowledged risks and the least favorable circumstances

Spreadsheet programs like Excel can compute scenarios from a single spreadsheet. Such software simplifies your calculations enormously. You can also use pivot tables (Excel) for interactive modeling.

These scenarios lead to valuable insights into how your business may develop and what its financing requirements may be and the insights in their turn give the entrepreneurs and potential investors a clearer picture of the future of the business. In addition, the worst case scenario contributes more specific information about the stability and overall riskiness of the business. You should definitely have contingency plans for dealing with worst case outcomes.

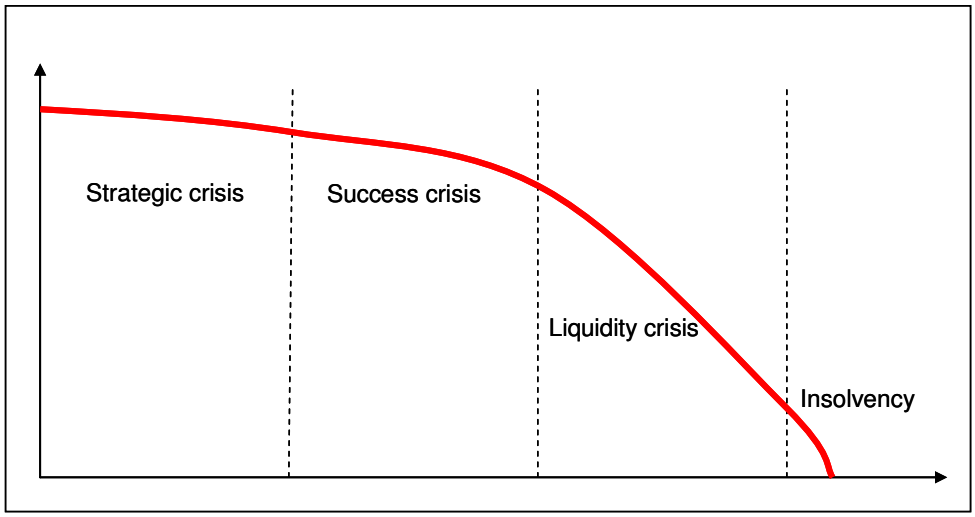
3.9.2 Typical crisis situations of companies

At the very least, crises threaten the life of a business, and often they positively endanger it. Leaving aside unpredictable events (like natural disasters), most business crises follow a typical pattern.

Crises have their origins long before the effects are reflected in bank accounts or order books. A liquidity crisis which may touch off a slide into bankruptcy, is only the last in a long series of developments. Potential crises must hence be spotted early and nipped in the bud.

You must be alert for signs of impending crisis.

Figure 9. Typical crisis progression of companies over time



3.9.2.1 Strategic crisis

All such crises are characterized by diminishing business success: products become obsolete, problems gradually become more difficult to solve and the company's knowledge base shrinks. Discontented employees and low morale are often precursors of a strategic crisis. When investment in research is cut and product development falls off, there are major dangers ahead.

For outsiders, the signs may be difficult to read but insiders and those with experience in the industry can recognize the symptoms.

Modernizing and realigning the business may require considerable sums of money, which should be seen as a payment on account of future rewards.

3.9.2.2 Success crisis

The crisis of success follows strategic crisis and unless countermeasures are taken leads directly to liquidity crisis and bankruptcy. Here, the business fails to adapt to the changing demands of the market in time. The result is uncompetitive products that are increasingly unattractive to customers.

Symptoms of this type of crisis are rising stocks combined with falling order books, increasing numbers of cancelled orders and complaints, falling profits and cash flows and rising discounts. Debt financing grows and the return on total assets falls.

The solution lies in taking a close look at the product range: all too often, the products are outdated or no longer meet customer requirements. New products may need to be developed and the business strategy revised as a result of the analysis. Whatever measures are taken, the effects will only be felt in the long-tem.

Improved communications (PR, not advertising), and precise market segmentation can help you to identify weaknesses. You should not hesitate to employ external experts as soon as the *tell-tale* signs appear.

3.9.2.3 Liquidity crisis

A liquidity crisis results from financial imbalance: the business is unable to meet its obligations or can only do so with delays. Crises of this kind are easily recognized from outside. Decreasing revenues and product quality, shrinking order books and customer base are soon followed by general liquidity problems and debt rescheduling. And the last stage is financial collapse.

At this stage the only answer is a major injection of cash, in the form of one or more of the following:

- Additional capital contributions, from the original partners or from outside investors
- Sale of assets
- Sale and lease back arrangements
- Reductions in current assets
- Freeze on investments
- No distributions
- Rescheduling of loans

This may prevent financial collapse but will hardly ensure long-term success. Better to tackle the crisis in its earlier stages.

Should these remedies not work, insolvency proceedings must be started.

- Settlement, compulsory settlement
- Insolvency

3.9.3 Presenting opportunities and risks

In your business plan provide a brief description of the scenarios modeled in your sensitivity analysis: what are the events, turnover and price levels and what are the constants embodied in the scenario? The base case scenario must be described in detail in the business plan and for the other scenarios it will be sufficient to summarize the results of the analysis in terms of the three most important indicators:

- How much capital is needed to finance the business?
- Time to break even: when will the cash flow become positive?
- Internal rate of return: how high is the return on investment?

You should also refer in your business plan to additional opportunities that may arise in connection with your business idea. For example, changes in the law may open up new markets, or progress in a given technology could indirectly give your products a boost. You should however only mention possibilities based on reasonable assumptions.

Opportunities and Risks Checklist	✓
What risk can you see that could threaten the success of your business?	
How do you intend to tackle these risks?	
How do you plan to minimize their negative effect?	
What are the quantitative effects of these risks (scenarios)?	
How will your business survive in the worst case scenario?	
How do you monitor the success factors for your business?	
How will you recognize strategic crises in good times and prevent them from happening?	

How might you avoid a crisis of success from the outset?	
What additional opportunities does your business idea prevent?	

4 List of Figures & Tables

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