

What creates a success?

- A profile of high tech entrepreneurs

## 1. Introduction

Every year about 15.000 companies are established in Denmark. Five years later only one third is still in business. Since it is every entrepreneur's goal to succeed it is highly relevant to ask what it is that determines whether a start-up succeeds or not? Although success can rarely be planned down to every minute detail, it is possible to think of certain characteristics and courses of action that, if present, enhance the probability of succeeding in business. The purpose of this analysis is to identify some of those characteristics and strategies that are empirically correlated with commercial success for technology start-ups.

Since Vaekstfonden was established in 1992, more than 2.000 companies have received funding from Vaekstfonden. Some of these companies have provided fair returns to the investors and can therefore be named successes. Others have survived but not fulfilled the investor's expectations, and some have been forced to close. Vaekstfonden's portfolio of companies thus gives a unique basis for identifying which factors that are crucial for success.

The analysis is divided into two parts:

- A quantitative part where all high tech companies in Vaekstfonden's portfolio are analysed to identify the determinants of survival and growth for high tech start-up companies.
- A qualitative part where 38 of the companies in Vaekstfonden's portfolio – both existing and former portfolio companies - have been interviewed about their process of development including the characteristics of the founders, their technology, the funding process, the composition of the board, their use of network etc. The purpose of this part of the analysis is to identify some specific company related factors that seem to be associated with success for Danish high tech start-ups.

Based on the findings from the data, 10 critical success factors for building a technology start-up are listed.

## **2. Vaekstfonden's portfolio – a quantitative analysis**

Vaekstfonden's more than 1.000 direct investments since 1992 make it possible to carry out quantitative analysis of the factors, which influence a firm's ability to survive and grow.

The aggregate analysis is based on a regression model, where rates of survival and growth are explained by variables like; company age, size, level of technology, and availability of capital.

To ensure the highest degree of comparability between companies, the chosen sample for this analysis consists of approximately 200 companies that have all received loans for research and development from Vaekstfonden in the period 1993-2001.

### **Results**

Survival of a company is closely correlated to its age and size. The older and larger a company is, the greater is its chance of survival. As a company grows and builds up experience with development and sales of products it increases "staying power".

Conversely, growth in the number of employees is substantial in newly established and small companies. Also the level of technology and the degree of newness associated with a company's products have a positive impact on the employment growth. High-tech entrepreneurs thus play an important role as a source of employment growth in the economy.

Finally, revenue growth is significantly larger in venture-backed companies than in companies financed by other investors. This implies that the unique combination of selection skills, capital and competencies that venture capitalists possess has a substantial impact on a company's ability to bring its products to market. The venture capitalists choose the companies with the largest commercial potential, and later the investors, through their network, help the companies gain access to sales channels.

The results thus indicate a number of factors, which have a visible impact on technology-based firms' ability to survive and grow:

- Larger and older firms have higher probability of survival than smaller and younger firms
- Firms, which aim at developing radically new products achieve growth rates, above average
- Smaller, newly established high-tech firms achieve the highest employment growth
- Venture-backed companies sustain higher growth rates in their revenue, than companies financed by other investors

To get an even deeper understanding of the characteristics and the courses of action that have resulted in outright success, detailed interviews have been conducted with a group of 38 portfolio companies.

### **3. Vaekstfonden's portfolio – a qualitative analysis**

Success does not fit in a tightly defined mould as it depends on whom you are asking. Success can be an IPO for the high-tech company that grows from 3 to 100 employees in few years. But success can also be a sustainable business with moderate yet steady earnings. In this analysis success is determined from a financial investors point of view, which mean that the greatest success of all is an IPO or tradesale.

The interviewed companies are divided into three groups with a decreasing degree of success: Successful companies, up-or-down companies and closed companies.

#### **Successful companies**

Three types of companies meet the demands for financial success. The first group of companies has carried out an IPO or trade sale. Second are companies that have positive cash flow. As a result of the long development process for life science companies applies that this type of companies will count as successes if they have positive turnover exceeding 20 percent of the company's balance sheet. Third are companies that within the last twelve months has received funding from a new investor. The reason for this is that when a new investor invests in a company it signals that the market holds positive expectations about the firm's prospects.

#### **Up-or-down companies**

The companies, for which the future is still very uncertain and where it is difficult to determine whether they will meet the demands for success or will be forced to close in the near future, are named up-or-down companies. These companies can either go up or down. Thus such a company is named up-or-down if it has negative cash flow or a turnover less than 20 percent of the balance sheet for life science companies.

#### **Closed companies**

The last group of companies contains closures or near-closures. The group consists of companies that are already shut down or close to, as is characterised by companies with negative net capital/equity and deficit.

#### **Selection of companies**

The interviewed companies are selected such that they are as representative for the Danish venture capital market as possible. The selection is therefore focused at young companies within high-tech – that is within ICT and life sciences, see table 3.1.

Table 3.1: Interviewed companies by industry

	Success	Up-or-down	Closed	Total
Life sciences	23%	55%	20%	32%
ICT	59%	45%	70%	58%
Other	18%	0%	10%	10%
Total	100%	100%	100%	100%
Number	17	11	10	38

Source: Vaekstfonden

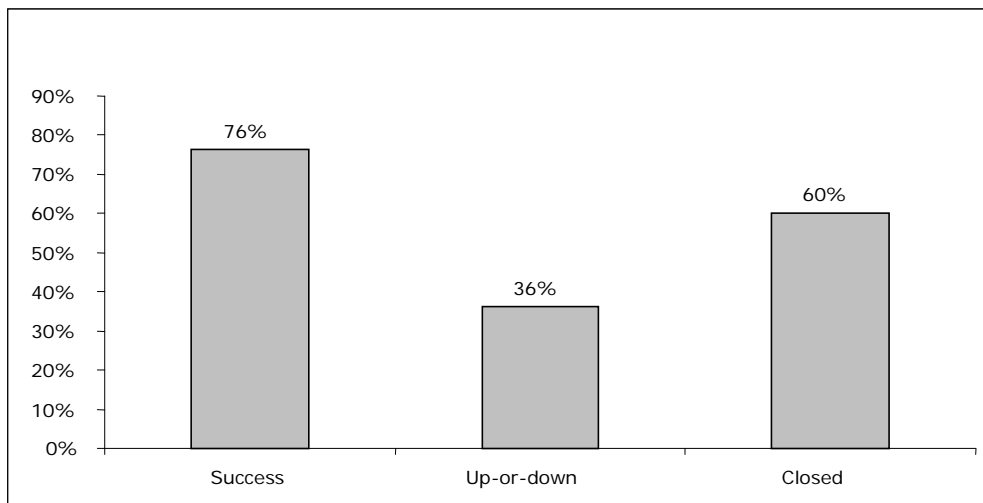
Both the successful and closed companies are on average about six years old, while the up-or-down companies are about three years.

Seeking to identify the crucial factors of success, we compare the groups of successes to the group of closed companies. The results are discussed below.

### Product development

Generally, the development of a company's core-business is driven by; the founders, R&D-personnel, or by the market. 76 percent of the successful companies state that the market has the greatest influence on product development, while the corresponding figure for the closed companies is only 60 percent.

Figure 5.2.1: Who have had the greatest influence on product development – founders, developers and/or the market?



Source: Vaekstfonden

*This implies that companies, whose product development is driven by the market, have a greater probability of success.*

Successful companies thus listen more to the market - and the needs of the market are closely integrated in the product development.

## Management

### *Number of founders*

Only a few entrepreneurs build-up and manage their companies by themselves over time, yet, in the early phases the founder or group of founders constitute the core of the company – and are often identical to the management. As the start-up of a company demands a series of key competencies – as well as a huge work-effort, it is often beneficial if company is founded by more than one person.

The likelihood that the founding group as a whole possesses the necessary competencies increases with the number of founders. A founding group composed of more than one person can also be a protection against some of the pitfalls faced by start-ups:

- The risk of losing focus is minimised. As a group it is easier to discuss and adjust the direction in which the company is moving – and ensure that the business model is actively pursued in the daily operations.
- Communication is enhanced. Presentations and sales pitches can be tested internally, before they are done externally. This makes the founders more prepared – and the probability of being persuasive towards customers, partners, or investors is improved significantly.
- It is easier to analyse business processes and results, when you are a group, and thus learn from mistakes.
- Visibility and accessibility towards customers, investors etc. increases. It is easier for interested parties to get in touch with the company, which is a great advantage as the surrounding world often reacts negatively to lack of access.

The results from the survey show that successful companies on average have more founders than the closed companies (2.6 vs. 1.9), see table 5.3.1.

Table 5.3.1: Number of founders

How many individuals were in the founding-group?	Group		
	Success	Up-or-down	Closed
Number of founders (average)	2.6	2.9	1.9

**Source:** Vaekstfonden

*The results thus imply that companies with more than two founders have a greater probability of success.*

### Management experience

Management is generally crucially important for the development of the company. The management has the overall responsibility for product development, market research, recruitment of employees, dialogue with investors etc. The ability to build up a company from the ground thus requires a substantial management effort. This implies a positive correlation between the founders initial management experience and the success of the company.

The data shows that founders of successful companies on average have more management experience than the founders of the closed companies. On average, the founders of the successes have 4.7 years of management experience, while the corresponding figure for the closed companies is only 3.5 years, see table 5.3.5.

Table 5.3.5: Founders management experience at founding date (number of years)

How much management experience did founders have prior to setting up the company?	Group		
	Success	Up-or-down	Closed
Average experience (years)	4,7	6,4	3,5

**Source:** Vaekstfonden

*The results thus imply that the probability of success increases with the extent of the founders initial management experience.*

### Motivation

Motivation and drive are crucial prerequisites for running a company. The companies were thus asked to rate the following motivations: The desire for great accomplishment, the desire to wield power over others, the desire for affiliation with others and financial return.

Table 5.3.6: Founder motivation

How do founders rate the following motivation factors on a scale from 1 to 5?	Group		
	Success	Up-or-down	Closed
Desire to achieve (achievement)	3,8	4,4	3,6
Desire to have power over other (power)	2,8	2,4	2,1
Desire for affiliation (affiliation)	2,7	2,9	2,2
Financial return (money)	3,3	2,6	4,2

**Source:** Vaekstfonden

The main motivation for the successful companies has been to accomplish – to create something extraordinary. The average score for this factor is 3.8, see table 5.3.6. The opportunity for a financial return has also had some influence (3.3), while the desire for power is more moderate (2.8).

The closed companies were mainly motivated by the possibility of a great financial return (4.2), but also the desire to accomplish played a role (3.6). The desire to have power over others is however ranked very low (2.1.). This implies that the founders in the companies that are closed may have felt it difficult to take decisions and make an impact on the business.

*The results thus imply that successful companies are characterised by founders, who are highly motivated by the desire for accomplishment while their motivation for power and financial return is more moderate.*

### The decision-making process

Decision-making processes govern how day-to-day as well as long-term strategic decisions are made in the company. The successful companies are characterised by relatively formalised decision-making processes. On a scale from 1 to 5 - where 1 indicates, that the processes are very informal and 5 indicates that the processes are highly formalised and structured – the successful companies rate at an average of 3.2. The corresponding figure for the closed companies is 2.1, see table 5.5.1.

Table 5.5.1: Degree of formalisation in the decision-making process

How would you describe your company's decision-making process? - On a scale from 1 to 5, where 5 is very formalised.	Group		
	Success	Up-or-down	Closed
Average for the group	3,2	2,6	2,1

**Source:** Vaekstfonden

*The results thus imply that companies with relatively formalised decision-making processes for strategy and business development have a greater probability of success.*

It appears from the data that technology start-ups should seek to strike a balance between a completely ad hoc decision making environment and the rigorous hierarchical structures that often are found in large corporations. Hence, the successful companies are characterised by moderately formalised and structured processes, where there is room for ad hoc based decisions when necessary. Yet regular meetings with the board of directors and the management – even in small companies – seem to have a favourable impact on decision-making; enhancing the probability of making the right decisions.

## Network

A company's network consists of management's and the employees' personal and professional networks. Most of the companies interviewed stress the importance of network in growing the company. Especially in connection with sales-channels, sales-contacts and customer relations, the right network can help gain access to key decision-makers in large companies. But also when it comes to the recruitment of employees, both professional and personal networks can be very valuable. However, it is important to differentiate between networks and closely prioritise the resources used to build up networks.

Customer related networks could add value to the company. Either by giving accesses to new customers or as part of the product development process, where companies receive direct feedback from the customers concerning the products.

Successful companies value network highly (3.6), while the corresponding number for the closed companies is 2.1, see table 5.5.4.

Table 5.5.4: The company's utilisation of network

To what degree has the company utilised network – on a scale from 1 to 5, where 5 indicate very high degree?	Group		
	Success	Up-or-down	Closed
Average for the group	3,6	3,2	2,1

Source: Vaekstfondem

*The results thus imply that companies, which exercise diligence in establishing and using networks, have a greater probability of success.*

## Financing

High-tech companies with significant growth potential often require external capital to realise this potential. All the companies interviewed have received external capital – including venture capital. Approximately  $\frac{3}{4}$  of the total capital infusion – for both successful and closed companies - comes from venture investors.

But raising venture capital can be very time-consuming, potentially detracting attention from developing the business. In the current funding environment it takes about 9-12 months for a life science company to raise capital, while ICT companies must expect to use about 6 months. Thus, the more funding mileage a company is able to secure in each funding round, the more resources it can devote to developing its products and getting customers. Companies should thus try to raise capital for at least 12 months of product development; to reduce the valuable resources used to raise capital.

The successful companies have all raised significantly more capital initially than the closed companies. Capital in this context is loan finance, venture capital, public funds and savings. On average the successful companies have raised DKK 8.9 million (€ 1.2 million) at the founding, while the corresponding number for the closed companies are DKK 0.5 million (€ 67,000), see table 5.6.1.

Table 5.6.1: Capital raised in million DKK (€ million)

Infusion of capital million DKK (€ million )	Group		
	Success	Up-or-down	Closed
At founding	8.9 (1.2)	14.7 (2.0)	0.5 (0.067)
First round	15.8 (2.1)	18.8 (2.5)	2.1 (0.283)
Cumulated	50.8 (6.8)	67.2 (9.0)	33.2 (4.5)

Source: Vaekstfonden

*The results imply that companies with stronger capitalisation at inception also have a higher probability of success.*

The wide array of findings, the totality of which may be found in the Danish version of this report, can be summarised in 10 characteristics that were consistently identified in the companies that enjoyed success in their business venture., see figure 6.1.

Figure 6.1: Characteristics for successful companies

### Characteristics for a successful company

1. Is flexible and ready to make adjustments - has a flexible business model, which can be adapted to how the market develops.
2. Is established by a team of founders with a high degree of management experience, who understand the importance of recruiting necessary skills early in the course of development.
3. Is market driven rather than driven by technology, which implies continuous collection and implementation of customer feedback in the product development process.
4. Has a fairly formalised decision-making process, ensuring a certain form and structure.
5. Founders are mainly driven by a desire for great accomplishment while financial return and power only rank moderately on the motivation scale.
6. Has raised a fair amount of capital.
7. Has an active board of directors, with a well-balanced set of competencies. And it never stops working with the board to make sure the right skills are present when they are needed.
8. Builds up and uses personal and academic network to a high degree.
9. Makes it attractive to potential buyers – e.g. through strategic alliances.
10. Adjusts its exit strategy to the market and seizes opportunities, as they appears.

Source: Vaekstfonden

The above characteristics give a strong indication as to the ingredients that make a successful business venture. Moreover, because they have emerged from a thorough empirical investigation, they lend themselves to a set of critical success factors for high-tech entrepreneurs. They may serve as guiding principles for technology start-ups setting out to conquer new markets.

Figure 6.2: 10 critical success factors for the entrepreneur

## **10 critical success factors for the entrepreneur**

### **1. Start your business with others**

Find partners with skills and competencies that complement your own – and preferably persons with management experience. This implies that you must be realistic about your own strengths and weaknesses. Hire in professional management when needed.

### **2. Go for the masterpiece rather than the quick return**

Be circumspect about your reasons for starting the company – and let yourself be motivated by the desire to create something extraordinary. Ambitions of money and power are rarely enough.

### **3. Start with a business plan - and use it**

Carefully lay out your business plan, and work with it as you go along. The strategy and goals for the company must always be clear.

### **4. Start with the customer - and think globally**

Focus on marketing and sales from day 1. It is important to get feedback from the market – and try to implement it in the product development. Use customers, competitors, collaborators etc. actively in product development – to make sure you are prepared for internationalisation.

### **5. Create structure and clarity in decisions**

You are responsible for creating decision-making processes which optimise resource allocation and build a framework for making qualified decisions on how to grow the business. Thus, focus on structures and processes from the beginning.

### **6. Start with sufficient capital**

Adequate capital from the beginning makes it possible to concentrate on the development of the company, rather than spending scarce management time on raising capital at short intervals.

### **7. Start with the ending in sight**

Have an exit-strategy, so that potential investors can see how you are going to give them a fair financial return. And make sure that the exit has a conspicuous role in the development of the business – only then are you ready to seize the opportunities that occur.

### **8. Be selective about investors and board members**

Make a list of competencies you want your investors and board of directors to possess. Use people with good knowledge of your product and market – and make sure that there is also knowledge and experience within areas like operations, finance, management and strategy. Do not be afraid to pay more for the right competencies.

### **9. Make strategic alliances**

Try to build up strategic alliances with well-established players in your industry, who can support the development of your business.

### **10. Build a strong network – and use it**

To have success requires access to a broad network. Find and cultivate contacts, who can give you access to the right people and companies – e.g. with potential partners and customers.

**Source:** Vaekstfonden