# Analysis of Provital Solution A/S

## -based on organizational life cycle, environment and strategy

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Analysis of Provital Solution A/S -based on organizational life cycle, environment and strategy

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**Synopsis:**

The purpose of this report is to give managers of entrepreneurial companies, an understanding of how environment and the strategy got influence on the organizational growth; and to give them a new approach to manage the company through the transition from entrepreneurial to established company. A company case is used combined with models and theory form articles and recognized literature to analyse the evolution of the company through the organizational life cycle. Findings are that the mature market gives limited opportunities for Provital Solution A/S (PS) as an entrepreneurial company to enter with a new technology. The uncertainty of the environment of PS is low. PS have to adopt a differentiated strategy. In the organizational life cycle most critical to PS is to differentiate to survive the second stage and get into the third stage where they reach a stable level between the organization, the market and the environment.

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## Preface

This report is the master thesis of $4^{th}$ semester at International Technology Management, Aalborg University by Peter J. Ingtoft.

I would like to dedicate this report to my dear mother Vibeke Ingtoft who died this summer.

A special thank goes to Mengyao Tang for helping me correcting and giving inspiration to the work.

I would like to thank Ole M. Madsen and Paw Juul form Provital Solution A/S for their cooperation and help during my internship in Germany. I would also like to thank Eng. Silke Haupthoff-Lau for practical help in Germany and for answering technical questions about water filtration as well as providing insight into the German market.

Date:

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Peter J. Ingtoft

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# Contents

# List of Abbreviations

| | |
|---|---|
| **CEO** | Cheif executive officer |
| **HR** | Human resource |
| **PS** | Provital Solution A/S |
| **RD** | Research and development |
| **UF** | Ultrafiltration |

# Part I

# Introduction

# Chapter 1

# Introduction

In Denmark about 90 % of all companies are small to medium in size [Yüksekkaya, 2007]. Many of them are micro sized company, as the boss is often self employed and is the only employee. Each year there are many one-man companies being set up in Denmark. However, due to the limitation of the single employee, they often faces challenges to continue the business or enter a new market, thus many of them turn out to have a short business life. On the other hand many small Danish companies are technology based. They either create new innovative technologies or improve already existent technologies.

The combination of small entrepreneurial company and a technology based business has called the author's attention. Based on a internship in a Danish one-man company, the author studies the development of a small company, who is potential to expand to a global company if it is aware of the factors which got influence of the organizational growth.

The internship inspires the author to further study how a new-started small company can stay long and become a mature company in the long run. Thus the author will continue use Provital Soluiton A/S (PS) as a case study to deep illustrate a company's external environment, as it is externally important to a new-started company. Furthermore a company's strategy and life cycle will be also discussed, since they explains the potential for a small company like PS to become mature and strong.

## 1.1 Problem Formulation

The above mentioned discussion leads to the following problem formulation:

> ***How can Provital Solution A/S evolve from an entrepreneur to an established company based on theories of organizational life cycle and the environment, and how can a differentiated strategy help Provital Solution A/S to penetrate the German pool water filtration market?***

The problem formulation will be answered by giving a proposal for how PS can evolve in the organizational life cycle together with a description of the management and decline factors relevant in the stages of the organizational life cycle. It will be proposed which strategy will bring growth to and transform PS from an entrepreneurial to an established company. The environment PS is operating in will be evaluated, and the market PS tries to enter will be discussed.

## 1.2 Purpose

The purpose of investigating this problem is to give managers of small entrepreneurial and technology based companies like PS, an understanding of how environment and the strategy got influence on the organizational growth of the company and to give them a new approach to manage the company through the transition from entrepreneurial to established company.

## 1.3 Notations

Since PS is a one-man company the manager is the only employee and is in the following referred to as the chief executive officer (CEO) of PS. Other abbreviations can be seen in List of Abbreviations.

## 1.4 Methodology

In order to make sure that this report is conducted in accordance to the study, methodology is necessary to be applied. In this section the research method will be described and validity and relativity will be later discussed.

### 1.4.1 Research Method

Avramenko and Kraslawski (2008) claim that an experience situation is represented by a case, which can be a single event that consists specific knowledge, may display how a task is carried out or how a piece of knowledge is applied. This report uses PS as a business case to discuss the potential of survival and expanding for a new established company. The reason that PS is chosen as the case is that the author have had internship in this company and have a deep inside of the company's organization structure.

Furthermore during the internship the author has an internal contact with the CEO of the company and has gathered first hand information through interview. At the same time the author has been in Germany for three months and has investigated the German market for water filter industries by attending fairs and contacting PS' competitors.

In addition to the data from internship, the very common method the author adopted in this report is the relevant materials from libraries and online sources. For instance, the author has been doing research online for gathering more useful information.

### 1.4.2 Validity and reliability

In social research, reliability can be equalized as "repeatability" or "consistency", which means a measure is considered reliable if it gives the same result over and over again (Trochim, 2006). Due to the first hand information directly from PS' CEO as well as no language barriers during communication, most of data gathered can be considered as real and valid, thus the validity is relatively high.

Regarding to reliability, this report can be considered as reliable, as illustrations are based on current situation of PS. For instance, the company's external environment is stable and at the same time the strategies the company is adopting right now is simple. However, there might be other elements which can affect the reliability. For instance the current PS' business applies to stage one of the life cycle. It may do not follow the stages since further is unpredictable due to the unstable economic situation worldwide.

## 1.5 Structure

This report is structured first with an introduction in Part I which introduce the problem. Than the theory is presented in Part II. It starts with a business model which is used in the following Pre-Analysis in Part III to make a business case of PS. The business case gives an understanding of PS so the theory than can be used to analyse PS in Part IV. The findings are discussed in Part V.

# Part II

# Theory

# Chapter 2

# Business Model

This chapter describes a business model which is used as a section in Chapter 6 to describe the business case of PS.

Morris et al. (2005) have identified three general categories of definitions of the term "business model" based on their principal emphasis. Each category is comprised of a unique set of decision variables and are labeled 'economic', 'operational' and 'strategic'. They represent a hierarchy in that the perspective becomes more comprehensive as one progressively moves from the economic to the operational to the strategic levels.

The business model used in this report is from Osterwalder and Pigneur (2010) and is on the most rudimentary level which is defined in terms of the firm's economic model. The concern is with the logic or profit generation [Morris et al., 2005].

The business model consists of four pillars in which there exists nine building blocks [Osterwalder and Pigneur, 2010]:

1. Offer

   Value proposition

2. Customer

   Customer relationship

   Distribution channel

   Target customer

3. Infrastructure

    Core capabilities

    Partner network

    Value configuration

4. Finance

    Cost structure

    Revenue streams

These pillars allow to express *what* a company offers, *who* it targets with this, *how* this can be realized and *how much* can be earned by doing it. This business model framework is a generic model which can express the business logic of a firm [Osterwalder and Pigneur, 2002].

## 2.1 Pillar 1: Offer

This pillar describes what a company offers. The offer is usually the focal point of a business since products and services are usually the first thing which customers see of a company. This pillar holds just one, but a very essential building block, which is the offer(s) that the firm provides to its customers. This comprises not only the company's bundles of products and services but the manner in which it differentiates itself from its competitors [Osterwalder and Pigneur, 2002]. The core offer satisfy the same basic want or need in a different way then the competitors [Hollensen, 2006, p. 35].

Decisions here address the nature of the product/service mix, the firm's role in production or service delivery and how the offering is made available to customers [Morris et al., 2005].

### 2.1.1 Value Proposition

The competitive game can be won by having an advantage as producing offerings with a higher perceived value and/or lower relative costs compared to competitors. Value creation may be direct and the resources that contribute to these benefits create value for customers as soon as they are employed. Other resources may, however, have an indirect impact on value for customers [Hollensen, 2006, P. 32].

A bundle of products and services that together form a coherent value proposition should be described together with the reasoning on why the firm thinks its value proposition could be valuable to the customer. Value is created either through *use*, reduction of the customer's *risk* or by making his life easier through reduction of his *efforts*. The value proposition can create value on one of five stages of the value life cycle. This can be at the moment of the *value creation*, its *purchase*, its *consumption*, its *renewal* or its *transfer*. The value proposition's value level should be compared to the one of the competition's. The scale goes from *me-too*, over *imitation* and *innovation* to *perfection*. The value proposition's price level should be compared to the one of the competition's. The scale goes from *free* over *economy* and *market* to *high-end* [Osterwalder and Pigneur, 2002].

## 2.2 Pillar 2: Customer

This pillar describes who a company targets with its offer. Customer management covers all customer related aspects. This includes the definition of target customers, their geographic dispersion, the means to reach and communicate with him, their interaction requirements, as well as the relational strategy the firm aims to establish with the customer. This have significant impacts on how an organization is configured, its resource requirements and what it sells [Osterwalder and Pigneur, 2002], [Morris et al., 2005].

### 2.2.1 Target Customer

A firm generally creates value for a specific target customer segment [Osterwalder and Pigneur, 2002].

### 2.2.2 Distribution Channels

Channels refer to the way a firm "goes to market" and how it actually "reaches" its customers [Osterwalder and Pigneur, 2002].

### 2.2.3 Customer Relationship

When "getting in touch" with the customer the firm automatically establishes a certain customer relationship. This can be a first time relationship, an existing relationship, or a one time relationship [Osterwalder and Pigneur, 2002].

## 2.3 Pillar 3: Infrastructure

This pillar describes how the offer can be realized and covers all elements related to the configuration of activities and resources between the firm and its partners in order to create value and reach the customer [Osterwalder and Pigneur, 2002]. The term 'core competency' is used to capture an internal capability or skill set that the firm performs relatively better than others. Development and enhancement of this competency solidify the firm's role in the external value chain and become the focus for the internal value chain [Morris et al., 2005].

### 2.3.1 Core Capabilities

A firm has to ensure that it disposes of the necessary capabilities to deliver its value proposition. Capabilities are based on a range of resources that can be owned by the firm or a partner organization [Osterwalder and Pigneur, 2002].

### 2.3.2 Partner Network

Partnerships help firms to exploit their core competencies. By concentrating on what they do best and partnering for most other activities a company can lower its costs and strengthen its market position. Partnerships can take different forms, such as integrated relationships, buy-side online platforms or service contracting [Osterwalder and Pigneur, 2002].

### 2.3.3 Value Configuration

The value proposition of a firm is the outcome of a value configuration of in-house and outsourced activities and processes. This configuration can take the form of a value chain [Osterwalder and Pigneur, 2002].

## 2.4 Pillar 4: Finance

The final pillar are the culmination of a business model as it constitute the actual foundation of a business: its financial pillar which describes how much can be earned by giving the offer. The neatest value proposition and the finest customer relationship are only worth being maintained if they guarantee a long-term financial success to the company. This simply mean that the revenue model and the costs have to be in balance in order to make a profit possible [Osterwalder and Pigneur, 2002].

### 2.4.1 Revenue Streams

A sound business model is one in which a firm can translate its value propositions into a range of revenue streams from its customers. A revenue stream can have a set of different pricing mechanisms [Osterwalder and Pigneur, 2002].

### 2.4.2 Cost Structure

The cost structure measures all the costs the firm has to incur to crate, market and deliver the value proposition. It sets a price tag on all the resources, assets, activities and partner network relationships and exchanges that cost company money [Osterwalder and Pigneur, 2002].

# Chapter 3

# Environment

Organizational environment is defined as all elements that exist outside the boundary of the organization and have the potential to affect all or part of the organization [Daft, 2007, 50]. First the market stages of technical change in terms of demand is described in this in Section 3.1 followed by the variables of the general and task environment in Section 3.2. The environmental uncertainties in the dimensions of environmental change and complexity is described in Section 3.3.

It is important to note that the environment in which the organization operates presents challenges that depend on the industry life cycle and industry structure. For example, market growth does not necessarily lead to growth for small organizations [Majumdar, 2008].

## 3.1 Market Stages

One of the most critical influences on the growth and profit opportunities for technology-based new firms is the amount of technical change in the environment [Bantel, 1993, p. 56]. The entrepreneurial-firm's success depends on the evolution of technical change in the environment.

New products go through a life cycle of four phases which is illustrated in Figure 3.1. The first three stages of technical change in terms of demand are particularly influential in determining new venture opportunity and growth [Eisenhardt and Schoonhoven, 1990], [Bantel, 1993, p. 56]. Eventually, the market becomes saturated, which leads to a decline in demand in the last stage of the life cycle [Stevenson, 2007, p. 132].

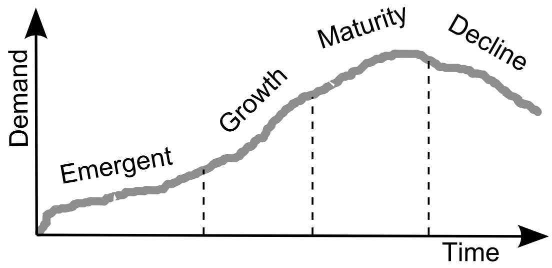


**Figure 3.1:** Products or services often exhibit life cycles over time. Source: [Stevenson, 2007]

### 3.1.1 Emergent Markets

Emergent markets are characterized by high uncertainty as there is no proven market viability. When a product is introduced to an emergent market the demand is generally low because potential buyers are not familiar with the product. Many potential buyers recognize that all the bugs have probably not been removed and the price may drop after the introduction period. Capacity and processing are designed for low volume but over time the output will be more reliable and less costly [Stevenson, 2007, p. 132]. Markets at this stage of development pose a threat to new ventures who may lack the resources to survive until the market viability is established [Bantel, 1993, p. 56].

### 3.1.2 Growth Markets

In the growth phase the price of the product is normally lower and the awareness of it is increasing [Stevenson, 2007, p. 132]. Growth markets, provide many opportunities. There are a number of strategic choices, since there is great change and turbulence in the environment. While the older firms can be locked into old technologies and markets [Eisenhardt and Schoonhoven, 1990], the young, entrepreneurial firms with greater flexibility easily exploit more new and unexpected opportunities [Bantel, 1993, p. 56].

### 3.1.3 Mature Markets

In this phase there are few, if any, design changes, and demand levels off. Mature markets are characterized by large size, stability and low growth rate. In such an environment, established competitors generally have an advantage over new firms because of their established competitive factors such as brand recognition, manufacturing techniques and distribution channels [Bantel, 1993, p. 56].

## 3.2 Environmental Variables

**The general environment** variables are those variables that might not have a direct impact on the daily operation of a firm but will indirectly influence it [Daft, 2007, p. 52], [Mintzberg et al., 2009, p. 30].

- **Social changes**
  Changing customer preferences – Impacting product demand or design
  Population trends – Impacting distribution, product demand or design
- **Governmental changes**
  New legislation – Impacting product costs
  New enforcement priorities – Impacting investments, products, demand
- **Economic changes**
  Interest rates – Impacting expansion, debt costs
  Exchange rates – Impacting domestic and overseas demand, profit
  Real personal income changes – Impacting demand

**The task environment** variables are those which the organization interacts directly and that have a direct impact on the organization's ability to achieve its goals [Daft, 2007, p. 50], [Mintzberg et al., 2009, p. 30].

- **Competitive changes**
  Adoption of new technologies – Impacting cost position, product quality
  New competitors – Impacting market share, contribution margin
  Price changes – Impacting market share, contribution margin
  New products – Impacting demand, advertising expenditures

- **Supplier changes**

  Changes in input costs – Impacting prices, demand, contribution margin

  Supply changes – Impacting production processes, investment requirements

  Changes in numbers of suppliers – Impacting costs, availability

- **Market changes**

  New uses of products – Impacting demand, capacity utilization

  New markets – Impacting distribution channels, demand, capacity utilization

  Product obsolescence – Impacting prices, demand, capacity utilization

## 3.3 Environmental Uncertainty

The patterns and events occurring in the environment can be described such as whether the environment is stable or unstable, homogeneous or heterogeneous, simple or complex; the munificence, or amount of resources available to support the organization's growth; whether those resources are concentrated or dispersed; and the degree of consensus in the environment regarding the organization's intended domain [Hammonds, 2002], [Daft, 2007, p. 54]. These dimensions boiled down to two essential ways the environment influences organizations:

- The need for information about the environment
- The need for resources from the environment

The environmental conditions of complexity and changes create a greater need to gather information and to respond based on that information. The organization also is concerned with limited material and financial resources and with the need to ensure availability of resources [Daft, 2007, p. 55].

Environmental uncertainty pertains primarily to those variables that an organization deals with on a regular, day-to-day basis.

Although variables of the general environment can create uncertainty for organizations, determining an organization's environmental uncertainty generally means focusing on variables of the task environment. To asses uncertainty, each variable of the organization's task environment can be analyzed along dimensions such as stability or instability and degree of complexity [Hammonds, 2002]. The total amount of uncertainty felt by an organization is the uncertainty accumulated across environmental variables [Daft, 2007, p. 55].

The rest of this section will focus on the information perspective, which is concerned with uncertainty created by the extent to which the environment is simple or complex and the extent to which events are stable or unstable.

### 3.3.1 Simple-Complex Dimension

The 'simple-complex dimension' concerns environmental complexity, which refers to heterogeneity, or the number and dissimilarity of external elements relevant to an organization's operations. In a simple environment, the organization interacts with and is influenced by only a few similar external elements. The more external factors that regularly influence the organization and the greater number of other companies in an organization's domain, the greater the complexity [Daft, 2007, p. 55].

The more complex an organization's environment, the more decentralized is its structure. The primary reason to decentralize a structure is that all the necessary information to make decisions can not be summarized in one head. Thus, when the operation of an organization is based on a complex body of knowledge, there is usually a need to decentralize decision-making powers. Note that a simple environment may be stable or dynamic, as can a complex one [Mintzberg et al., 1981, p. 219].

### 3.3.2 Stable-Unstable Dimension

The 'stable-unstable dimension' refers to whether elements in the environment are dynamic. The more dynamic an organization's environment, the more organic is its structure [Mintzberg et al., 1981, p. 218].

An environmental domain is stable if it remains the same over a period of months or years. Under unstable conditions, environmental elements shift abruptly [Daft, 2007, p. 56]. It is obvious that in a stable environment – where nothing changes – an organization can predict its future circumstances and so, everything else being equal, can easily rely on standardization for coordination [Mintzberg et al., 1981, p. 218]. Environmental domains seem to be increasingly unstable for most organizations [Daft, 2007, p. 56].

### 3.3.3 Framework

The simple-complex and stable-unstable dimensions are combined into a framework for assessing environmental uncertainty in Figure 3.2. In the *simple, stable* environment, uncertainty is low. There are only a few external elements to contend with, and they tend to remain stable. The *complex, stable* environment represents somewhat greater uncertainty. A large number of elements have to be scanned, analyzed, and acted upon for the organization to perform well. External elements do not change rapidly or unexpectedly in this environment [Daft, 2007, p. 57].

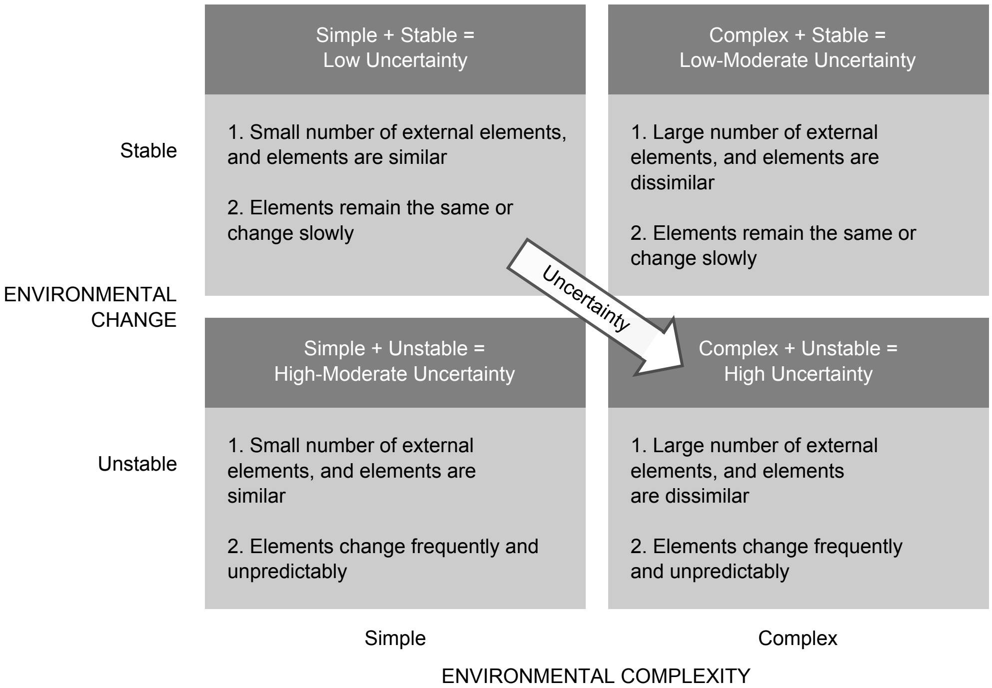


**Figure 3.2:** Framework for assesing environmental uncertainty. Source: [Daft, 2007]

Even greater uncertainty is felt in the *simple, unstable* environment. Rapid change creates uncertainty for managers. Even though the organization has few external elements, those elements are hard to predict, and they react unexpectedly to organizational initiatives. The greatest uncertainty for an organization occurs in the *complex, unstable* environment. A large number of elements impinge upon the organization, and they shift frequently or react strongly to organizational initiatives. When several variables change simultaneously, the environment becomes turbulent [Daft, 2007, p. 56].

## 3.4 Summary

New products go through a life cycle of four phases of technical change in terms of demand. There are two types of environmental variables. Variables in the general environment and variables in the task environment which directly or indirectly influence on the daily operation of a firm.

To assess environmental uncertainty the variables of PS's environment is analyzed along dimensions of stability and complexity in Chapter 7.

# Chapter 4

# Strategy

Strategy creates an alignment between the firm's strengths and weaknesses and the opportunities and threats in the environment. Strategy is critical in establishing the firm's long-term competitive viability and is critical to the success of entrepreneurial firms.

This chapter introduces the relatedness of the product/market choice to the founder's previous employment in Section 4.1. Then the importance of stability of the initial product focus is outlined in Section 4.2. The advantages and disadvantages of pioneering and imitating is explained in Section 4.3. The focus, differentiated and undifferentiated strategy types is outlined in Section 4.4.

Bantel (1993) claims that in entrepreneurial, technology-based small firms, there are four aspects of strategy that are relevant to the success. These are:

1. Relatedness of the product/market choice.
2. Stability of the initial product focus.
3. Pioneer or imitating others.
4. The firm's strategy type.

The strategies influence on the firm's growth is expected to have an effect when strategy is considers alone, these relationships are conditional upon the stage of technical change in the firm's environment.

## 4.1 Relatedness of The Product/Market Choice

The first aspect of strategy is the relatedness of the product/market choice to the founder's previous employment [Bantel, 1993, p. 56]. Firm growth and survival has been shown to be much simpler, when a founder establish a new firm with knowledge requirements related to his or her knowledge foundation [Freeser and Willard, 1990, p. 89]. As the founder seek to develop a market niche based on unique product or service characteristics, an in-depth understanding of the industry's products and markets is critical [Bantel, 1993, p. 57].

In the stages of emergent markets and growth markets the relatedness of product/market choice is expected to have a greater influence on firm growth. These markets are characterized by rapid change. An in-depth understanding of the market allows founders to anticipate and understand technical changes made by others and to lead the creation of technical changes [Bantel, 1993, p. 57].

In stable, mature markets where the basic elements of competing in the industry are not changing such a knowledge base would be less critical. Learning how to compete in such an industry would be easier than in unstable markets. The requirement for the managers to create technical innovations to stay competitive would also be much less [Bantel, 1993, p. 57].

## 4.2 Stability of The Initial Product Focus

Companies that continue to concentrate on their original product and technology and introduce related product improvements, have higher growth than those who engage in other areas[Freeser and Willard, 1990, p. 90]. Stability allows the company to establish brand recognition, technical expertise and efficient distribution channels in a specific product/service area without dilution of resources [Bantel, 1993, p. 57].

## 4.3 Pioneer or Imitating Others

The third strategy element concerns the extent to which firms are a pioneer with its products or services or attempts to imitate others. Long-term sustainable ("first mover"), competitive advantage accrues often the first on the market, including the establishment of barriers to entry and higher customer awareness [Freeser and Willard, 1990, p. 90]. On the other hand, if a firm simply imitates another it is necessary to be able to differentiate itself from established firms to gain customers loyalty. This often results in pressure on the company to compete on price, resulting in lower profitability, which can disrupt sustained growth for the entrepreneurial company [Bantel, 1993, p. 57].

The environmental stage of technical change will influence the extent to which having a pioneering strategy will lead to a firm's growth. While being a pioneer might bring a "first-mover" advantage there are also risks of a pioneering strategy [Bantel, 1993, p. 58].

## 4.4 Strategy Type

The firm's strategy type is a categorization of more generalized strategic behavior for firms [Bantel, 1993, p. 57]. One common typology is claimed by Abell (1980) who describes three generic strategy types [Sandberg and Hofer, 1987, p. 11]:

1. *Focus* – a narrow scope and rely on careful tailoring of product offerings to those segments.
2. *Differentiated* – combine a broad scope with differentiation of the business' products form one market segment to another, or occur when a business has a broad but relatively unique scope.
3. *Undifferentiated* – combine a broad scope across customers with an undifferentiated approach to the segments served, i.e., the same products are offered to all segment without special tailoring [Abell, 1980].

Bantel (1993) suggests that new ventures should choose a focus strategy in line with its limited resources. If the wider differentiated or undifferentiated type of strategy being pursued, entrepreneurial firms would probably not establish themselves as serious, important competitors in a market segment [Bantel, 1993, p. 57].

The success of the strategy type pursued by the firm must also be considered in the context of the stage of environmental, technical change. In a mature-market stage the pursuit of a differentiated strategy is more likely to facilitate firm growth. For an entrepreneurial firm to enter successfully an established market it is essential to differentiate the firm's product/service. But to have sufficient resources to establish themselves in their initial market niches, such a firm might also need to narrow the scope of its market [Bantel, 1993, p. 58].

The alternative strategy, competing on price, would be difficult against larger, more entrenched competitors with established economies of scale. Venture capitalists interviewed by Sandberg and Hofer (1987) for their evaluation criteria, preferred fragmented, growing industries, but mature industries were acceptable if the new venture was able to create a differentiated product [Bantel, 1993, p. 58].

### 4.4.1 Competitive Substrategies

Sandberg and Hofer (1987) defines some competitive substrategies to describe new venture business strategies and compare them with the strategy types form Abell

(1980).Although not all competitive substrategies can be used with each business definition strategy, some are suitable for at least two of them, as indicated in Table 4.1.

| Competitive Substrategies and Strategy Types | | | |
|---|---|---|---|
| | Strategy Types | | |
| **Competitive Substrategies** | Undifferentiated | Differentiated | Focused |
| Reduced production costs | | | |
| *new process* | X | | |
| *economy of scale* | XX | X | |
| *production/technology improvement* | X | | |
| Buy in with low price | X | X | X |
| Offer superior product | | X | X |
| Discover segment or niche | | X | XX |
| Marketing innovation | | XX | X |
| Imitative entry | | | |
| *geographic transfer* | | X | X |
| *supply shortage* | X | X | X |
| *market relinquishment* | | perhaps | X |

**Table 4.1:** Suitability of competitive substrategies with Abell's generic strategy types. *Note:* XX = Competitive substrategy is highly suitable to strategy type. X = Competitive substrategy is suitable to strategy type. *Source:* [Sandberg and Hofer, 1987]

## 4.5 Summary

There are four aspects of strategy that are relevant to the success of entrepreneurial, technology-based small firms. These are the relatedness of the product/market choice, stability of the initial product focus, pioneering or imitating others and the firm's strategy type. In Chapter 8 the strategy of PS is analyzed based on this theory.

# Chapter 5

# Life Cycle

A life cycle model is a good way of explaining and categorize dynamic, differentiable or discrete, systems which change over time. While each enterprise is unique in many ways, all face similar problems and all are subject to great changes. In this chapter different life cycles are descried.

First the *organizational life cycle* is outlined in Section 5.1. It explains the organizational evolution from small to big organization. The *changing management demands* in the organizational life cycle is described in Section 5.2. Then the *organizational ecocycle* is described in Section 5.3. It explains which management actions are necessary in different organizational stages of crisis and renewal. Afterwards the three factors that are considered to cause *organizational decline* is explained in Section 5.4.

Companies can be at one stage with regard to a particular factor and at another stage with regard to the others. According to Churchill (1983) a factor is rarely more than one stage ahead of or behind the company as a whole, an imbalance of factors can create serious problems for the entrepreneur. One of the major challenges in a small company is the fact that both the problems faced and the skills necessary to deal with them change as the company grows. Owners must anticipate and manage the factors as they become important to the company [Churchill and Lewis, 1983, p. 48].

A company's development stage determines the managerial factors that must be dealt with. Its plans help determine which factors will eventually have to be faced. Knowing its development stage and future plans enables managers to make more informed choices and to prepare themselves and their companies for later challenges [Churchill and Lewis, 1983, p. 50].

## 5.1 Organizational Life Cycle

An organizational life cycle is an useful way to think about organizational growth and change. This model is based in part, on the work of Miller and Friesen (1984); Churchill and Lewis (1983); and Daft (2007). It suggests that organizations are born, grow older and eventually die. Organization structure, leadership, and administrative systems follow a fairly predictable pattern through stages in the life cycle. Stages are sequential and follow a natural progression [Daft, 2007, p. 478].

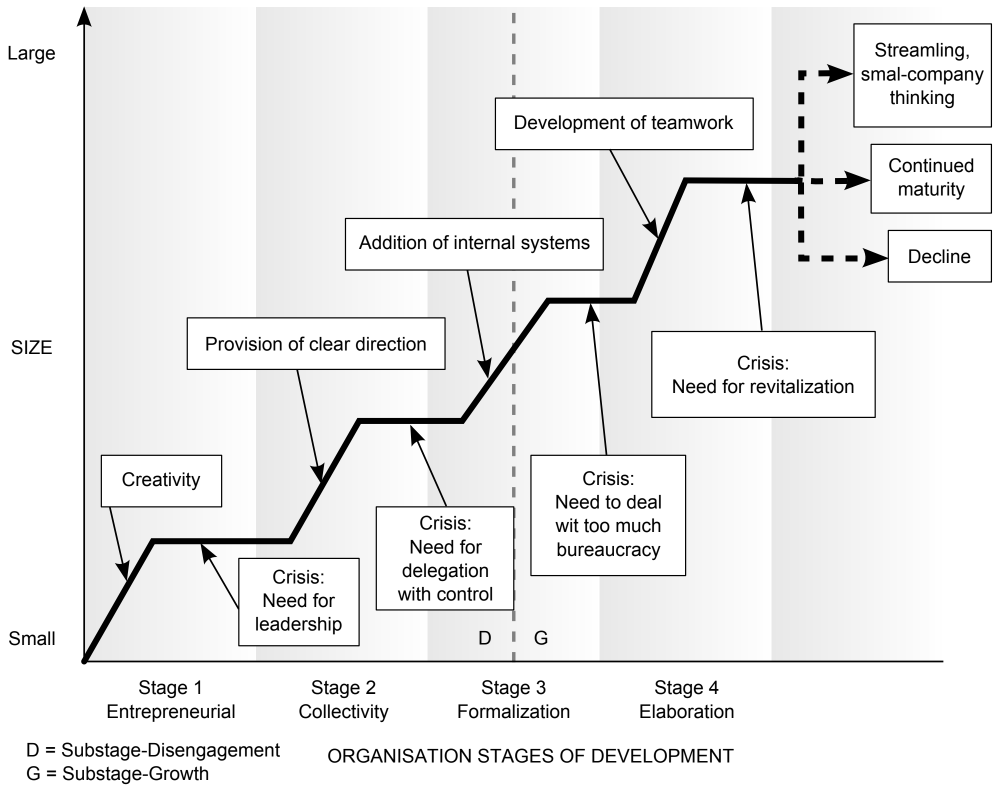


**Figure 5.1:** Organizational Life Cycle. Source: [Daft, 2007]

Four major stages characterize organizational development. These stages are sequential in nature, occur as a hierarchical progression that is not easily reversed and involve a broad range of organizational activities and structures [Quinn and Cameron, 1983, p. 33]. These stages are illustrated in Figure 5.1, along with the problems associated with transition to each stage. Growth is not easy. Each time an organization enters a new stage in the life cycle there is a new set of rules for how the organization functions internally and how it relates to the external environment . For technology companies, life cycles are getting shorter [Daft, 2007, p. 478].

The four stages are:

1. Entrepreneurial
2. Collectivity
3. Formalization
4. Elaboration

Changes take place in structure, innovation, control systems and goals as organizations evolve through the four stages of the life cycle.

84 % of the companys who manage the first year, still fail within five years because they can not make the transition from the entrepreneurial stage. The transitions become even more difficult as the organization goes through future phases of the life cycle. Organizations that do not successfully solve the problems associated with these transitions are limited in their growth and may even fail [Daft, 2007, p. 481].

### 5.1.1 Stage 1: Entrepreneurial

When an organization is born, the emphasis is on creating a product or service and survive in the market. There is a focus to identify a sufficient number of customers to justify the existence of the organization. The founders are entrepreneurs, and they devote their entire energy to the technical activities of production and marketing. Companies in this stage are small in size and organizational structure is informal and non-bureaucratic. Working hours are long. Control is based on the owners' personal supervision. Growth comes from a creative new product or service [Daft, 2007, p. 478], [Lester, 2004, p. 107].

#### Organizational Characteristics

The organization is a simple one – the owner does everything and directly supervises subordinates, who should be of at least average competence. The top boss gives structure and management. Systems and formal planning are minimal to nonexistent. The company's strategy is simply to remain alive. The owner *is* the business, performs all the important tasks, and is the major supplier of energy, direction, and, with relatives and friends, capital [Churchill and Lewis, 1983, p. 32].

#### Crisis: Need For Leadership

As the organization begins to grow, the larger number of employees causes problem. At this time of crisis, entrepreneurs must either adjust the structure of the organization to accommodate continued growth otherwise bring in a strong leader who can accomplish it [Daft, 2007, p. 479].

Many companies can not gain sufficient customer acceptance or product capability to become viable. In these cases, the owner close the business when the start-up capital runs out or sell the business for its asset value. In some cases, the owners cannot accept the demands the business places on their time, finances, and energy, and they quit [Churchill and Lewis, 1983, p. 32].

### 5.1.2 Stage 2: Collectivity

This is a stage of survival. In reaching this stage, the business has demonstrated that it is a workable business unit. It has enough customers and satisfies them sufficiently with its products or services to keep them. The key problem thus shifts form mere existence to the relationship between revenues and expenses [Churchill and Lewis, 1983, p. 34].

If the leadership crisis is resolved the organization begins to develop clear goals and direction. It seek to grow, develop some formalization of the structure and establish their own distinctive competencies [Miller and Friesen, 1984] and divisions are established [Daft, 2007, p. 479].

#### Organizational Characteristics

The organization is still simple. The company may have a limited number of employees supervised by a sales manager or a general foreman. Neither of them makes major decisions independently, but instead carries out the rather well-defined orders of the owner. Systems development is minimal. Formal planning is, at best, cash forecasting. The major goal is still survival and the owner is still synonymous with the business [Churchill and Lewis, 1983, p. 34].

Accordion to Churchill and Lewis (1983), the collectivity stage offers some interesting alternatives: some organizations grow large and prosper, entering the third phase of the organizational life cycle, some hit and miss, earning marginal returns in some fiscal cycles, and some fail to generate sufficient revenues to survive and go out of business [Lester, 2004, p. 107].

### Crisis: Need For Delegation

If the new leadership has been a success, lower-level employees gradually find themselves limited by the strong top-down leadership. Managers at lower levels begin to gain confidence in their own functional areas and want more discretion. An autonomy crisis occurs when top executives, who were a success because of their strong leadership and vision, do not want to give up responsibility [Daft, 2007, p. 480].

## 5.1.3 Stage 3: Formalization

Commonly called maturity or success stage. The decision facing owners at this stage is whether to exploit the company's accomplishments and expand or keep the company stable and profitable. A key issue is whether to use the company as a platform for growth – a substage 3-G company – or as a means of support for the owners as they completely or partially disengage from the company – making it a substage 3-D company [Churchill and Lewis, 1983, p. 34].

The Formalization Stage represents an organizational form where formalization and control through bureaucracy are the norm. Job descriptions, policies and procedures, and hierarchical reporting relationships are more formal. Top management is concerned with issues such as strategy and planning, leaving operation of the firm for middle managers. Product groups or other decentralized units may be formed to improve coordination [Daft, 2007, p. 480], [Lester, 2004, p. 107].

### Organizational Characteristics

Organizations are large, with different operations and a common problem involves wading through layers of organizational structure in order to get anything accomplished [Miller and Friesen, 1984]. At this point the organization is entering midlife. Bureaucracy characteristics arise. At the formalization stage, organizations can also develop complementary products to offer a complete product line. Top management delegates, but also implements formal control systems and the main goals are stability and market expansion [Daft, 2007, p. 482].

### Crisis: Too Much Red Tape

The organization works bureaucratic. Middle managers may feel offended by the intrusion of personnel. Innovation can be limited. The organization seems too large and complex to be managed through formal programs. The deployment of systems and programs may begin to strangle the middle-level managers. [Daft, 2007, p. 480].

### Substage 3-D

In the Formalization-Disengagement substage, the company has ensured economic success, and earns average or above-average profits. The company can stay at this stage for long time. Because of the organizationally size functional managers will take over certain duties from the owner. To make the company able to withstand rough times, the main concern is to avoid cash drain in prosperous periods [Churchill and Lewis, 1983, p. 34].

Many companies continue for long periods in the Formalization-Disengagement substage. The product-market niche of some does not permit growth, this is the case for many service businesses in small or medium -sized, slowly growing communities and for franchise holders with limited territories [Churchill and Lewis, 1983, p. 34].

Other owners actually choose this route, if the company can continue to adapt to environmental changes, it can continue as is, be sold or merged at a profit, or subsequently be stimulated into growth. If the company cannot adapt to changing circumstances it will either fold or drop back to a marginally surviving company [Churchill and Lewis, 1983, p. 34].

### Substage 3-G

In the Formalization-Growth substage, the owner consolidates the company and marshals resources for growth. The owner risks all the cash in financing growth. Among the important tasks are to make sure the basic business stays profitable. This second task requires hiring managers with an eye to the company's future rather than its current condition.

Systems should be installed with attention to forthcoming needs. Operational planning is, as in substage 3-D, in the form of budgets, but strategic planning is extensive and deeply involves the owner. The owner is thus far more active in all phases of the company's affairs than in the disengagement aspect of this phase.

If it is successful, the 3-G company proceeds into the Elaboration Stage. Indeed, 3-G is often the first attempt at growing before commitment to a growth strategy [Churchill and Lewis, 1983, p. 34].

## 5.1.4 Stage 4: Elaboration

It is time for renewal. The key problems in this stage are how to grow rapidly and how to finance that growth [Churchill and Lewis, 1983, p. 40]. The renewing organization demonstrates a desire to return to a leaner time [Miller and Friesen, 1984] when cooperation and teamwork fostered innovation and creativity.

### Organizational Characteristics

The mature organization is large and bureaucratic, with comprehensive control systems, rules, and procedures. Organization leaders attempt to develop a team orientation within the bureaucracy to prevent further bureaucratization. The key managers must be very competent to handle a growing and complex business environment.

The system, strained by growth, are becoming more refined and extensive. Both operational and strategic planning are being done and involve specific managers. Innovation is institutionalized through an research and development (R&D) department. The owner and the business have become reasonably separate, yet the company is still dominated by both the owner's presence and stock control [Daft, 2007, p. 482], [Churchill and Lewis, 1983, p. 40].

### Crisis: Need For Revitalization

After the organization is matured, it can enter periods of temporary decline. Firms may exit the life cycle, or go out of business at any stage. The organization comes out of touch with their environment or may become slow and bureaucratic and go through a phase of efficiency and innovation [Daft, 2007, p. 480].

Some organizations overcome the negative aspects of decline and begin to grow again and revert back to an earlier stage, such as Elaboration [Lester, 2004, p. 107]. They can also stay in one particular stage for a very long time, or fail to progress past an early stage, regression to decline or die without experiencing a maturity stage [Churchill and Lewis, 1983, p. 40]. This last option seems prevalent in today's environment due to the high failure rate of small businesses due to a lack of professional management and the financial crisis [Lester, 2004, p. 105].

## 5.2 Management Factors in The Organizational Stages

Several factors, which change in importance as the business grows and develops, are prominent in determining ultimate success or failure. Churchill and Lewis (1983) has identified eight such factors in their research, of which four relate to the enterprise and four to the owner. The four that relate to the company are as follows:

- **Cash:** Financial resources, including cash and borrowing power.
- **People - quality and diversity:** Personnel resources, relating to numbers, depth, and quality of people, particularly at the management and staff levels.

- **System and controls:** Systems resources, in terms of the degree of sophistication of both information and planning and control systems.
- **Business resources**, including customer relations, market share, supplier relations, manufacturing and distribution processes, technology, and reputation, all of which give the company a position in its industry and market.

The four factors that relate to the owner are as follows:

- **Matching of goals:** Matching of business and personal goals.
- **Owner's ability to do:** Owner's operation abilities in doing important jobs such as marketing, inventing, producing, and managing distribution.
- **Owner's ability to delegate:** Owner's managerial ability and willingness to delegate responsibility and to manage the activities of others.
- **Strategic planning:** Owner's strategic abilities for looking beyond the present and matching the strengths and weaknesses of the company with owners's goals.

As a business moves form one stage to another, the importance of the factors changes. The factors are varying among three levels of importance:

1. **Critical to the company:** key variables that are absolutely essential for success and must receive high priority.
2. **Important but managed:** factors that are clearly necessary for the enterprise's success and must receive some attention.
3. **Modestly irrelevant or a natural by product:** factors of little immediate concern to top management.

If the eight factors is categorized based on its importance at each stage of the company's development, a clear picture of the changing management demand is shown, see Figure 5.2.

### 5.2.1 Varying Demands

The changing nature of managerial challenges becomes apparent when one examines Figure 5.2. The changing role of the factors illustrates the need for owner flexibility.

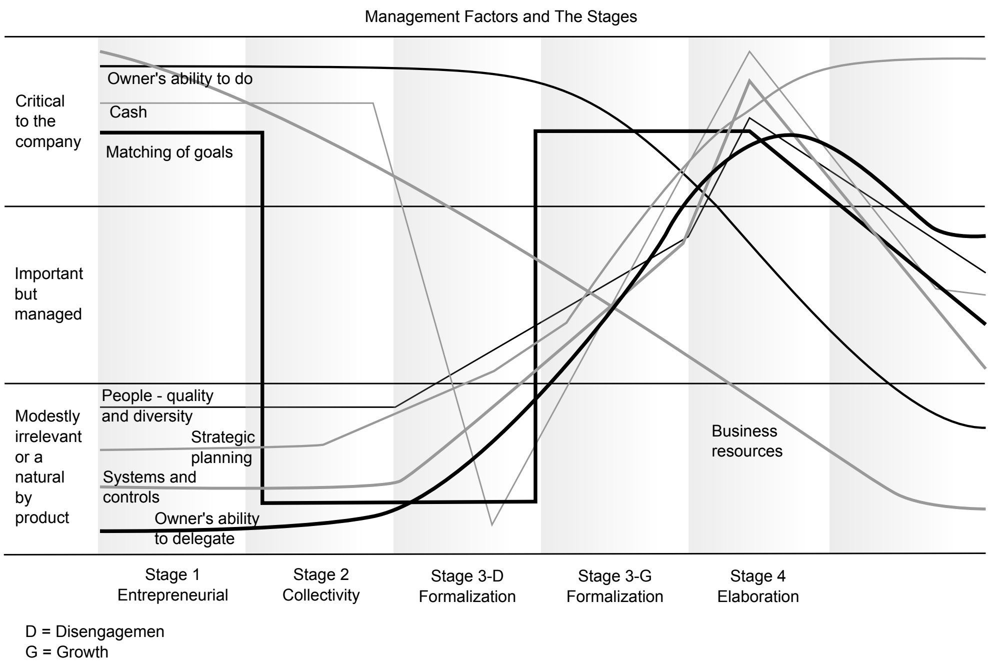


**Figure 5.2:** Management factors categorized based on its importance at each stage of the company's development. *Source:* [Churchill and Lewis, 1983]

An overwhelming preoccupation with cash is quite important for some stages and less importance for others. Delaying tax payments at almost all costs is paramount in Stage 1 and Stage 2 but may seriously distort accounting data and use up management time during periods of success and growth. "Doing" versus "delegation" also requires a flexible management. Holding onto old strategies and old ways do not serve a company that is entering the growth stages and can even be fatal [Churchill and Lewis, 1983, p. 43].

## Owner's Ability to Do and to Delegate

In the early stages, the owner's ability to do the job gives life to the business. Small businesses are built on the owner's talents: the ability to sell, produce, invent, or whatever. This factor is thus of the highest importance. The owner's ability to delegate, however, is on the bottom of the scale, since there are few if any employees to delegate to [Churchill and Lewis, 1983, p. 42].

As the company grows, other people enter sales, production, or engineering and they first support, and then even supplant, the owner's skills – thus reducing the importance of this factor. At the same time, the owner must spend less time doing and more time managing. The owner must increase the amount of work done through other people, which means delegating. The inability of many founders to let go of doing and to begin managing and delegating explains the demise of many businesses in substage 3-G and Stage 4 [Churchill and Lewis, 1983, p. 42].

The owner contemplating a growth strategy must understand the change in personal activities such a decision entails and examine the managerial needs depicted in Figure 5.2. Similarly, an entrepreneur contemplating starting a business should recognize the need to do all the selling, manufacturing, or engineering from the beginning, along with managing cash and planning the business's course-requirements that take much energy and commitment [Churchill and Lewis, 1983, p. 42].

### Cash

The importance of cash changes as the business changes. It is an extremely important resource at the start, becomes easily manageable at the Formalization Stage, and is a main concern again if the organization begins to grow. As growth slows at the end of Stage 4, cash becomes a manageable factor again. The companies in Stage 3 need to recognize the financial needs and risks entailed in a move to Stage 4 [Churchill and Lewis, 1983, p. 42].

### People, Strategic Planning and Systems

The issues of people, planning, and systems gradually increase in importance as the company progress from slow initial growth (substage 3-G) to rapid growth (Stage 4). These resources must be acquired somewhat in advance of the growth stage so that they are in place when needed.

### Matching of Goals

Matching business and personal goals is crucial in the Entrepreneurial Stage because the owner must recognize and be reconciled to the heavy financial and time energy demands of the new business. Some find these demands more than they can handle. In the Collectivity Stage, however, the owner has achieved the necessary reconciliation and survival is paramount, matching of goals is thus irrelevant in Stage 2 [Churchill and Lewis, 1983, p. 42].

A second serious period for goal matching occurs in the Formalization Stage. Does the owner wish to time and risk the accumulated equity of the business in order to grow or in stead prefer to enjoy some of the benefits of success? In most cases the owner demands both. To make a realistic decision on which direction to take, the owner needs to consider the personal and business demands of different strategies and to evaluate the owners managerial ability to met these challenges [Churchill and Lewis, 1983, p. 43].

### Business Resources

Finally, business resources are the stuff of which success is made; they involve building market share, customer relations, solid vendor sources, and a technological base, and are very important in the early stages. In later stages the loss of a major customer, supplier, or technical source is more easily compensated for. Thus, the relative importance of this factor is shown to be declining [Churchill and Lewis, 1983, p. 43].

## 5.3 The Organizational Ecocycle

David K. Hurst (1995) describes organizational changes through an ’ecocycle’ model of crisis and renewal. As shown in Figure 5.3, the model consists of two loops that intersect to form the symbol for infinity.

The ’front’ half or ’performance loop’ of the model, shown as a solid line, is the conventional life cycle. It is here that ’strategic management’ is found. The back half, or ’learning loop’, shown dotted represents’ a less well known, renewal cycle of ’death’ and ’reconception’. This is the kingdom of ’charismatic leadership’ [Hurst, 1995, p. 104], [Mintzberg et al., 2009, p. 342].

Human organizations cycle between emergent and constrained actions. Entrepreneurial action leads to conservation, or settle to established procedure, which ultimately provokes crisis and confusion, which stimulates creative responses, and so a new cycle begins. The conservation can be expressed as lack of response to changes in the environment which leads to organizational decline. The organization have to respond to this by changing strategy or perhaps move to the next organization stage [Mintzberg et al., 2009, p. 342]. Sometimes the connections between the stages are smooth and almost linear, while at other times, they tend to be rapid and nonlinear. Once an organization is established, its conventional life cycle clearly lasts longer than any cycle of renewal [Hurst, 1995, p. 115].

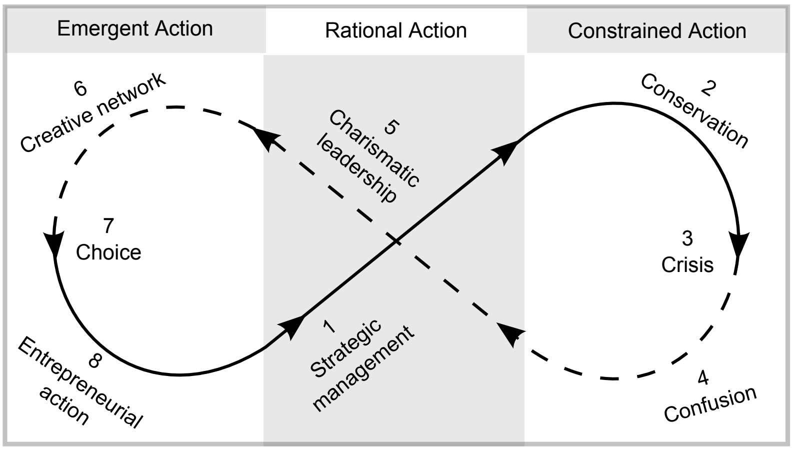


**Figure 5.3:** The organizational ecocycle. Source: [Hurst, 1995]

### 5.3.1 Management Actions

Hurst (1995) present the following three perspectives on management action. The question is not which of these three models of action is right, but when and under what circumstances they are useful to understand what managers should do [Hurst, 1995, p. 7].

#### Rational Action

In the model there are two types of rational action, because each of the half-loops traverses the area in which rational action is possible. Each form of rationality takes the organization in quite different directions. All numbers refer to the diagram in Figure 5.3.

**1 Strategic Management** is characterized by an instrumental, means-end rationality. The fundamental purpose of the organization are seen as economic and hence calculable. All action is a means to economic ends. Strategic management is the central management activity on the performance loop, which leads eventually toward organizations that become tightly connected an constrained [Hurst, 1995, p. 104].

Strategic Action is purposive and rational; it is directed toward the achievement of goals. In this view, managers think rationally, making clear choices before they act. Their action can usually be justified technically as maximizing some well-defined objectives such as profits [Hurst, 1995, p. 5].

Strategic In addition, this front loop is dominated by a relative length period in which managers can behave "strategically" – that is, as instrumentally rational actors. Doing this phase of the process, organizational growth may be fairly smooth and linear. The emphasis is on economic performance, and the conventional rational actor perspective may work very well [Hurst, 1995, p. 115].

**5 Charismatic Leadership** Charismatic is a values-based rationality-action taken for its intrinsic worth in demonstrating deeply held beliefs about human relationships. Charismatic leadership develops loosely connected, creative networks from which new activities can emerge [Hurst, 1995, p. 104].

Charismatic It is in the confused aftermath of this creative destruction that the stage is set for a values-based, charismatic leadership. Now managers have to live the values that they espouse. Their action is rational, not because it is a means to an end but because it is *intrinsically valuable*. Managers in this phase of the cycle model the behavior they expect from others [Hurst, 1995, p. 116].

### Constrained Action

Action is externally constrained and situationally determined. In this view, any rationality is retrospective in nature; it represents an attempt to give meaning to and a sense of control over the world [Hurst, 1995, p. 6].

This perspective will not work well indefinitely, however. Over time, organizations and managerial discretion within the system becomes more and more constrained. Nevertheless, although managers may often be constrained and confused, they are never powerless. They can always do something. When they are constrained, they can jump out of the "box" by destroying the system "creatively": they can crate crises to shatter those constraints [Hurst, 1995, p. 115].

### Emergent Action

Action is emergent from a process that is almost random in nature; it unfolds over time, and rationality, goals, and purpose are emergent from the process. In this perspective, managers are free to act but do not know what to do. Their behavior is not goal-directed; rather, it is goal-interpreted retrospectively [Hurst, 1995, p. 6].

This values-based rational action seems to be essential to the attraction of creative people and the creation of contexts that nurture innovation and entrepreneurship. It attracts followers to the charismatic leaders – followers who are self-selected and who themselves can learn to lead. This allows the formation of a network of relationships held together by shared values and an emerging vision of common purposes.

With the emphasis on learning and the options generated, the renewed organization now regains the ability to choose [Hurst, 1995, p. 116].

### 5.3.2 Stage 1: Strategic Management

The business prospers and grows, becoming larger and somewhat more structured in the process. After a few years, a new logic is imposed form the top by senior managers – a deliberate strategy of diversification and growth through acquisition. This is followed by significant growth in revenues and income, accompanied by a steady increase in the scale of the organization. Eventually, this leads to a loss of control [Hurst, 1995, p. 72].

Instrumental rationality first becomes possible in young organizations when managers have learned cause-effect relationships. This learning is often a result of a series of trial-and-error experiments made i an earlier phase of the organization's existence. Of course, this does not preclude some organizations from imitating the apparently successful recipes of others and short-circuiting the trial-and-error process. Indeed, it has been suggested that much activity and change in organizations is driven by imitation [Hurst, 1995, p. 105].

### 5.3.3 Stage 2: Conversation

When the growth in overall demand slows, the competitive premise becomes "more of the same". When an organization becomes successful, the managers will naturally tend to restrict activities to those that have proved to work. Successful strategies will be elaborated upon and expanded. Considerable effort and capital will be invested in describing these activities and embedding them in technology and formal organizational procedures to perpetuate their performance. Activities within the system will become tightly connected with each other via technology of all kinds, and there will be limited variety in the ways in which procedures are performed. Often this is accompanied by an increase in the scale of operations. The organization will specialize and emphasize efficiency. This will make it even more successful than it might otherwise have been [Hurst, 1995, p. 108].

The company gets into problems brought upon it by the uncompetitiveness of many of the individual operations, excessive reliance on debt, and a severe economic recession [Hurst, 1995, p. 72].

### 5.3.4 Stage 3: Crisis; Creative Destruction

The constrained action leads to a major crisis that threatens the survival of the organization. For practicing managers, the term creative destruction is a disturbing one. In human organizations, destruction is likely to seem creative only to those who are either at one level above the system being destroyed or entirely outside the situation. For those inside the system being destroyed, however, the implications are threatening because, as individuals, we are the elements of the system. This phase of an organization's life is characterized by crises, discontinuities, and wide fluctuations in variables such as sales and prices that have traditionally been stable. Crisis break down organizations, but it creates the necessary preconditions for new elements to enter the situation, for new connections to be made, for new processes to operate, and for new systems to emerge [Hurst, 1995, p. 109].

### 5.3.5 Stage 4: Confusion

The crisis seems to shatter all kinds of constraints on the actors. This is accompanied by a radical downsizing as the newly defined "noncore" operations are either closed or sold and the "core" operations are reduced in size [Hurst, 1995, p. 72]. Renewal begins in the confused aftermath of crisis, which shatters the previous forms of hierarchical control [Hurst, 1995, p. 112].

### 5.3.6 Stage 5: Charismatic Leadership

During the renewal cycle, there is little hierarchy and no shared logic to coordinate the organization. Leadership and shared values is the reason to why people stay together during the traumatic transition renewal cycle [Hurst, 1995, p. 72]. A hectic period of "rationalization" follows, during which many parts of the business are shrunk, sold, or closed [Hurst, 1995, p. 111].

### 5.3.7 Stage 6–8: Creative Network, Choice and Entrepreneurial Action

In the resulting "space", management action seems to take on an emergent character again. The capacity to choose is now restored, although the business is significantly larger in scale than it was in those early years [Hurst, 1995, p. 73]. After a while, a smaller version of the enterprise emerges. Often this organization is focused on the core businesses that led to the enterprise's original success [Hurst, 1995, p. 111].

A choice is trigging a new conventional life cycle.

Entrepreneurial action is characterized by a simple rationale to the business, together with a culture and an environment that encourages spontaneous behavior and learning. Activities seem to be emergent rather than planned [Hurst, 1995, p. 71].

## 5.4 Organizational Decline Factors

Every organization goes through periods of temporary decline. Some companies can not continue to grow and expand.

The term 'organizational decline' is used to define a state where a significant, absolute decline in an organization's resource base occurs over a period. Organizational decline is often associated with environmental decline in the sense that an organizational domain experience either a reduction in size or a reduction in shape. Generally there are three factors that are considered to cause organizational decline [Daft, 2007, p. 495].

1. Organizational atrophy
2. Vulnerability
3. Environmental decline or competition

### 5.4.1 Organizational Atrophy

Atrophy occurs when organizations grow older and become ineffective and overly bureaucratic. The organization's ability to adapt to its environment deteriorates. Often, atrophy follows a long period of success, because an organization takes success for granted, becomes attached to practices and structures that worked in the past, and fail to adapt to changes in the environment [Daft, 2007, p. 495].

Experts warn that companies risk being obsolete by holding patterns that succeeded in the past but may no longer be effective. Some warning signals of organizational atrophy include excess administrative and support staff, heavy administrative procedures, lack of effective communication and coordination, and outdated organizational structure [Daft, 2007, p. 496].

### 5.4.2 Vulnerability

Vulnerability reflects an organization's lack of strategic ability to thrive in its environment. It often occurs for small organizations that have not yet been fully established. They are vulnerable to changes in consumer tastes, or in the economic health of the larger community. Some organizations are vulnerable because they are unable to define the right strategy to fit the environment. Vulnerable organizations are typically forced to redefine their environmental domain to enter new industries or markets [Daft, 2007, p. 496].

## 5.5 Summary

There are four stages of organizational development. Changes take place place in structure, innovation, control systems and goal as the organization evolve through the stages.

Eight factors are prominent in determining success and failure of companies. As the business grows the factors change in importance.

The organizational ecocycle describes organizational changes by crisis and renewal. The model shows when and under what circumstances different management actions are useful.

Three factors causes organizational decline.

The organizational decline may move through five phases. In each stage actions can be done to close the performance gap.

# Part III

# Pre-Analysis

# Chapter 6

# Business Case of Provital Solution A/S

The business case is based on PS which is a Danish company who sells a new technology for water filtering in swimming pools. PS would like to enter the German market and in the future become a global supplier of swimming pool water filtration systems. The information about PS in the business case is form the authors previous internship report on PS's technology and marketing situation in relation to the German market.

## 6.1 Mission and Corporate Goals

PS got the following mission:

- To create an unique solution to ensure a high water quality.
- To give alternatives to traditional sand filters.
- To create jobs in Løkken and in the periphery of Denmark.
- To be the leading provider of solutions for filtering and purifying of bathing water for swimming pools.

PS got the following corporate goals:

- To be market leader in Denmark within the next three years and have established filtration plants in Germany and Sweden and eventually be a global player.

## 6.2 Product

PS has developed a system for filtering of pool water based on ceramic silicon carbide filters with a pore size of 3 µm. PS can also make the filters with a pore size of 0,04 µm . The system is shown in Figure 6.1

**Figure 6.1:** Swimming pool filtration system form Provital Soluiton A/S

The system is full automatic and monitor flow, temperature, pressure, leaks, valve position and chlorine content. The control system is tailored to the individual filtration systems and controls all parts of the filtration plant including measurements of chlorine content, valves, main pump, chemical pump, back flushing sequence and frequency. The system can be remotely controlled and monitored via e-mail and/or SMS. From a web interface it is possible to monitor and configure all operational parameters on the system [PS, 2009].

## 6.3 History of Provital Solution A/S

PS was founded as a joint venture between CoMeTas and Løkken Spa & Pool in 2008. To test the system it was set up in a spa in Skallerupklit. Later a system test was performed at a camping site in Hedebo. In the fall of 2009 a reference system was set up in Gladsaxe swimming pool. In 2010 a system was set up at a land owner association in Rønneholt (outdoor swimming pool) and in Skive at Møllegården (indoor swimming pool). In February a system was set up in Den Jydske Håndværkerskole (indoor swimming pool). Deals are out in Sønderborg and Ballarup as well as a number of small plants .

After having established PS on the Danish market, the strategy was to get into the Swedish and German markets during 2010/2011. The strategy is to get a reference plant in the country and use it in marketing and burden of proof towards the potential customers. The Danish market has stagnated due to local economy and therefore PS need to look at export markets to expand market opportunities. Moreover, PS must have an accreditation through an documented test from DHI (independent, international consulting and research organization) which confirms that PS have a new unique technological solution .

## 6.4 Market Position

Core internal competencies provide the basis for external positioning. The model must delineate how the entrepreneur intends to achieve advantage over competitors. The challenge is to identify salient points of difference that can be maintained. The entrepreneur attempts to define a unique, defensible niche enabling the firm to reduce ongoing developments in the environment [Morris et al., 2005].

PS also need to formulate a suitable positioning, which creates a competitively distinctive place (position) for the brand or product in the mind of targeted customers by using marketing. This positioning must in a meaningful way for the customers to set the product apart form competing products [Hollensen, 2006, p. 11].

The most important attributes for a water filtration system is the price, the water quality and the system footprint. Based on this, two possible position maps are made.

Concerning water quality and price, in Figure 6.2, PS can take three positions, one more expensive, same price or cheaper than Ultrafiltration). It is unlikely that customers would like to pay more for PS than the UF systems when PS delivers a lower water quality. It is logically to obtain a linear relation between water quality and price. The PS system could be sold with a higher price than the UF systems but it would not be easy since there is a low willingness to invest and the same water quality can be delivered for a lower price with a UF system. The best position for a PS system would be the same price as the UF systems or a lower price to penetrate the market.

Concerning system footprint and price, in Figure 6.3, PS can take tree positions.

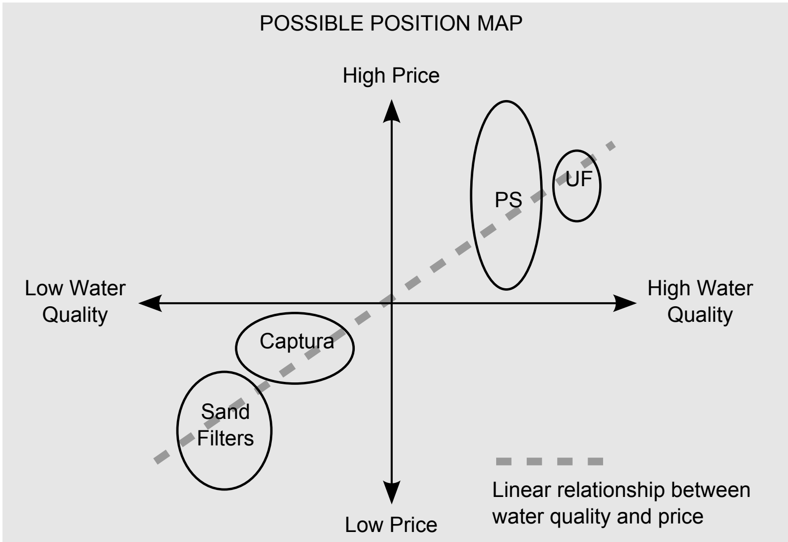


**Figure 6.2:** Possible position map with water quality on the $1^{th}$ axis and price on the $2^{nd}$ axis.

Compared to UF, the price can be cheaper, the same or more expensive. All positions got a smaller system footprint than the UF systems. It would be logically to obtain a linear relationship between price and footprint and thereby take the position with the price higher than the UF systems, however the lower the price is the more value the customer will get for the money by choosing PS. The most competitive position is the one with the lowest price since it would only be the customers who need a very compact system there will be willing to pay more for a PS system than a UF system.

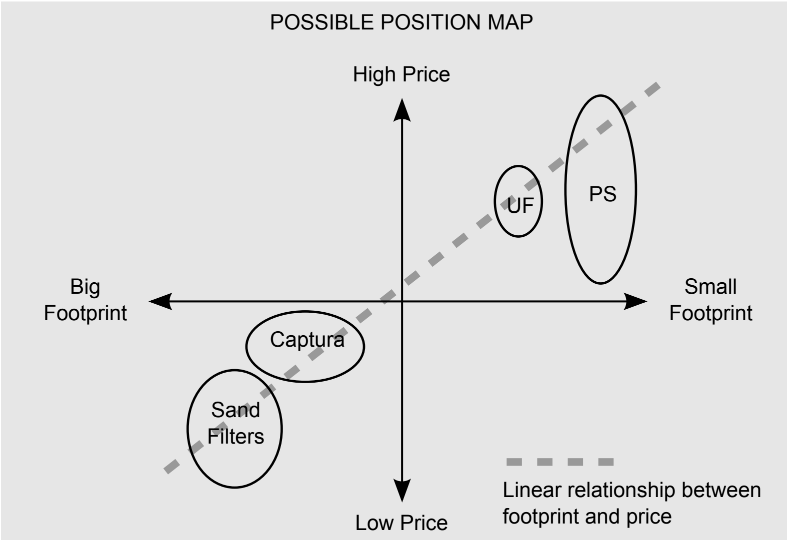


**Figure 6.3:** Possible position map with system footprint on the $1^{th}$ axis and price on the $2^{nd}$ axis.

## 6.5 Business Model of Provital Solution A/S

In this section the business model described in Chapter 2 is applied to PS.

### 6.5.1 Pillar 1: Offer

#### Value Proposition

PS's core offer is the filter system with ceramic membranes form CoMeTas which satisfy the customer's need for filtrated water. PS differentiates from the competing UF systems since the pore size of PS is bigger than UF. The good control and monitoring system also differentiate PS form the UF systems. PS is creating value to its customers by reducing their efforts since the full automated and self-monitoring PS system, filtrates the swimming pool water and backwash the system when the system senses the necessarily. The value is created at the moment of its consumption by reduction of maintenance and resources as chlorine, water and power. The value is on an innovative level as the technology is different form the competitors. The following advantages can be gained by using the PS system instead of traditional sand filters [PS, 2009].

- *Better economy* - by reducing waste of water and save energy.
- *Longer living time of the system*
- *Better water quality* - since the ceramic filters performs better then sand filters.
- *Easy maintenance* - since the system are smaller and the components are easier replaced then with sand filters.
- *Smaller physical space* - used by the filtering system.

The price level of PS is high-end at the moment. However they still are innovators in a developing stage with an emerging technology [Brown, 1992]. The price level will move to the market level and might go to a economy level over time. As the CoMeTas filters gets cheaper to produce as higher volume, it will contribute to lower production costs [Stevenson, 2007, p. 132] [Mintzberg et al., 1981, p. 350].

If PS got a cost advantage or if there are barriers to competitors with a lower cost structure competing at a lower price, lower price as a means of differentiation can be a successful basis for strategy. Without a cost advantage a price war can be a disastrous course to follow [Hollensen, 2006, p. 37].

### 6.5.2 Pillar 2: Customer

#### Target Customer

The German market for pool water filtration is divided in two segments: the *private* and the *commercial* pools. The segments are shown in Table 6.1.

| Market Segments | | | |
|---|---|---|---|
| **Private:** | | Pool | Wirthpool |
| **Commercial:** | **Private:** | Hotels | Fitness |
| | | Public pools | Water parks |
| | **Municipal:** | Public pools | Water parks |

**Table 6.1:** Segments of the market.

The *private* segment is private owned pools in private homes and summerhouses which is in need for small pools and whirlpools. The *commercial* pools are public open pools who charge money from the visitors. The commercial pools can be divided into two sub segments: *municipal* and *private* owned. The *municipal* pools are public pools and water parks. Municipal, commercial operators are responsible for 78,5 % of all pools in Germany [Alberg, 2008]. The private commercial pools are public pools, water parks, hotels and fitness clubs. Private, commercial operators are responsible for 8.4 % of all pools in Germany [Alberg, 2008].

Right now the main target for PS is the commercial market since the capacity and the price of the PS system is high. In the start of entering the German market PS will put their focus on the commercial private hotels and fitness clubs. They often have a small size pool where the demands to water quality is not so strict. It will be easier for them to adopt a new technology and the small size of the PS system is an advantage for them too. It would be strategical wise to get a reference system placed central in Germany so stakeholders easy can access it.

#### Distribution Channels

The systems in Germany will be sold through a sales center in Germany and sent by courier to the customer. German installers will set up the system and PS will test it and introduce it to the customer.

#### Customer Relationship

The customer relationship will be existing as long the customer got the PS system as it needs to be maintained and in case of errors, fixed by PS.

### 6.5.3 Pillar 3: Infrastructure

#### Core Capabilities

PS got the exclusive right to use the silicon carbide filters produced by CoMeTas who own the patents. The assembling and installation is taken charge by Kaj Larsen VVS. The installation can be outsourced to other local installers, who will be able to reach the customer.

#### Partner Network and Value Configuration

PS got partnerships with CoMeTas, Kaj Larsen VVS, German sales center and a German installer. The partner network is illustrated in Figure 6.4 together with supply and value chain.

### 6.5.4 Pillar 4: Finance

The author do not have information about the revenue streams and cost structure of PS.

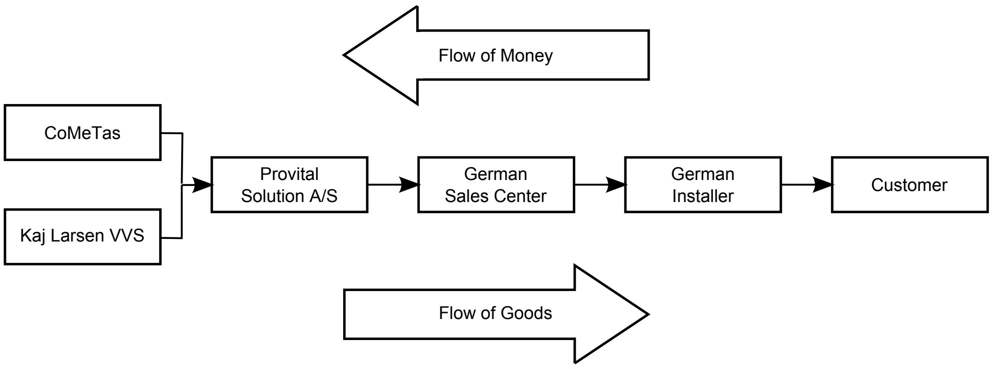


**Figure 6.4:** Partner network with supply chain indicating goods and money flows

# Part IV

# Analysis

# Chapter 7

# Environment Analysis of PS

## 7.1 Market Stage

The filtration system form PS is now in the introduction phase, moving into the growth phase as they begin to be established in the German market and decrease the pierce of the system.

PS aims to enter the commercial swimming pool water filtration market. This market is in the mature phase. The growth is slow since construction, expansion and renovation of public swimming pools is limited. When a swimming pool is build it will exist for many years. However many swimming pools are old and need to be renovated or make expansions. Here PS can have a market opportunity since their system is small and require a smaller technician room which is cheaper to build [Bantel, 1993, p. 56].

But the market is conservative and stick to old and familiar filtration technologies as sand filters. Sand filters are often preferred because they are cheap to buy, but the running costs are more expensive since they need more water for back washing.

In addition to the water costs, more expenses will go to the power that is used to warm up the water to replace the discarded. Here PS got an advantage since their system uses less water for back washing and less power. Unfortunately, municipalities often focus more on the purchase price than operating costs. The competitive established competitors got an advantage by brand recognition and distribution channels [Bantel, 1993, p. 56].

## 7.2 Variables in The Environment of PS

### 7.2.1 Variables in The General Environment

If people stop going to swimming pools or start to use them more, the demand of filtrations systems can decrease or increase. However it is unlikely that demand will change since it have been stable for many years. A more strict legislation on water quality in the swimming pools can give PS a market advantage. Legislative changes take place slowly and with long time notice. The economic changes is a unstable variable in the general environment of PS. According to the current financial situation, the economy in most European countries are not very good.

### 7.2.2 Variables in The Task Environment

New technologies may emerge but it is unlikely since only two radical new technologies have emerged in the last 10 years, includingPS. If new competitors emerge they are most likely to use an known technology and thereby not threaten PS since they are not competing on the same technology. However, a fall in prices can take market share from PS but it is unlikely for sand filters, anshwemm filters and ultra filtration filters to be sold cheaper than the current price. PS only got two suppliers, CoMeTas and Kaj Larsen VVS where CoMeTas is the only vital. A price decrease change from CoMeTas can hurt PS but they have proved to be a stable supplier. The same situation refers to competitor's suppliers of ultra filtration filters. The water filtration market is stable, it is difficult to see how demand and capacity utilization can change. At the same time product obsolescence has never happened.

### 7.2.3 Environmental Uncertainty

Few external factors have regular influence on PS, and they have few other companies in their domain. This means their environmental complexity is simple. Mintzberg et al. (1981) states that if an organizations environment is simple, the more centralized is its structure, because all the necessary information to make decisions can be summarized in one head.

The water filtration market is very standardized and conservative and has remained the same for many years. Elements in the environment of PS are not dynamic, therefore the environmental change is stable. When conditions are stable PS can standardize and there is not a great need to be flexible [Mintzberg et al., 1981, p. 218]. PS should be aware that instability may occur if competitors react with aggressive moves and counter moves regarding advertising. Sometimes unpredictable events create unstable conditions [Daft, 2007, p. 56]

Therefore PS is in the *simple, stable* environment in the framework for assessing environmental uncertainty in Figure 3.2 where uncertainty is low. A typical entrepreneurial company will focus on a *simple, unstable* environment where the uncertainty is high to moderate. Simpler environments make it possible for one person at the top to preserve so much influence, while it is a unstable environment that requires a flexible structure, which in turn allows the organization to outmaneuver the bureaucracies [Mintzberg et al., 1981, p. 316].

## 7.3 Adapting to The Environment

This section describes how the environment affects PS. An organization in a certain environment will be managed and controlled differently form an organization in an uncertain environment in terms of positions and departments, organizational differentiation and integration, control processes, and future planning and forecasting. PS needs to have the right fit between internal structure and the external environment [Daft, 2007, p. 59].

### 7.3.1 Positions and Departments

Since the external environment of PS is simple and there is a low uncertainty, there is a little need for positions and departments, which causes little internal complexity [Daft, 2007, p. 59].

### 7.3.2 Buffering and Boundary Spanning

When PS got little environmental uncertainty they do not need big buffer departments as like human resource (HR), marketing and a financial group to absorb uncertainty form the environment [Hammonds, 2002]. A trade off by having no buffers and expose the technical core to the environment is less internal efficiency but a better connection to customers and suppliers. Opening of PS to the environment makes it more fluid and adaptable, which is appropriate for an entrepreneurial organization [Daft, 2007, p. 59].

### 7.3.3 Differentiation and Integration

Another response to environmental uncertainty is the amount of differentiation and integration among departments.

Since the external environment is simple and stable, PS departments do not have to be specialized to handle uncertainty in their external sector. Little differentiation makes coordination among departments easy. Enough time and resources must be devoted to achieving coordination when attitudes, goals, and work orientation do not differ [Daft, 2007, p. 62]. Organizations that perform well in less uncertain environments have a low level of differentiation and integration [Daft, 2007, p. 63].

### 7.3.4 Organic versus Mechanistic Management Processes

Another response to environmental uncertainty is the amount of formal structure and control imposed on employees. The external environment is related to internal management structure [Walsh and Dewar, 1987]. When PS is in a stable external environment, the internal organization is characterized by rules, procedures, and a clear hierarchy of authority. The organization will be formalized and centralized with most decisions made at the top [Daft, 2007, p. 63].

### 7.3.5 Planning

Because the environment is stable, PS can concentrate on current operational problems and day-to-day efficiency. Long-range planning and forecasting are not needed because environmental demands in the future might be the same as they are today [Daft, 2007, p. 64].

## 7.4 Summary

The filtration system of PS is in the introduction phase, moving into the growth phase, however the market PS attempts to enter is in the mature phase. The mature market gives limited opportunities for entrepreneurial companies to enter with new technologies.

The uncertainty of the environment of PS is low since they are in a simple and stable environment. Because of the simple and stable environment PS will need little internal complexity when the organization grows. The organization needs small departments and will be fluid and organic. There will be a low level of differentiation and integration in the departments of PS. The organization will be formalized and centralized with decisions made at the top by the CEO. The planning range will be short.

# Chapter 8

# Strategy Analysis of PS

## 8.1 Relatedness of The Product/Market Choice

The CEO of PS is educated in mechanics and water systems and thereby got an inept understanding of the industry's products. As seen in Chapter 7 PS is operating in a stable environment and a mature market where the basic elements of competing in the industry are not changing. Learning how to compete and the requirements to create technical innovations to stay competitive is now so critical. Therefore the CEO's knowledge base is less vital than it would have been in a emergent and growth market.

According to Bantel (1993) learning how to compete in such an industry is easier than in unstable, emergent or growth markets because the CEO do not need an in-dept understanding to anticipate and understand technical changes made by others and to lead the creation of technical changes. The requirement for the CEO to create technical innovations to stay competitive is also less in a mature market [Bantel, 1993, p. 57].

## 8.2 Stability of The Initial Product Focus

If PS wants high growth they should, according to Bantel (1993), continue to concentrate on their original product and technology and at the same time introduce related product improvements. The stability will allow PS to establish brand recognition, technical expertise and efficient distribution channels [Bantel, 1993, p. 57].

## 8.3 Pioneer or Imitating Others

PS is a pioneer with their technology but not with the product they deliver to the customer. PS is not the first on the market with a compact, swimming pool water, filtration system but they are the first and only on the market who use ceramic membranes. There are technical and performance advantages with the ceramic membranes compared to other compact membrane systems. However from some market segments point of view, these advantages might not seem so obvious if the price is to high.

Since PS is mostly imitating others, it is necessary to differentiate them self from the established firms to gain customer loyalty. This is putting pressure on PS to compete on the price, resulting in lower profitability, which can disrupt sustained growth for PS [Bantel, 1993, p. 57].

While PS is not a first mover they do not have to make some risky investments doing the emergent market phase. But they also miss the opportunity for these investments to create long-term sustainable competitive advances in the growth and mature market phases [Bantel, 1993, p. 58]. Since PS is operating in a mature market it is reasonable they are not pioneering but imitating.

## 8.4 Strategy Type of PS

PS adopted an undifferentiated strategy approach. They only focus on one market segment but offer the same product to it with small individual adjustments in capacity of the system. However this is not different form the competitors.

According to Bantel (1993) the differentiated strategy is good to pursuit in a mature-market stage like PS is in. To enter successfully in an established market it is good to differentiate the product. However, to have sufficient resources to establish PS in the initial market niches PS needs to have sufficient resources to establish themselves in their initial market. PS might also need to narrow the scope of its market. The alternative strategy to differentiation, competing on price, is difficult against the larger, more established competitors [Bantel, 1993, p. 58].

According to Bantel (1993), venture capitalists prefer fragmented, growing industries, but mature industries were acceptable if the new venture is able to create a differentiated product [Bantel, 1993, p. 58].

### 8.4.1 Competitive Substrategies of PS

Of the competitive substrategies defined by Sandberg and Hofer (1987) and shown i Table 4.1, PS got the 'technology improvement' and 'offer superior product' competitive substrategy. The undifferentiated strategy is suitable for the 'technology improvement' competitive sub strategy, while the 'offer superior product' only is suitable if PS choose a more differentiated of focused strategy type. If PS chose a new market segment or niche, like the private market segment, which the competitors are not in, they can also take advantage of the differentiated or focused strategy. The competitive substrategy 'marketing innovation' is also highly suitable to the differentiated strategy type.

## 8.5 Summary

The current strategy of PS is following two out of the four aspects of strategy that are relevant to the success, according to Bantel (1993).

PS got products related to the CEO's previous employment. The CEO of PS got understanding of the industry's products. However this knowledge is not critical to PS since the environmental is stable. PS should keep a focus to the initial product to establish brand recognition and technical expertise, which is typical for a high-growth entrepreneurial firm [Bantel, 1993, p. 57].

PS is not pioneers in their product/markets and they do not have a focused strategy type. This is not typical to a high-growth entrepreneurial firm [Bantel, 1993, p. 57]. Since PS is imitating the competitors and they can not compete on price, they should focus on differentiation. Only the competitive substrategy 'technology improvement' is suitable to the undifferentiated strategy type. If PS adopts a differentiated strategy type, 'offer superior product', 'discover segment or niche' and 'marketing innovation' are suitable competitive substrategies.

# Chapter 9

# Life Cycle Analysis of PS

In this section PS is analyzed by combining the organizational life cycle, described in Section 5.1; the management factors, described in Section 5.2 the organizational ecocycle, described in Section 5.3; and the organizational decline factors, described in Section 5.4. Each stage is described by the organizational characteristics, important management factors, causes of crisis and decline, and the organizational evolution possibilities.

## 9.1 Stage 1: Entrepreneurial

PS is now in the Entrepreneurial Stage. The emphasis of PS is on creating their filtration system and survive in the market. The CEO and only employee is a entrepreneur and devote his entire energy to the technical activities of development and marketing [Daft, 2007, p. 478], [Lester, 2004, p. 107].

### 9.1.1 Organizational Characteristics

The organization is informal and non-bureaucratic and the control of PS is based on the CEO's personal supervision [Daft, 2007, p. 478]. Systems and formal planning are minimal [Churchill and Lewis, 1983, p. 32].

When PS is in the Entrepreneurial Stage in the organizational life cycle they need emergent management action according to the organizational ecocycle. This management action is creative and the goals are interpreted retrospectively and problems are solved ad hock.

If PS got success on the German market they will prosper and grow. When PS is established in Germany they need a sales office and some technicians placed locally to be able to sell, install and maintain their German systems. As they move to markets in other countries PS are more likely to have growth in revenues and income, accompanied by a steady increase in the scale of the organization as they will need more sale, marketing and accountant staff [Hurst, 1995, p. 72].

### 9.1.2 Management Factors

In the Entrepreneurial Stage the management factors, which are critical to PS, are the CEO's ability to do, cash, matching of goals and the business resources. The CEO's ability to do the job gives life to PS. The business is build on the CEO's talents. The matching of business and personal goals are crucial in this stage because the CEO must be committed and have the drive to startup the business and overcome the startup challenges to create the needed business resources which is of most importance in the first organizational stage [Churchill and Lewis, 1983, p. 42-43].

### 9.1.3 Crisis and Decline: Need For Leadership

As PS stars to grow, the increased number of employees may cause problems and lead to a loss of control [Hurst, 1995, p. 72]. The CEO will be faced with management issues, but he might prefer to focus his energy on making and selling the filtration system. At this time of crisis, the CEO must either adjust the structure of PS to accommodate continued growth otherwise bring in a another strong leader who can accomplish it [Daft, 2007, p. 479].

When PS moves from Stage 1 to Stage 2 in the organizational life cycle, they will move form Entrepreneurial Action to the Strategic Management Stage in the organizational ecocycle, which requires rational management action.

PS will also go through periods with a significant, absolute decline in its resource base. An organizational crisis do not necessarily lead to a decline, however if the crisis is not solved it can cause a decline. Organizational decline is often associated with environmental decline in the sense that an organizational domain experience either a reduction in size or a reduction in shape [Daft, 2007, p. 495].

In the Entrepreneurial Stage 'vulnerability' is a factor there might cause PS to decline. Vulnerability cause decline if PS lack of strategic ability to thrive in its environment. PS is vulnerably to changes in economic health of the larger community and if they are unable to define the right strategy to fit the environment. If PS is vulnerable they are forced to redefine their environmental domain to enter new industries or markets [Daft, 2007, p. 496]. However the environment of PS is stable and simple with low uncertainty, so vulnerability is unlikely to cause decline of PS.

### 9.1.4 Evolution Possibilities

If PS continues to exist it will move to the Collectivity Stage. If PS fails in the Entrepreneurial Stage they can sell the business for its asset value or they can fold and end up with bankruptcy.

## 9.2 Stage 2: Collectivity

If strong leadership is achieved with strategic management and PS begins to develop clear goals and direction. The managers should think rationally and make clear choices before they act in order to maximize well-defined objectives such as profits [Hurst, 1995, p. 5]. It seek to grow, develop some formalization of the structure [Miller and Friesen, 1984]. Sales, installer and marketing division are established with a hierarchy of authority, job duties, and an emerging division of labor [Daft, 2007, p. 479].

The main issues in the short run is if there can be generated enough cash to break even and to cover the repair or replacement of their capital assets as they wear out. At a minimum, there must be enough cash flow to stay in business and to finance growth to a size that is sufficiently large to earn an economic return on their assets and labor [Churchill and Lewis, 1983, p. 34].

### 9.2.1 Organizational Characteristics

The organization will still be simple at this stage. PS may have a limited number of employees supervised by a sales manager. Still the orders comes form the CEO and system development and planning is minimal [Churchill and Lewis, 1983, p. 34].

### 9.2.2 Management Factors

In the Collectivity Stage the critical management factors are still the CEO's ability to do, cash and business resources. The matching of goals is now modestly irrelevant because the CEO have now achieved the necessary reconciliation and survival is paramount [Churchill and Lewis, 1983, p. 42-43].

### 9.2.3 Crisis and Decline: Need For Delegation

If the new leadership has been a success, lower-level employees gradually find themselves limited by the strong top-down leadership. Top managers want to ensure that all parts of PS are coordinated and pulling together. PS needs to find mechanisms to manage and coordinate departments without direct supervision from the top [Daft, 2007, p. 480]. In the organizational ecocycle PS will then move to the Conservation Stage, which requires constrained management action.

In the Collectivity Stage the factor there can cause decline is environmental decline or competition. Reduced energy and resources to support PS are referred to 'environmental decline'. If PS experience environmental decline they must either cut back on operations or switch to another domain. Because PS is small new competition can increase the problem [Daft, 2007, p. 496].

### 9.2.4 Evolution Possibilities

In the Collectivity Stage, PS may grow in size and profitability and move on to the Formalization Stage. Or it may remain at the Collectivity Stage for some time, earning marginal returns on invested time and capital and eventually go out of business when the CEO gives up or retires [Churchill and Lewis, 1983, p. 34]. PS can also fail and sell with losses or fold with bankruptcy.

## 9.3 Stage 3: Formalization

The constrained management action needed in this stage is situationally determined where any rationality is retrospective and attempt to give meaning to and a sense of control over the world [Hurst, 1995, p. 6].

At this stage PS will be formalized and controlled through bureaucracy. Rules, procedures and controls systems are installed. Engineers, HR specialists and other personnel can be added. Top management is concerned with issues such as strategy and planning, leaving operation of the firm for middle managers. Incentive systems based on profits can be implemented to ensure that managers are working towards what is best for the entire company [Daft, 2007, p. 480], [Lester, 2004, p. 107].

If PS becomes successful, the managers will naturally tend to restrict activities to those that have proven to work. The successful strategies will be elaborated upon and expanded. To maintain the performance PS will invest effort and capital in describing the successful activities and embedding them in technology and formal organizational procedures. PS will specialize and emphasize efficiency which will make it more successful than it might have been otherwise [Hurst, 1995, p. 108].

### 9.3.1 Organizational Characteristics

The organization is now large, with different operations [Miller and Friesen, 1984]. If effective, the new coordination and control systems enable PS to continue growing by establishing linkage mechanism between senior management and field units [Daft, 2007, p. 480], [Lester, 2004, p. 107]. At this point PS is entering midlife. Bureaucracy characteristics arise. The organization of PS adds staff support groups, formalize procedures, and establishes a clear hierarchy and division of labor. Innovation can be achieved by establishing a separate R&D department. Main goals are internal stability and market expansion. Top management delegates, but also implements formal control systems [Daft, 2007, p. 482].

### 9.3.2 Crisis and Decline: Too Much Red Tape

At this point in PS's development, the deployment of systems and programs may begin to strangle the middle-level managers. Over time, PS becomes constrained by their own internal rigidities and the tightly connected web of relationships they have developed externally. The organization works bureaucratic. The managerial discretion within the system becomes more and more constrained. Innovation can be limited. The organization seems too large and complex to be managed through formal programs [Daft, 2007, p. 480] [Hurst, 1995, p. 115].

The constrained action can lead PS into a major crisis. According to Hurst (1995) this crisis which threatens the survival of PS can be resolved by creative destruction. This crisis can break down PS but it creates also the necessary preconditions for restructuring and gives new opportunities, which can lead to new growth [Hurst, 1995, p. 109]. This leads PS into the Confusion Stage in the organizational ecocycle.

In this stage the thread of decline is still caused by organizational atrophy however environmental decline or competition is still a threat. Organizational atrophy occurs only when organizations grow older and becomes ineffective and overly bureaucratic and PS's ability to adapt to its environment is weakened. If PS takes success for granted and becomes attached to practices and structures that worked in the past and fail to adapt to changes in the environment, organizational atrophy can occurs [Daft, 2007, p. 495]. The crisis can give commitment to invest in new growth and PS will then enter Substage 3-G.

### 9.3.3 Substage 3-D

In the Formalization-Disengagement Substage, PS has attained true economic health, has sufficient size and product-market penetration to ensure economic success, and earns average or above-average profits. PS can stay at this stage indefinitely, provided environmental change does not destroy its market niche or ineffective management reduce its competitive abilities.

Organizationally, PS has grown large enough to functional manager to take over certain duties performed by the CEO. The managers should be competent but need not be of the highest caliber, since their upward potential is limited by the corporate goals. Cash is plentiful and the main concern is to avoid a cash drain in prosperous periods to the detriment of the PS's ability to withstand the inevitable rough times.

In addition, the first professional staff members come on board. Basic financial, marketing, and production systems are in place. Planning in the form of operational budgets supports functional delegation. The CEO and, to a lesser extent, PS's managers, should be monitoring a strategy to essentially maintain the status quo. As PS matures, it and the founding CEO increasingly move apart, to some extent because of the CEO's activities elsewhere and to some extent because of the presence of other managers.

#### Management Factors

In this organizational stage the critical leadership factors is CEO's ability to do and continue business resources although its importance is declining. The importance of cash is now irrelevant [Churchill and Lewis, 1983, p. 42-43].

### 9.3.4 Substage 3-G

In the Formalization-Growth Substage, the CEO consolidates PS and marshals resources for growth. The CEO takes the cash and the established borrowing power of PS and risks it all in financing growth. PS will then be in the Charismatic Leadership Stage of the organizational ecocycle which again needs rational management action. The charismatic leadership develops loosely connected, creative networks form which new activities can emerge [Hurst, 1995, p. 104]. Among the important tasks are to make sure the basic business stays profitable so that it will not outrun its source of cash and to develop managers to meet the needs of the growing business.

#### Management Factors

In this organizational stage the critical management factors are still the CEO's ability to do, however, the CEO shall use more time on managing than doing. The CEO must increase the amount of work done through other people, which means delegating becomes important. Cash becomes important in order for PS to move to the

Elaboration Stage. People, strategic planning and systems also increases of importance as PS progresses form Substage 3-G to the Elaboration Stage. The matching of goals gets a second critical period in this transition. The CEO need to invest time and take risks like in the Entrepreneurial Stage [Churchill and Lewis, 1983, p. 42-43].

### 9.3.5 Evolution Possibilities

In this stage PS can head for growth and move to Substage 3-G or disengage to Substage 3-D. Many companies continue for long periods in the 3-D Substage. The product-market niche of some does not permit growth, however many CEOs choose this route; if the company can continue to adapt to environmental changes, it can continue as is, be sold or merged at a profit, or subsequently be stimulated into growth and move into Substage 3-G. If PS cannot adapt to changing circumstances it will either fold or drop back to a marginally Collectivity Stage [Churchill and Lewis, 1983, p. 34].

If PS moves to Substage 3-G and is unsuccessful, the causes may be detected in time for PS to shift to Substage 3-D. If not, retrenchment to the Collectivity Stage may be possible prior to bankruptcy or a distress sale [Churchill and Lewis, 1983, p. 40].

## 9.4 Stage 4: Elaboration

It seems in the near future it is unlikely for PS to reach this stage. Such large and bureaucratic organization, with comprehensive control systems, rules, and procedures is not needed to operate in the environment which PS is in.

Even a casual look at Figure 5.2 reveals the demands the Elaboration Stage makes on the enterprise. Nearly every factor except the owner's "ability to do" it crucial.

## 9.5 Summary

Normally a mature company has encountered the four stages as Entrepreneurial, Collectivity, Formalization and Elaboration. PS is in stage one - Entrepreneurial. This means PS is characterized by an informal organization with little planning. Problems are solved as they emerge and strategies are made when needed.

When PS starts to move into Stage 2 the CEO will be faced with management issues as employees and some organizational structure emerge. Because of the stable environment, the need for employed and structure is not big. The stable and simple environment makes it easy for PS to adopt the right strategy to fit the environment.

The biggest threat to PS is to run out of cash by a lag of investors. There is a good possibility that PS will survive the Entrepreneurial Stage and move into the Collectivity Stage.

In the Collectivity Stage PS will develop clear goals and direction by strategic management. Divisions are emerge in foreign markets with hierarchy and control from the CEO, however the organization will still be simple. Now PS need to become established in the market and make positive accounts to stay in business. To be established PS need to differentiate them self form the competitors, otherwise their business will hardly continue in the Collectivity Stage. If PS is able to differentiate and get founded in the market they will stay in the Collectivity Stage on the basis that they only make marginal returns.

If the differentiation is a success and PS becomes a healthy business it is most likely to move to and stay in the Formalization-Disengagement Substage since the environment will stay simple and do not destroy the market niche. In this stage the organization is large, formalized and bureaucratic. The threats to PS in this stage is to be too bureaucratic and top managed which can lead to organizational atrophy.

# Part V

# Results

## 9.6 Discussion

### 9.6.1 Organization Development

Research has demonstrated that the progression through the organizational life cycle may not be evolutionary nor deterministic [Miller and Friesen, 1984]. It is not inevitable that all firms will follow a natural progression from birth to growth to maturity to decline [Lester, 2004, p. 105].

Smaller organizations like PS that may be decades old never leave the first or second stage of the life cycle [Churchill and Lewis, 1983]. Large firms do eventually reach a mature stage of development [Miller and Friesen, 1984]. This perspective reveals a somewhat more strategic view of the life cycle indicating that strategic choice plays an important role in organizational development. The life cycle is actually a collective interpretation of PS's environment based on an assessment by top management.

### 9.6.2 Owners Involvement in The Business

In the entrepreneurial organization, the resulting strategy tends to reflect the CEO's implicit world view, often an extrapolation of the CEO's own personality [Mintzberg et al., 1981, p. 315].

Conventional wisdom is that entrepreneurs are very adapt at founding and building organizations, whereas a focus on earnings or profitability requires a professional management approach [Boeker and Karichalil, 2002].

The literature on entrepreneurship demonstrates that many founders have management skills that are suitable only for the start-up stage of the organizational life cycle[Boeker and Karichalil, 2002]. As firms grow and develop, the founding entrepreneur either loses interest or feels unqualified to administer the larger, more mature organization. The need to focus more closely on managerial tasks, rather than the more exciting quest to make something new a reality, sometimes leads firms to replace founding entrepreneurs with seasoned, professional managers [Lester, 2004, p. 104].

The life cycle literature supports this notion that as organizations move through the progressive stages of the organizational life cycle, different management approaches are necessary for optimal success. Research demonstrates that strategically managing the life cycle [Miller and Friesen, 1984] requires well-rounded managers who can understand the changes an organization needs to enable it to stay competitive at each stage of its development. Examples abound of companies whose entrepreneurial founders left to be replaced by managers who took the firms forward and who were better suited to the management of the firm after startup.

Empirical research has however confirmed that not all successful firms that began as new start-up ventures have had to replace their founders [Lester, 2004, p. 105]. Some entrepreneurs, manage to remain viable, respected leaders of their companies, long after the start-up stage has passed [Lester, 2004, p. 104].

It is commonly acknowledged that entrepreneurs who are focusing on growth must be long-term thinkers and short-term players. But as the frame of reference changes, entrepreneurs redefine their functions and roles. As the change in industry structure and environmental dimensions affect the performance of small organizations [Liao et al., 2003], entrepreneurs pursuing the opportunity to 'find a way' [Stevenson and Jarillo, 1990]. Entrepreneurs are trying to realize their vision of continuous search. Their central vision is supported by various peripheral ones, involving both internal and external components such as specific management plans and actions [Filion, 1991], [Majumdar, 2008, p. 164].

### 9.6.3 Some Issues Associated With The Entrepreneurial Organization

The paradox is that the benefits of small businesses often make them unable to succeed and thus grow large. Most fast growing companies are characterized by an emphasis on being fast and flexible to respond to the environment. Small businesses may become victims of their own success as they grow large and switch to a mechanistic structure emphasizing vertical hierarchies and spawning "organization men" rather than entrepreneurs [Daft, 2007, p. 476].

In this configuration, decisions on both strategy and operations tend to be centralized in the office of the CEO. This centralization has the important advantage that anchoring strategic response in the deep knowledge of the operations. It also allows for flexibility and adaptability: Only one person needs to act. But this same executive can get so enmeshed in operational problems that they loses sight or strategy or, alternatively, can they be so enthusiastic about strategic options, as the more routine operations can wither for lack of attention and ultimately pull down the whole organization. Both are often events in entrepreneurial organizations [Mintzberg et al., 1981, p. 322].

## 9.7 Conclusion

A PS system got a performance advantage compared to UF in less backwashing water consumption and a smaller system footprint. However it is not visible for customers to see that PS' products are better than its competitors. If no progress is being launched to differentiate the product, customers will default to use price as the differentiating factor.

PS can differentiate by offering payment plans, by operation simplification, by performance parameters and brand. Since there are big competitors and there is a low product differentiation the price competition is likely to be fierce.

The mature market gives limited opportunities for entrepreneurial companies to enter with new technologies if the technologies are not so visible

The uncertainty of the environment of PS is low which makes it possible to have an easy managed organizations structure, however it is not suitable for entering a market with a new technology.

PS is not pioneers in their product/markets and they do not have a focused strategy type. This is not typical to a high-growth entrepreneurial firm [Bantel, 1993, p. 57]. Since PS is imitating the competitors and they can not compete on price, they should focus on differentiation.

If PS adopts a differentiated strategy type, 'offer superior product', 'discover segment or niche' and 'marketing innovation' are suitable competitive substrategies.

The target for PS is the commercial market segment. By product variations and expanding to the private market segment PS can win bigger market share and make their technology known in the market. The product features and performance parameters make it easy for PS to become a global supplier of filtration systems.

PS must evaluate and choose a marketing strategy. PS can choose cost-based, market-based or a penetration price strategy. Price skimming is not a opportunity for PS since they are not the first on the market with a compact membrane filtration system but just got a product which is more compact than the UF systems. PS should obtain a position in the market with a lower price than the UF systems since the water quality is lower.

If the differentiation is a success and PS becomes a healthy business it is most likely to move to and stay in the Formalization-Disengagement Substage since the environment tends to stay simple and do not destroy the market niche. In this stage the organization is large, formalized and bureaucratic. The threats to PS in this stage is to be too bureaucratic and top managed which can lead to organizational atrophy.

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# Appendix

# Appendix A

# Information about Provital Solution A/S

## A.1 Management Structure

PS is owned:

- 75 % by Provital Holding Aps
- 25 % by NOVI Innovation A/S

Provital Holding Aps is owned:

- 70 % by CoMeTas A/S
- 30 % by Kaj Lassen VVS Aps

The board consists of the following people [Rald, 2010]:

- CEO, Flemming Hartig, CEO of Provital Holding Aps
- Director, Poul Madsen Kvist
- Bord, Thor Jespersen, portfolio manager of NOVI Innovation A/S
- Bord, Niels Jesper Jespersen Jensen, director of NOVI Management Aps
- Bord, Ole Hjørringgaard, CEO of Kaj Lassen VVS Aps
- (Jens Husted Kjær, director of CoMeTas A/S)

## A.2 Public Company Information

| Public Company Information | |
|---|---|
| Name | Provital Solutions A/S |
| CVR-no. | 32562302 |
| CVRP-no. | 1015638482 |
| Employees | 1 |
| Foundation year | 2009 |
| Stock capital | 500.000,- % |

**Table A.1:** Public company information about PS. Source: [Rald, 2010]

Name: Provital Solutions A/S
CVR-no.: 32562302
CVRP-no.: 1015638482
Employees: 1
Foundation year: 2009
Stock capital: 500.000,-

Source: [Rald, 2010]

The profit accounting of PS from 2010 is shown in Table A.2

| Profit Accounting 2010 | |
|---|---|
| Turnover | 1.421 |
| Gross profit | 117 |
| Net profit | -446 |
| Equity | 887 |
| Balance | 2.598 |
| Equity Ratio | 34 % |

**Table A.2:** Profit accounting of PS. Currency code: DKK. Numbers in thousands. Source: [Rald, 2010]