LUND UNIVERSITY

Master Thesis

Business Model Transformation in a Biotechnology Company

- A case study -

Utku Goc

Sylvie Tschentscher

Supervisor: Joakim Winborg

Master Programme in Entrepeneurship

29th April, 2013

"What we actually learn, from any given set of circumstances, determines whether we become increasingly powerless or more powerful"

Blaine Lee

ACKNOWLEDGEMENTS

The authors would like to thank the people that have been involved to make this master thesis possible, from the interviewees of the company to the university staff for their valuable feedback and support throughout the process. Special thanks and gratitude is given to our mentors at the company and our supervisor Joakim Winborg for all the constructive feedback, support and inspiration, they have provided. Finally, this publication is a part of Utku Goc's master level study at Lund University, thanks to a Swedish Institute (SI) scholarship.

Lund, 29th April, 2013

Sylvie Tschentscher Utku Goc

ABSTRACT

Business models (BMs) aim to create value for both customer and organizations (Johnson, et al., 2008). However, many organizations over focus on their existing business model(s) and they fail to transform their BM's to exploit further opportunities and to adapt them to the changing dynamics of the market (Govindarajan & Trimble, 2011). Small medium enterprises (SMEs) seem to be neglected in the area of research and there is not much knowledge about how SMEs strategically use business models (Lindgren, 2012). By adopting the BM definition and BM change typology of Cavalcante, et al. (2011), this thesis addresses the key factors that cause business model transformation in a small biotech company and the outcomes of this transformation for the organization. An in-depth case study of a Swedish biotech company revealed that there are mainly three motives behind the business model transformation, which are higher control, power and growth for the organization. This transformation is successfully executed with the help of organizational learning, good leadership and financial resources sustained by the existing (licensing) business model of the company. As the result, the biotech company has a business model portfolio which consists of three different business models with different risk, control, power and growth levels. Thus, a more balanced approach between research & development and commercialization of the products is adopted for the company. Implications for research and practice are discussed.

Key Words: business model change/transformation, organizational learning, business model portfolio, leadership, organizational growth, risk & control

TABLE OF CONTENTS

1. *INTRODUCTION*

1.1 Background

How innovative new ideas can be used to create value for customers and organizations? How organizations can capture more value with their existing and potential new activities? As stated by Johnson, et al.(2008), these questions have been the major inquiries of entrepreneurs, managers and academicians to understand how to exploit different opportunities in the market, create additional value for customers and to be a step ahead of main competitors. The concept of business model specifically addresses these questions and business model changes/innovations have a potential to alter the existing rules of industries which may result with the redistribution of billions of dollars among different organizations (Johnson, et al., 2008). Therefore, it is quite important for organizations to revise their business models proactively, to be viable and successful in the market.

The term business models (BMs) has expanded since the end of 90's, with the development of Internet and e-commerce (Ghaziani & Ventresca, 2005). However, there is no common language or consensus for business models in the academic literature (Zott & Amit, 2010). Suggestions range from a broad perspective, that is 'everything in your value chain approach', to the simple 'how organization makes money' statement (Johnson, et al., 2008). According to Johnson, et al. (2008), a business model cannot be just about 'how a company intends to make money'. Business models need to address different elements by which a company creates value for its customers as well as itself. Similarly, Tikkanen, et al. (2005) stressed the different components ('building blocks') of a BM to generate value for customers and organizations.

According to Demil and Lecocq (2010), two main approaches for the BM concept can be identified in the literature. Firstly, in *the static approach*, business models are described as blueprints (or even recipes) which enable classifications and descriptions (Chesbrough & Rosenbloom, 2002). This view helps organizations to present their functioning and steps of value creation. On the other hand, in *the transformational approach*, business models are seen as a tool for change and innovation, in organizations. Specifically, new BMs can be considered as radical innovations by themselves with their potential to affect a whole industry. According to *transformational* view, a sustainable BM generally does not emerge immediately but rather develops in time with refinements to adapt to the environment. Each of these two approaches has both pros and cons, as stated by Demil and Lecocq (2010). The *static* view enables to create typologies and to examine the relationship between a specific BM and performance but it does not capture the process of BM evolution. On the other hand, *the transformational* view addresses the issue of BM evolution but neglects the interactions between different components of a business model (Demil & Lecocq, 2010).

1.2 Problem Discussion

According to Govindarajan and Trimble (2011), many organizations become too busy with the execution of existing business models and forget that BMs are changeable. As a result, many companies fail to transform themselves. However, success of today does not guarantee the success of tomorrow and radical changes in industries threaten the existing business models. Similarly, Sosna, et al. (2010) claim that, the sustainability of any particular BM is uncertain because changes in the market can make current BMs out-of-date or less profitable. Thus, business model change seems crucial for organizations to be able to be viable and competitive in the market over years. As pointed out by Cavalcante, et al. (2011), there are mainly four types of business model change and it is quite important to understand the "turning point" where existing routines are broken and an active search for new alternatives starts. The available research related to business models is descriptive which considers model construction/types, examples of successful and failed models and discusses the necessity of new business models as a change of conditions (Morris, et al., 2005). However, a better understanding of dynamics that affect BM change is needed (Morris, et al., 2005). Besides, small medium enterprises (SMEs) seem to be neglected in the area of research and there is not much knowledge about how SMEs strategically use business models (Lindgren, 2012). According to Lindgren (2012), in a global economy the challenge related to business model innovation for SMEs is even more risky, complex and hard compared to bigger organizations. Therefore it is quite important to understand dynamics behind business model innovation in small medium enterprises.

This paper examines a small biotech company which has gone through a business model transformation over the last years. It is a small research based company which has a world leading expertise in probiotics and the main revenue comes from the licenses, similar to other biotech companies (Nilsson, 2001). However, the company has expanded its activities mainly in the last five years in order to offer a higher value proposition for the different customers with the new business models. Today, the company uses a business model portfolio which consists of a license, product and consumer model. Even though, Sabatier, et al. (2010) introduced the discussion of business model portfolios in the biopharmaceutical industry, there is still not much information about the underlying mechanisms of BM change in small medium biotech companies. Therefore, it is necessary to gain more in depth insights about why BM change took place, how it is executed and what would be the outcomes of BM change in a SME biotech company. This study explicitly addresses different internal factors (such as reasons of BM change, the role of organizational learning and leadership) rather than external factors (such as role of competitors, trends of business, the regulatory environment etc.) involved in the BM change process which are neglected in the previous studies (Mangematin, et al., 2003; Nosella, et al., 2005; Willemstein, et al., 2007).

This thesis contributes to current learning in several ways. Firstly, it uses a recent notion that is the business model portfolio to better understand conceptual frameworks of business model development and innovation. It expands the discussion of business model portfolio in the biotech sector by highlighting the reasons, execution and outcomes of different business models' coexistence. Secondly, it reflects how small-sized companies can balance the requirements of short term business with the needs of long term investments with limited resources. Thirdly, it signals the main activities and value propositions of different business models for SMEs in biotech industry. Finally, it aims to decrease the gap related to dynamic view of business model change, by using a biotech company as a case study. It intends to provide insights about key factors that drive the change and successful implementation of business model transformation in the biotech sector. This study also has practical importance considering the potential insights it can provide for managers and organizations, related to business model change and the strategy development.

1.3 Research Question

By using an in-depth single case study approach, this thesis aims to explore the following research question:

"What are the underlying key factors that cause business model transformation in a small biotech company and what are the major outcomes of this transformation for the company?"

The following section elaborates the theoretical framework and the key concepts behind this study.

2. THEORETICAL FRAMEWORK

2.1 Static View of Business Models

According to Johnson, et al. (2008), business models, which aim to create value for both customers and organizations, consists of four interrelated components, that are customer value proposition (CVP), profit formula, key resources and key processes. A successful organization firstly intends to create value for the customer. When the job that needs to get done is important to customers and their satisfaction is low with the existing offers, it provides a better option (service/product) for organizations to generate a higher CVP. Secondly, the profit formula which consists of revenue model, cost structure, margin model and resource velocity, describes how an organization create value for itself while offering value to the customers. Thirdly, the key resources are the key assets of a company, such as technology, channels, people, products and brand that deliver value to the customer. These key resources are different from the generic resources since they create competitive differentiation for the organizations. Lastly, organizations need operational and managerial processes, such as planning, development, production, training and service, by which the value is delivered constantly and in big scales. Even though this seems to be a simple schema, there are complex interdependencies among its components. Furthermore, an important change in one of these components affects the others and the whole business model. Therefore, consistency among different components of a BM is crucial (Johnson, et al., 2008).

However, as pointed by Morris, et al. (2005), there is no consensus about the definition of business model in the literature and the diversity of available definitions makes it harder to identify what constitutes a good model. Still, a content analysis of 30 definitions revealed that there are mainly three categories for these definitions: economic, operational and strategic. At most basic level, BM is defined as organizations' economic model while it represents an architectural configuration (internal processes and infrastructure) at the operational level. Finally, BMs` definitions at the strategic level focus on positioning of organizations in the market, their external interactions and possible opportunities for growth, to create competitive advantage. Morris, et al. (2005) aimed to build a standard framework for characterizing a business model based on various theoretical roots and constructs. Their framework of a business model touches on various dimensions that are based on six questions underlying every business model:

- *How do we create value?*
- *Who do you create value for?*
- *What is our source of competence?*
- *How do we competitively position ourselves?*
- *How we make money?*
- *What are our time, scope and size ambitions?*

As can be seen, the value creation, profit formula and the key resources are common in both models and they seem the key components of a business model. However, Johnson, et al. (2008) stress the importance of operational and managerial processes in the BM's while Morris, et al. (2005) highlight the time, scope and size ambitions of organizations' BM models. In the following section, view for business models is elaborated.

2.2 Dynamic Perspective of Business Models

According to McGrath (2010), traditional views about business planning are problematic due to the discrepancy between the knowledge a company really has in reality, and the knowledge assumed to be had by the planning systems. As organizations initiate to adopt new business models, assumptions of the former model will differ from the new business model. Therefore, a 'discovery driven' (rather than the traditional) model of practices in planning is dominant, in BM transformation. Still, a plan that accepts the fundamental uncertainty in this process can be useful. The aim of the discovery driven approach is to learn as much as possible on the way with a low cost, through experimentation. Business model assumptions are articulated and tested to understand the potential of an opportunity for the organization. The plan starts with a success statement (e.g. what would make a certain strategic action worthwhile?). Then a 'reverse' income, that is how much revenue is necessary to make an initiative valuable, is described. The business model is compared with other competitive business models and market demands. Lastly, the key process metrics are identified. The development of the whole concept depends on the key checkpoints (cost of each checkpoint is determined) by which the assumptions are tested; as a result, the plans can be re-evaluated and the decision to stop or redirect the actions can be taken. In that way, business models can be tested conceptually without any investment. Besides, units of new business and their key drivers are identified with this 'prototyping' process, which enables organizations to get familiarity with the new business model before the investments. Finally, discovery driven approach looks for different possibilities as new information arrives; therefore, it saves time and money for organizations by limiting the failures (McGrath, 2010).

According to Aspara, et al., business model transformation *"is a change in the perceived logic of how value is created by the corporation, when it comes to the value-creating links among the corporation's portfolio of business, from one point of time to another"* (2011, p. 3). A business model can evolve as a response to both external and internal factors (Mintzberg, 1978). External factors refer to environmental changes such as new entrants, emergence of substitutes or increasing cost of resources while internal factors are related to managerial decisions as well as the dynamics between the different dimensions of a business model (Demil & Lecocq, 2010). Besides, Penrose (1960) stresses the importance of organizational knowledge and the discovery of new uses of organizational resources for the development of new value propositions.

According to Calvalcante, et al. (2011), a business model is an abstraction of principles from operational to conceptual level. They adapted process- based view to business models to make strategic abstractions from different processes that have following features:

1. *not all processes are equally relevant for BMs, but only the core standard repeated processes which are the key elements of a business and performed on a continuous basis;*
2. *it is not necessary to describe the operationalization of the processes in detail;*
3. *in addition to current core processes, non-existing processes also deserve attention, since this is where much of the greatest potential often lies (p.1329).*

As stated by Cavalcante, et al. (2011), organizational changes do not always bring change to business models. Only the changes in the core standard repeated processes lead a change in the business model of organizations. Therefore, non-radical changes in the organization stay outside of the scope of their BM definition. Following Cavalcante, et al. (2011) propositions, authors of this study limit business model concept with the core repeated standard processes of the company; therefore, changes in the core repeated standard processes of a company signals a change in the business model. Calvalcante, et al. (2011) identified four distinct types of business models change:

(1) BM creation

This is the stage of transformation of business ideas into a new venture. In these cases, previous working practices or repeated standardized processes are not available to implement the business model. Entrepreneurs can have many challenges at that stage such as ambiguity, uncertainty, lack of business knowledge (about law, marketing, technology etc.) and resources (financial, human, etc).

(2) BM extension

This is about expanding existing core processes of an organization with additional activities in order to explore and exploit opportunities in the market. At this stage, core repeated standard processes are already existed in the organization and employees know how to perform their tasks. As different from the creation stage, the BM extension changes the existing working practices. However, previous work experience provides insights to deal with the new challenges of extension.

(3) BM revision

Another type of business model change is the revision. Cavalcante, et al. (2011) define revision as dropping some components of the current business model to replace them with new processes, in order to explore alternative ways of making business. Revision of a BM could be the result of several factors such as new opportunities in the market which necessitates changes in the existing BM, to address ineffective BM problem, due to competitors' threat to dominate the market and emerging substitutes. While the extension refers to expansion of business with the existing processes, revision requires a change in the current work style, which is not an easy task. BM revision raises more challenges than the BM extension due to more radical changes necessary in its character. Organizational inertia, path dependency, resistance change and the problem of power/politics can be the main challenges of an organization that aims to revise its BM.

(4) BM-termination

The last type of BM change is the termination which refers to the removal of existing core repeated processes of a business model. Therefore, it happens in the case of business area or unit closing downs. Resistance and indecision could be the main challenges during the business model termination.

Calvacante, et al. (2011) do not present what the core-repeated processes of a business model are. Still, core-repeated processes are closely related to management cognition of the business model boundaries, the dominant mental modes of a company and organizational learning (as cited in Calvacante, et al., 2011: Tripas &Gavatti, 2000; Bresnen et al, 2005; Tikkanen et al, 2005). The core repeated processes can be seen as key components of a BM model, which are the value creation, profit formula and the key resources, that are common in both Johnson, et, al. (2008) and Morris, et al. (2005)'s models.

2.3 Business Models in Biotechnology Companies

The focus of the study is on business model transformation in the biotechnology sector. For that reason, a deeper understanding for this industry, the most common business models in place and the specific business model dynamics of this sector are absolutely necessary for analyzing the results of the case in detail.

The industry of biotechnology is a very old industry that has gone through different phases over many centuries from the first use of fermentation for agriculture until the modern biotechnology based on the discovery of DN started in 1970s (Nosella, et al, 2005). Many of these new biotechnology firms were spin-off from universities and research institutes. These firms are normally small-sized or medium-sized enterprises founded by scientists. Secured financial resources and building alliances are critical factors for the long-term survival of companies in this industry. These companies have mostly a focus on upstream activities in the founding period which means a high costs for research and clinical trials. Therefore, they normally do not start as an integrated firm that operates on the entire value chain from upstream to downstream activities, but they need alliances to produce, commercialize and distribute their products (Nosella, et al., 2005). To finance these very expensive upstream activities for the drug discovery process, they search for investments by venture capitals and the cooperation and support by larger pharmaceutical companies. Mangematin, et al. (2003) describe the reasons for the intensive alliances between traditional pharmaceutical firms and SME in biotechnology in more detail. Small start-up biotechnology firms need additional competences and assets to successfully commercialize their products. They can obtain these complementary competences and assets from large pharmaceutical firms. Examples would be clinical trials, manufacturing, and access to distribution channels or marketing skills (as cited in Mangematin, et al., 2003: Teece, 1986; Barly et al., 1992; Arora and Gambrella, 1990). The established pharmaceutical firms benefit from the transfer of know-how and new expertise from the SME.

The industry dynamics of the biotechnology sector are defined globally, however, national frameworks in terms of institutions, the regulatory framework, culture and domestic actors as local venture capitals and human resources define the condition how easy it is for new biotechnology firms to have access to these critical factors in their home country (Casper & Kettler, 2001).Considering the national context of Swedish biotechnology firms, Nilsson (2001) did a multiple case study of five Swedish biotechnology firms and reveals details about the foundation of biotechnology firms and the changes in their financial structures. Most of the companies in her study were founded by researchers. The majority of founders considered as highly important to build a well-developed network of researchers, sponsors and distributors in and outside Sweden. In the start-up phase, the financial structure differs significantly between the companies. Some were financed by self-fund of the founders, others were supported by venture capitalists or large pharmaceutical firms. In the growing phase, most companies entered the stock market and found additional revenue streams from selling licenses or receiving more financial support from partners. The main reasons why the companies went public are the increase of the market value of the firm and the access to additional capital. Furthermore, the management stated that it provided the first investors of the company the possibility to sell its shares on the market instead of claiming directly their money to the management of the company. In addition, it encourages employees to work more efficiently to meet the expectations of the board and the shareholders.

Companies in Nilsson study (2001) were also aware of the disadvantages of being on the stock market. One major disadvantage is the short-sighted focus of the shareholders and the board. There is a high pressure on meeting the quarterly expectations instead of investing a significant part of the financial resources in more risky projects whose financial return will be only visible in the long run. Furthermore, companies are afraid of spill-over effects by biotechnology companies listed on the stock market that failed to meet the expectations. The managers of the companies claimed that it is very easy to go public and raise capital as a biotechnology company on the Swedish market due to the high level of trust in the success of the entire sector. However, a dramatic failure of one firm could negatively affect the stock prices of other biotechnology firms.

Regarding the industry dynamic of biotechnology sector and the critical competences for companies operating in this sector to survive, the question arise what business models companies should use in this sector. Several studies (Mangematin, et al., 2003; Nosella, et al., 2005; Willemstein, et al., 2007) examined in the past this issue in various European countries.

Mangematin et, al. (2003) identified in a sample of 60 French biotechnology firms two distinct business model groups, traditional firms that target a market niche and research-intensive firms that have *"their own dominant logic which is coherent with the needed resources – customer and supplier relations, a set of competencies within the firm, a mode of financing its business and a certain structure of shareholding"* (Mangematin, et al., 2003, p. 624). Type A firms are firms that have small product and focus on a market niche. Due to the limited resources, these firms put a larger part of their resources in incremental innovation instead of the very important radical innovation to ensure a constant income and do not spend a majority of the investment in very risky experimental projects. Normally, these firms provide services and products. They have long-term contracts with partners that are engaged in a specific part of the value chain (e.g. distribution, commercializing). However, the outsourcing strategy must be backed up with patents on products or ownership of specific assets to avoid losing the leadership of the core competence of the company to partners. Firms of Type B category are research-intensive SMEs and focus on niche markets with cover big geographic areas or large international markets. Normally, these firms follow one of two strategies. Either they have long-term contracts with large firms to conduct research for them in a specific area or they carry out large research programs by themselves for pharmaceutical companies that have exclusively rights on the results of these programs. Dependent on the research costs of a project, the companies will either sell their licenses or cooperate with a partner in the early development stage of a project (Mangematin, et al., 2003). Mangematin, et al. (2003) recognized specific business model dynamics for firms in the category B. These firms are under enormously pressure to raise sufficient capital for their large research programs. If this is not possible in the long run, companies follow one of following strategies to change their business model:

- *Disappearance of the firm;*
- *Focus on a niche market similar to type A firms;*
- *Buy-out by investor or industrial groups;*
- *Coming out on the top due to large cash flow from radical new innovations.*

For companies of Type A, Mangemation, et al. (2003) could also identify some changes in the business models. There are three main possibilities for these firms:

- *Development of an ambitious project based on the firm`s competence that brings them closer to Type B;*
- *Geographic expansion to conquer new markets that would also lead to a change closer to Type B model;*
- *Maintaining the "craft" character of the business*

Mangematin, et al. (2003) showed the high diversity of business models in their study. Even they could identify only two distinct business models that share common characteristics, firms within these groups are not homogenous. They identified specific business models that reveal what conditions lead to business model changes in these specific categories. Furthermore, they indicated factors that could play a key role in these dynamics. Examples are management's experience, the degree of innovativeness of the project, competition, participation of venture capitals and the general financial structure of the firm.

A similar study was conducted by Nosella, et al. (2005) in the Italian biotechnology industry. The authors could identify three distinct business models. The first one is the "New Biotechnology Firms" which are highly innovative specialized research companies that focus on applied research and on the early stages of the clinical development. However, their focus is solely on upstream activities in the value chain. They would neither produce the product nor commercialize it. The second category is "Integrated companies" that carry out all activities of the value chain. They have sufficient resources to develop and commercialize their products. They are usually established companies that acquire all capabilities and skills to be involved in all activities of the value chain. Furthermore, they often established long-term collaborative relationship to other companies. A subtype of these companies is solely Business-to-businesses companies that focus on the development of production processes for customers. The third category is "Production companies" that focus solely on the downstream activities of the value chain. They buy the results of research-intensive companies and produce and commercialize them.

The previous studies revealed common business models in the biotechnology sector; however, they provide only minor insights in the dynamics of the business models` shifts (Mangematin, et al., 2003; Nosella, et al., 2005). Willemstein, et al. (2007) used these studies as their starting points to further examine the business model dynamics of firms in biotechnology in the Netherlands. They would like to leave the static view on business model and concentrated on a more dynamic perspective on this issue. They assumed that there are two main phases in the company life-cycle that cause changes in the business model. The first one is the change in the predominant business model from the founding phase to the more mature phase and the second one the shift from one business model to another due to new possibilities for gaining additional revenue. They assumed that this second shift coincides with a value-added progress. Smith and Fleck (1988) showed that start-ups began with less resource-intensive activities unless they gained sufficient economic return to add more resource-intensive activities. Willemstein, et al. (2007) identified specific common business models in the modern biotechnology sector based on the previous studies (Mangematin, et al., 2003; Nosella, et al., 2005):

- Service firms that provide services in this sector or do contract research for larger companies;
- Platform firms that focus on a specific technology in the drug-discovery process and normally license out their expertise;
- Product firms that concentrate on all upstream activities of the drug development and finally hybrid model where a combination of the previous activities are carried out together.

The authors conducted a multiple case study of four Dutch companies. They showed that *"changes in business models represent a diversification in activities towards a hybrid or increasing hybrid business model"* (Willemstein, et al., 2007, p. 230). They recognized that the value-added progress plays a major motivational role in this shift. Furthermore, the business models diversify toward a more product development model. Furthermore, they noticed that only a very small number of firms (10 out of 75) actually shifted from business model to another. The motivation behind this shift is management`s ambition and more potential for out-licensing products. Willemstein, et al. (2007) suggest that further research should clarify how manage portfolio of activities and the coevolution of these portfolios.

2.4 Business Portfolio Management in the Biotech Sector and Value Creation in Partnerships

Sabatier et al. (2010) explicitly address this issue of portfolio management in the European biopharmaceutical industry mentioned as a further research issue by Willemstein et al. (2007). They examined how biotechnology firms generate additional value and profit from their activities from the use of different business modes while organizing and combining these models to guarantee the mid-term survival of the company. They identified *Orchestrating/recombining knowledge* and *Optimizing processes* as the main two strategies to meet the objective of additional revenue and value. Following the first strategy, companies work more closely together to transfer knowledge and specialize on a few parts of value chain to combine own expertise with the expertise of the partners. Therefore, Orchestrating/recombining means *"firms ability to orchestrate knowledge from their partners"* (Sabatier, et al., 2010, p. 433). Regarding the trend to optimize processes, companies in a mature stage try to reduce the overall costs of research and shorten the development process of their products to save costs.

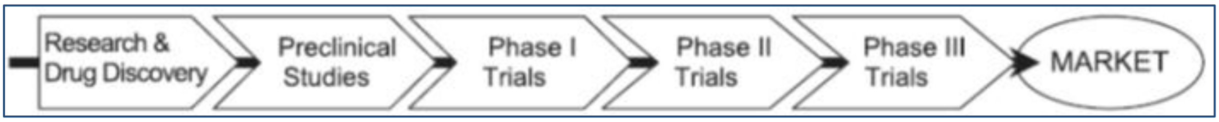

Table 1: The traditional drug development value chain (Sabatier, et al., 2010, p.433)

In their multiple case studies, they could identify two main categories that business models differ: *level of promise* and *interdependencies with other actors*. The *level of promise* considers three critical factors that are all highly relevant for the development of business model portfolios. The existence of a long time lag between investment and revenues means that companies have gone through a long and costly process from the first development of the product till the commercialization to receive profit. In this period, the company needs other stream of revenue to finance this process. The second dimension is the high level of risk in this sector. Failure rates for drug development projects are significant high. The third dimension is the expected return of the project will be determined by the results of the clinical trials and customers demand. The interdependencies on other actors are very high in this sector. The degree of interdependencies to the partners is affected by the specificity of the activities in the biotechnology company. *"When the firm needs additional competencies to perform its activity, interdependencies will increase and alliances may be formed, complicating both its control of the activity and its ability to appropriate rents"* (Sabatier, et al., 2010,p.436). To mitigate the risks for the development of new drugs and ensure a constant cash flow, Sabatier, et al. (2010) show that companies are engaged in several business models at the same that work similar to a portfolio. All business models have different level of risks, different degree of interdependency to actors and different expected returns. However, the drug development business model is still the most risky one with the longest time lag between early development of a product and its expected returns. To finance these projects, other business models must gain additional revenue. Sabatier, et al. (2010) assume that the trend toward specialization and division of labor within the value chain created new business opportunities for established companies in the biotechnology sector to find new ways to create more value out of their core competences and activities to financially backup the more risky projects. Companies need to find an effective balance between exploration and exploitation activities to create most value of it.

Sabatier, et al. (2010) clearly pointed out that the high level of specificity of a biotechnology firm can negatively affect the control of its activities in the value chain and its rents due its closer interrelations to partners. Partners in this business relation are often more powerful pharmaceutical firms (Nosella, et al., 2005). Concerning Hingley`s study (2005) on power imbalanced relationship in the UK fresh food industry, he founded that every organizations drives for their highest share of the value in a business-to-business relationship and disrupt power asymmetry. However, weaker organizations tend to accept the imbalance of power when they benefit from the business relations and a “channel captain” exists on the market that determines the rules to play. The weaker organization cannot change the dominant position of these specific players in the market. The optimal situation of equal trust and balance of power is not achievable in this market. Therefore, the weaker counterpart will accept this situation as long as it receives a reasonable proportion of the value and/or the transactions costs of exchange channels are considered too high. A long-enduring business relationship between these two parties can exist as long as the business context does not change significantly. Brownman and Ambrosini (2000) argued that the degree a company can capture value from a product is determined by its level of bargaining power compared to its business partner. They compared the bargaining power of suppliers and consumers and stated if the consumer has a bargaining power, the switching costs and the number of substitutes will be high, therefore, the consumer surplus will be extremely high as well.

2.5 Possible Factors involved in Business Model Transformation Process

2.5.1 Organizational Learning

In today`s fast changing business environment, effective organizational learning can become a key factor for the long-term survival of a company. Organizational learning mechanisms should be embedded in all level of the organization from top management to the lowest level. Organizational learning is an extremely important factor for strategic renewal (Kuratko, et al., 2011). Kuratko et al. (2010) stress the importance of constantly revising the dominant logic of the business to be up-to-date with a dynamic business model. This dynamic logic would be continuously adapted to changes in the business environment and would foster the search for new ways to capture more value from the market (Kuratko, et al., 2011).

According to Jones and Macpherson (2006), SMEs acquire, absorb and institutionalize new knowledge mainly in four steps. First of all, “critical incidents” threaten the long term survival of the organization. Secondly, owner- manager recognizes the need of external knowledge and opens their organization proactively to new sources to get help from the market. Organizations in mature sectors generally focus on exploitation of existing resources and knowledge rather than trying to explore new alternatives. However, strategic renewal means focusing on the exploration rather than the exploitation. The third and fourth steps in this process reflect the distribution of knowledge and institutionalization of learning by the effect of external partners. Specifically, at the third step, internal structures are developed to share knowledge (individual to organizational learning) while these structures are institutionalized (by the help of external partners) during the fourth step. Jones and Macpherson (2006) mentioned about three types of learning which are *normative, mimetic* and *coercive.* Normative learning happens with the influence of professional institutions (such as ISO: International Organization for Standardization) while the mimetic learning is related to adoption of "best practices" of other companies. Lastly, in the coercive type of learning, there is pressure of external organization for the acquisition of new knowledge. Overall, they claim that the learning in SMEs seems to be the result of some crisis or "critical incident" rather than a detailed planning or strategy development.

According to Sosna et al. (2010), organizational behavior theories showed that firms´ past experiences affect their future actions. Managers' perceptions and interpretations (their cognition) of environmental threats and opportunities interacts with the current routines of a company and determine its reactions to the environment. Organizational routines and beliefs tend to support the status quo (Nelson & Winter, 1982); however, if this collective knowledge is not adapted to external changes, it threatens the survival of an organization which implies the need of organizational learning to keep the competencies up to date (Greeve, 1998). There are mainly two ways to change the routines and beliefs of organizations: trial-error experimentation and organizational search (Sosna, et al., 2010). As Argyris (1976) pointed out, trial and error experimentation is about keeping the actions that generates desired results while eliminating the ones that do not generate desired results. Trying, detecting and correcting failures promote the learning in organizations. Argyris (1976) mentioned about two types of learning that are the *single* and *double loop learning*. Basically, in the *single loop learning*, the difference between expected and real outcomes is identified and necessary actions are taken to eliminate the gap between the expected and real outcomes. On the other hand, in *the double loop learning*, more fundamental questions related to organization are raised which consequently brings deeper changes in the goals and activities of the organization. Nelson (2008) found out that trial-and-error experimentation (learning) is initiated by an individual, group and organization that has a theory (understanding) based on actor's perceptions and knowledge, and this sense- making affects the learning process of organizations. Besides, delegation of decision-making power to managers and employees promotes organizational learning rather than individual learning, in organizations (Jones & Macpherson, 2006). According to Sosna et al. (2010), the owner-manager (OM) has the decision-making power and his/her sense-making shapes the business models. Furthermore, owner-manager motivates other important people in the organization to learn and experiment by involving them in the decision making process and by sharing the relevant information. The decisions of this team develop an experiential wisdom which is the sum of both positive and negative market outcomes. These market experiences affect the owner-manager's business model design process by chancing their cognition via experiential learning process. Consequently, actors' learning affects the organizational decisions in general, as well as the ones related to business models (Sosna, et al., 2010).

2.5.2 Leadership

According to Kuratko et al. (2011), senior-level managers are critical for organizations' long term viability with their vision about the future of company. Similar to the development, the communication of the vision is also really important and its must be released with words, symbols and actions throughout the organization. Besides, existence of skilled personnel is crucial for the company to take necessary steps towards the desired future.

Govindarajan and Trimble (2011) in their article "The CEO's role in business model reinvention" states that a future oriented CEO should mainly do three things: Manage the present, selectively forget the past and create the future. According to Govindarajan and Trimble (2011), established organizations have problems with finding great innovations before the new competitors because they are over engaged with the existing business models. However, business models can be obsolete over time and todays successful business models may not be successful tomorrow. Companies can survive with a right balance of preservation (present), destruction (past) and creation (future). Creating this balance for the organization is one of the most important jobs of a CEO because most companies favor preservation and neglect the necessary destruction and creation, in organizations. In particular, running the existing business model (preservation) with performance excellence and continuous improvement is crucial for an organization. However, CEO's are also responsible for destruction and creation but short term pressures such as stress on quarterly figures, resistance to change, risk aversion etc. limits many organizations to change. Still, many industries have nonlinear shifts which endanger the way of conducting business; therefore, CEO's should address all these three dimensions, to have successful organizations today and in the future. Destruction is about limiting the underperforming or non-strategic business units. Nevertheless, organizational memory can be a major challenge for destruction especially in organizations that have within promotions, strong socialization systems, homogenous cultures and long history of success. These challenges promote preservation and limit creation; therefore, some level of destruction is needed to promote the creation in organizations. To illustrate, strategy development for future is different than today and it means leaving behind the traditional strategy practices to form new strategies. Similarly, today's strict accountability for results can create several negative consequences for future experiments due to their high uncertainty character. Trimble and Govindarajan (2011) recommend CEO`s to provide more financial resources for experimental business units, to hire skilled employees and engage them in the strategy-making processes and finally have less strict procedures and standards.

In terms of the role of the board of directors, Wu (2008) argued that an essential requirement for innovation is the risk-taking behavior of the management. However, managers in public-traded companies promote only risk-taking behavior, if they received adequate incentives or pressure to overcome short-term focus. According to a recent study by McKinsey & Co from 2005 (as cited in Wu, 2008), 80 per cent of executives would cut R&D and marketing expenditures on new products to ensure to meet the quarterly earnings for their shareholders. Wu (2008) found out that board `s expertise and knowledge about the industry and business sector would foster a decision-making that also consider future opportunities for the company.

In the following section, research approach, process, data collection and analysis methods are elaborated for the replicability of the study.

3. METHODOLOGY

3.1 Research Approach

The purpose of the case study is to examine the business model transformation process in a small-sized biotechnology company. This thesis will leave the more descriptive approach of previous studies on business model transformation in biotech companies (Mangematin, et al., 2003; Nosella, et al., 2005; Willemstein, et al., 2007) that mainly describes the models and the shifts, but not explicitly the factors that triggered this process. For that reason, this thesis focuses on the underlying factors that drive this business model transformation process in a biotech company and the outcome of this process to add value to the previous literature. Furthermore, the thesis examines possible reasons why a company chooses to use various business models simultaneously. Therefore, the research question is stated as:

"What are the underlying key factors that cause business model transformation in a small biotech company and what are the major outcomes of this transformation for the company?"

The results of this thesis can be valuable for practitioners and researchers. Practitioners in the biotechnology sector can use these results as an inspiration for new business models and future strategies to foster attempts for discovering alternative ways of capturing value from existing capabilities and skills. In addition, the possible new insights in business model portfolio in terms of advantages and disadvantages can help them to consider this as a future strategy. For researchers, this thesis can provide insights in the triggering factors of business model transformation process in a small biotech that was not explicitly addressed in similar studies.

Concerning the research approach in more detail, there are various approaches to follow in a thesis. The authors of the thesis decided to conduct a qualitative study with a mix of deductive and inductive approach based on the scientific paradigm of interpretivism. The selection of this combination is justified in detail in the following section.

1) Positivist paradigm versus interpretivism paradigm

The positivism approach states that only observable phenomena should be researched and there is no external reality (Hunt, 1991). Proponents of this paradigm stated that human beings react to external stimuli mechanically. Therefore, their behavior can be explained based on their reactions. Only observable reactions and behavior is valuable. Unobservable reactions as intentions should not be regarded (Hunt, 1991). According to interpretivism view, human beings do not react mechanically to stimuli, but try to make sense of all phenomena in their environment (Erickson, 1986). Interpretivism claims that there are multiple realities, not a single reality of one phenomenon which can differ across time and place. According to Dobsen (1999), interpretivism is common approach for case studies and very common for qualitative research in general.

2) Deduction versus induction

Following a pure inductive approach, the theory built on the results is grounded theory that is generated alone from data. Any previous studies should be ignored by the researchers following strictly the inductive approach. The researchers should start the theory with a complete open mind (Perry, 1998). This approach is partly unrealistic in practice (Perry, 1998). Normally, researchers already consider previous studies and cannot ignore them during the data analysis process. Furthermore, the level of validity will be reduced because grounded theory will not compared or contrasted with previous theory. For that reason, Perry (1998) recommends using a mixture of deduction and induction for case studies. He states that pure induction would prevent the researcher from benefiting from existing theory, but also pure deduction which has an explanatory character might prevent the development of new theory. Walsham (1995) also disagrees with the grounded theory for interpretive case studies, but considers use of literature as critical. The researchers should use various theories as "scaffold" to have an overview over multiple perspectives of one phenomenon. Therefore, the authors of this thesis follow a mixture or deductive and inductive approach to develop novel theory about reasons and conditions for business transformation while being inspired by previous literature that are also used to further explain and contrast the results of the study.

3) Qualitative versus quantitative

Most research methods follow either a quantitative or qualitative approach. Quantitative studies consider often numerical data whose analysis and results are used to make general statements on a population. Furthermore, the character of this approach is more explanatory than exploratory. The research question is normally based on previous research and should test a concept. In this study, the research question is exploratory and should reveal how a specific process happens and what the underlying reasons for the phenomenon are. For that reason, a qualitative approach is more suitable to answer the research question of the thesis and develop a more novel theory (Bryman & Bell, 2011, p.28).

3.2 Research Strategy

There are various types of research strategies to answer the research questions as experiment, survey, archival, history or case study (Table 2: Research strategy, Yin, 2003). Concerning the research question of this study, the authors use the case study approach because it focuses on explaining why and how a specific event happened and considers solely contemporary events. This strategy is suitable because the research question has an exploratory character and reveals the underlying factors that cause the phenomena of business model transformation process in a biotech company. Furthermore, the case study strategy considers only contemporary events which are important for this thesis because this process should be a contemporary event due to the general short-term memory of interviewees.

Strategy	Form of research question	Requires control over behavioral events?	Focuses on contemporary events?
Experiment	How, why?	Yes	Yes
Survey	Who, what, where, how many, how much?	No	Yes
Archival	Who, what, where, how many, how much?	No	Yes/No
History	How, why?	No	No
Case study	How, why?	No	Yes

Table 2: Research Strategy (Yin, 2003)

3.3 Research Process

Concerning the process of building theory from case study research, the authors follow Eisenhardt`s approach (1989) (see Table 3) consisting of eight different steps which describes the process of building theory from a case.

Table II
Process of building theory from case study research

Step	Activity	Reason
Getting started	Definition of research question	Focuses efforts
	Possibly *a priori* constructs	Provides better grounding of construct measures
Selecting cases	Neither theory nor hypothesis	Retains theoretical flexibility
	Specified population	Constrains extraneous variation and sharpens external validity
	Theoretical, not random, sampling	Focuses efforts on theoretically useful cases, i.e. those that replicate or extend theory by filling conceptual categories
Crafting instruments and protocols	Multiple data collection methods	Strengthens grounding of theory by triangulation of evidence
	Qualitative and quantitative data combined	Synergistic view of evidence
	Multiple investigators	Fosters divergent perspectives and strengthens grounding
Entering the field	Overlap data collection and analysis, including field notes	Speeds analyses and reveals helpful adjustments to data collection
	Flexible and opportunistic data collection methods	Allows investigators to take advantage of emergent themes and unique case features
Analysing data	Within-case analysis	Gains familiarity with data and preliminary theory generation
	Cross-case pattern search using divergent techniques	Forces investigators to look beyond initial impressions and see evidence through multiple lenses
Shaping hypotheses	Iterative tabulation of evidence for each construct	Sharpens construct definition, validity and measurability
	Replication, no sampling, logic across cases	Confirms, extends, and sharpens theory
	Search evidence for "why" behind relationships	Builds internal validity
Enfolding literature	Comparison with conflicting literature	Builds internal validity, raises theoretical level, and sharpens construct definitions
	Comparison with similar literature	Sharpens generalisability, improves construct definition, and raises theoretical level
Reaching closure	Theoretical saturation when possible	Ends process when marginal improvement becomes small

Table 3: Process of building theory from case study research (Eisenhardt, 1989, p. 533)

Concerning the first step "Getting started", the authors were assigned to a company that matched their interests and skills by the supervisor of their master program. The authors did an internship at this company accompanied by lectures and seminars at the university. In this internship course, the authors have written a master thesis based on the company, conducted an entrepreneurial health audit and written a consultancy report based on the project at the company in six months. The first project was the Entrepreneurial Health Audit Report which was based on the results of an questionnaire that measure the degree of entrepreneurship, the entrepreneurial intensity and the climate for innovation in the company (Kuratko, et al., 2011, pp. 374-388). After the entrepreneurial health audit, the authors were responsible for a business project and wrote the master thesis simultaneously. It was not possible to create any synergies between both reports due to confidentiality issues. The authors used the insights of the entrepreneurial audit and small introductory interviews with people from all departments to identify possible research topics in this company. The interviews revealed that the company was gone through dramatic changes from a solely research-based company in Sweden to global company with an own brand and clients in various countries. Furthermore, the company added two new business models to its previous license model and, thereby, it created a business model portfolio during the last six years. Considering the second step "Selecting Case", the authors never selected a case, but identified a research issue of interest in the assigned company. Therefore, the authors basically switched the order of step 1 and 2.

Considering the step 3 " Crafting protocols and instruments" , the authors identified a research gap related to the question what the factors are involved in the successful implementation of business model transformation in biotechnology companies and what the triggering factors are in this transformation process. The authors considered various articles to receive a multiple perspective on the topic business model transformation process and its related themes. Furthermore, the authors examined the secondary data, mainly annual reports of the company. Based on the literature review and the annual reports, the authors developed a semi-structured interview guide that consists of questions related to the advantages and disadvantages of the three business models, the key drivers for shift from one model to the other and the challenges of implementing them in the company. Due to the fact that every interviewee has its own story and perspective on this process, the authors adapted the interview guide to the background of the interviewee and asked additional question during the interviews to clarify some answers of the interviewees. The purpose of these interviews was to collect further details about the business models and to understand why and how this process has actually happened in the company.

In the fourth step "Analyzing your data", the authors listened to the records of the interviews and transcribed the sections that were relevant to answer the research question. Furthermore, the section of the annual report related to the business models were analyzed in more detail. In the fifth step "Shaping hypothesis", instead of hypotheses, the authors searched for evidences for why and how behind the relations and identified the key themes that are common in most interviews (Eisenhardt, 1989). In the sixth step "Enfolding analysis", the key motives, important factors for the execution of the business model, and the outcome of this process could be revealed based on the key themes. These results are compared and contrasted with relevant literature. Furthermore, the authors clarify how their insights contribute to the current literature in the sixth step.

3.4 Data Collection

As stated by Walliman (2001), different sources provide different types of data and there are mainly two types of data that can be used for researches in general, that are primary and secondary data. This thesis aims to use both types of data in order to better analyze the case in hand.

According to Walliman (2001), primary data can be acquired with direct experience via observation and measurement of specific phenomena. Yin (2003) states that there are six different ways of collecting data to analyze a case in hand, which are documentation, archival records, interviews, direct observation, physical artifacts and participant observation. Each tool has pros and cons and none of them is the "best method" by itself (Yin, 2003). This study aims to benefit from different methods to collect as much as in-depth data about the case in hand. The authors used the annual report as the main source of secondary data because it provided detailed information about the history of the company, its business areas, the business model portfolio and its performance. Furthermore, writers of this thesis made an extensive literature review about the topic of concern, in order to identify similarities and differences between different articles (also contexts) ,and to be able to see the whole picture rather than the pieces of puzzle. In particular, several scientific publications (retrieved from online databases such as Long Range Planning, Google scholar, Elsevier, Emerald etc.) in the field of business models and biotechnology companies have been examined.

However, one should be careful and critical about secondary data considering the fact that it has been collected in a different context and for a different purpose; therefore, could be biased or invalid for another case or context (Yin, 2003). For that reason, the main source of the case studies are the transcripts of the interviews conducted in the company. As stated by Yin (2003), interviews enable researchers to focus on topics related to the purpose of study and provide answers for the puzzles. The authors conducted three semi-structured in-depth interviews and one follow-up interview. Three employees in the company were interviewed. The authors conducted only three interviewees because they selected in advance the persons that are engaged in the decision-making process in the company and experienced the entire business model transformation process. Especially the second criterion is highly relevant because the authors are interested to reveal what factors drives the process since its beginning. Concerning the selection process in detail, the company has only 25 employees. Half of them worked in the R&D department and were not strongly engaged in the business model transformation process. The other half worked in the management; however, due to the high turnover of the employees the last years, only three of them experienced the entire business model transformation: the CEO, the CFO and the Vice President of Marketing. All three positions belong to the top positions in a company and provide three different perspectives: the marketing perspective, the financial perspective and the strategic perspective. The Vice President of Marketing was selected for the follow-up interview because he provided the most relevant details for the case study, was highly engaged in this process and has been working for the company over ten years.

Concerning the development of the interview guide (Appendix A) for the semi-structured interviews in detail, the authors identified the key themes from the literature review and the annual reports. The questions were based on these key themes and discussed the advantages and disadvantages of the business models, the motives and key factors in this process, and the challenges and reflection of the entire process. In addition, questions were added based on the position of the interviewee. For CFO, questions for the financial interrelations between the business models, the expected return, financial risk and the growth opportunities for each model were added. Furthermore, questions about the role of the board and the fact of being a public traded company were added to the interview guide. For the Vice President of Marketing, the additional questions discussed the importance of brand and the differences in capturing value between the business models. Furthermore, questions about the history and the growth of the company were added because he is the person that has been working for the company the longest time. For the CEO, the additional questions discussed his previous experiences in functional food and consumer health care, his relation to the board and his change management style.

3.5 Data Analysis

As stated by Yin (2003), there are mainly four different methods that are logic models, pattern-matching, time-series analysis and explanation building to analyze a case study. This study adopts both pattern-matching and time-series analysis in form of chronologies. The former is defined as a comparison of an empirical pattern with the predictions of theory while the latter is defined as arraying events into a chronology (Yin, 2003). First of all, the authors wanted to understand how and why this process has happened and develop possible reasons for a further explanation of this process that were partly missing in previous studies. In addition, the authors can compare and contrast propositions of previous literature with the pattern identified in this case study. Furthermore, the thesis considers a time period of six years and reveal how business model developed over time. Due to dynamic character of the research issue, a time-series analysis could be an appropriate method in form of chronology to *"determine causal events over time, because the basic sequence of a cause and its effect cannot be temporally inverted"* (Yin, 1991).

Concerning the steps of the analysis, the authors first identified key themes related to the business model transformation process based on the literature and the annual reports and transformed them into questions for the semi-structured interviews. Topics of relevance that were revealed in one interview were added to the following interview to proof its relevance. The interviews were transcribed and the common themes between the interviews identified. Concerning the identified themes, the authors searched for additional literature on issues that seems to relevant according to the results, but were not considered yet. The final step of the analysis was a structured interview with the Vice President of Marketing after finishing the analysis based on the new literature review and the results of the previous interviews. This follow-up interview could clarify issues and open questions. The draft of the analysis was revised accordingly.

3.6 Delimitations of the Study

The authors follow a single-case study approach to focus on the motives and factors involved in the business model transformation process in detail. These factors are solely internal factors, external factors are not considered in this study. Due the limited time for the thesis, the complexity of external factors as the role of competitors, the regulatory environment or trends of the business sector are out of the scope of this study. Details about the business sector are only used to support the argumentation of the internal factors. The time frame that is considered in the thesis is mainly between 2006 and 2012 where the business model transformation process mainly happened in this company.

3.7 Validity & Reliability

The writers of the thesis construct validity by using multiple sources for building the theory. The multiple sources are secondary as primary data. The main source of primary data is interviews with key informants in the company. Secondary data are documents (e.g. articles in newspapers and homepage, budgets), and archival records (e.g. annual reports). Furthermore, the authors of this study clarify in the research analysis section how the chain of evidence which is the basis for constructing the theory has emerged during the data collection period. In addition, the case study draft is provided to key informants of the company for review. Concerning internal validity, the researchers follow Eisenhardt`s (1989) suggestions that the character of this study is not explanatory, but exploratory. Hypotheses are shaped on question the reasons behind the findings and the relationships. Furthermore, the results of the study are compared with similar literature to enhance internal validity.

Concerning the reliability of the study, the authors use case study protocols for each in-depth interview (Yin, 1993) covering name of participant, position, number of years working in the company, degree of involvement in developing the business models and the interview guide to increase the transparency of the thesis and provide other researchers the possibility to repeat a similar study.

3.8 Reflection of the Case Study Approach

The case study approach has several strengths, but also weaknesses that need to take into consideration. Eisenhardt (1989) explained in her paper on “Building theory from case study research” the most relevant ones. According to Eisenhardt (1989), one of the strengths is that the generated theory is very likely empirically valid. The reason for the high likelihood is the close interaction between theory-building and evidences and observations by the researcher. Normally, the researcher develops a grounded theory based on the results of the case that were not discussed in literature before. In the theory-building process, he constantly revises its constructs due to new evidences and insights from the case. This repeatable process and close interaction between evidence and building theory can cause a degree of empirical validity. Due to the repeatable verification during the theory-building process, the second strength is the high likelihood that the emergent constructs and hypothesis are actually testable. As it was explained before, the theory developed from case studies is often grounded theory that did not exist before and was constantly reconsidered and changed when new insights or observations emerged. Therefore, the developed hypothesis and constructs were already constantly revised and can be further test in a quantitative study which is often the case. The most important strength of the case study is the emerging theory which could be unique and innovative. According to Eisenhardt (1989), novel theory often comes from the juxtaposition of contradictory and paradoxical theory. Eisenhardt (1989) explained how the strength juxtaposition for generating new theory can be also applied to case study research. She states that the attempts to reconcile evidence across cases, types of data and different investigators and between cases and literature increase the likelihood of creative reframing into new theoretical vision. Related to the case study, the study is based on one case study and the generated theory arises from insights within the case. However the advantage of the juxtaposition for generating new theory comes from two different investigators, several interviews with employees differ in background, department and number of years working for the company. Furthermore, the emergent theory is not completely grounded theory, but is also based on similar case studies with different perspectives and outcomes than this case study.

The case study approach has also some major weaknesses according to Eisenhardt (1989). One weakness would be the high level of complexity of theory that arises from case study research. This qualitative approach generates a lot of insights in a phenomenon, but also many details and evidences and insights from various perspectives that must be considered for the theory. Due to the high individual character and high probability for very complex theory, the risks that the theory can never be generalized, but discussed a "very idiosyncratic phenomenon" is quite high according to Eisenhardt (1989). In the study the researchers tried to increase the generalizability of the study by considering a long time period, perspectives from employees that joined the company in different phases of the business model transformation process at the company and also used insights from similar case studies (Eisenhardt, 1989)

4. FINDINGS

The case study is conducted in a successful researched-based company located in Sweden. It has unique expertise about probiotics and serves to different markets around the globe. The major advantages of the company and its products are high quality bacteria strains, high number of successful clinical trials and an experienced management team in both R&D and commercial issues. It is a publicly traded company and on the O-list of Stockholm Stock Exchange. The company has drastically increased its reputation by the new products since 2010 in the Swedish market. These products have gained the 50 % of the market share at Sweden in a couple of years with the adoption of new consumer business models by the company. The application of existing bacteria strains to a new business area (consumer health care) has attracted great attention of customers. Authors of this paper aim to examine the transformation of business models at this company, to gain insights related to reasons for change, execution process and the outcomes of this transformation in order to contribute both to the literature and the practice of biotech companies. There are mainly three different business models used by the company that are the licensing model, the product model and the consumer model.

The first model, that is the license model, seems to be the classical business model for biotech companies and CFO of the company explained the advantages of this model in the following way:

"You cannot afford a lot of sales and marketing people at the first stages,(…) you rather talk to big companies to sell your products. That is a cheap way to take your products to the market". And

then, there is financial advantage because there are no direct costs associated with licensing normally. The risk is fairly low, because you don't have to hire people or put money for advertising. So it' a plus business from the first royalty you get and the money goes all the way down to the bottom line."

However, the license model has also some limitations and drawbacks for the company. According to CFO of the company:

"With the licensing model, you are very dependent on the performance of your partner because you do not have any impact on how sales are developing. If for some reason, they decide not selling the product anymore (the licensing deal is on the product), there is not much you can do about it. It is like seating in the backseat of a car as blind, you have no idea where you are going but you are getting there, hopefully! The revenue level is also low that is because it is just a tiny part of the consumer price. Therefore, we started to think about new business models and evaluated different options in detail before trying them out."

The product and consumer business models and the reasons behind the adoption of these models for the company are described as:

"The product model is selling the capsules normally in bulk or in consumer package. There were several reasons that we would like to go from licensing model to Product and Consumer models. Firstly, there is not a very big risk in it but you could start to build your brand on packaging and that goes both for product and the consumer model. One common thing for biotech companies is that normally you are really dependent on your patents and patents expire, no matter what you do. So you have to substitute or try to create another value and that's normally a brand. The good thing with brands is they do not expire. You get a little bit closer to your partner with these models, visiting them time to time and discuss maybe we can support them about medical marketing, material etc. The risk level is somewhat higher with these models because you start to handle with finished products. In order to develop the company, we needed to go beyond the licensing model. The product and consumer models have higher risk than licensing model, but we get a bigger value from the end costumer. "(CFO)

The life-cycle stage of the company seems to affect the expectations related to growth, revenue and profitability. As stated by the CFO:

"An important thing for a company at our stage of development is to increase revenue. We are a profitable company, we want to stay as a profitable company but it is more important for us to grow. I think it would be accepted if we grow at a steady rate, with a little bit smaller profit, for a period of time at least".

The role of the board and CEO in the business model transformation is highlighted by different employees of the company. According to CFO:

"The new CEO decided that we should develop the licensing model. There were initial steps before CEO came, but they were in very small level. So, he said we should go for these new business models, we should put effort and resources into these models (...).Putting more money into marketing that was a quite discussion at the board because that was a big step. That is quite uncommon for a small sized biotech company to put money into marketing of your own products because that is someone else far away in the chain would do that. CEO did a great job to convince the board during that discussion."

Similarly, the vice president of marketing emphasized the commercial background of the new CEO in order to highlight his active role in the business model transformation.

"CEO of the company has been people coming from the R&D side. When the new CEO came, that is about 5 years ago, he was coming more from the marketing side, but still having a good knowledge about R&D (...). With the new CEO, we were able to agree on a strategy where the focus was getting the products out of the market rather than just trying to develop them. Besides, when the new CEO recruited, it was very clear that the board finally got the consensus within the board that the new role model would be someone with a more commercial background and understanding. The key driver for that was company could not deliver commercial success for a timely manner compared to expectations of the board."

As indicated in the company reports, the licensing business model is used in the functional food area while product and consumer models are served for consumer health business. The role of different business models in different business areas are explained as follow by the CEO of the company:

"Licensing model did not work in the consumer healthcare which is much smaller and fragmented. The food product is quite complex technically. It takes time to develop it and you need to control it quite carefully. But dietary supplements are simple products, capsules or tablets fairly generic and you can find people who can produce them for you. Besides, selling a finished product is more attractive for us. A lot of customers are small so they don't sell huge volumes and if we get a licensing from this small volume there is not much money. But we can boost our revenue with the product and consumer models."

Besides, different dynamics of food and health care industry are highlighted by the CEO in order to justify his vision to expand the business towards to consumer health care area rather than the functional food side.

"The food market is a difficult one for a small company. It is hard to make commercial agreements with multinational corporations. Food companies develop their own products. The investment in food business is partially in production but mainly in marketing & sales. In the pharmaceutical business, innovation is crucial and companies are used to deal with licensing to get a product/service from the partners. Everyone is selling and buying products from each other and it is a really complicated environment. The ecological system in the food business is very simple, we do a product but it is going to cost a fortune to sell it because you need to advertise it on TV, you have to pay retailer a lot of money even to be on their shelves. The food product is not an issue; the issue is to sell it. In the pharmaceutical business, the issue is the product. The authorities make the decisions related to pharmaceutical product. Therefore, I see a more predictable growth in the consumer healthcare. There are also opportunities in the food sector for growth but it is more risky and unpredictable."

In order to expand the business towards the consumer health care, CEO has renewed the employees and followed an inclusive management style.

"When I came here there was almost no one in the marketing, but we have been able to build a good balanced portfolio of people who have both medical and consumer marketing & sales skills. Around 5 people left the company and we were able to recruit around 15 very talented people. We did not expand the staff numbers very dramatically, we only added 5 people in total but then it has been exchange with the old staff. Besides, I followed an inclusive management style by making sure that relevant people are involved in the processes. I always tried to be accessible to everyone and informal rather than formal with an open communication."

"I had some doubts in the beginning that the new strategy would be successful. Maybe it was too risky due to the high costs and the lack of expertise. But the new CEO convinced me over time, as we moved step by step along the value chain to add new activities. (Vice President of Marketing)

Decision to expand the operations of the company from functional food side to consumer health care area is explained as follows by the CFO:

"A lot of decisions are reacting on things that are happening in your environment. EFSA approval is a great hurdle for developing the functional food side so what can we do? We can develop other business areas (consumer health care) where we are less dependent (…) Still, licensing model is like a money printer. So the idea is to use the money that we get from the licensing model, to develop product and consumer models in the consumer healthcare area to get more control. With consumer model we share everything with partners. You need to put money into a business relationship in order to gain more control, with more money invested, the risk increases, of course."

Besides, the focus of the company has shifted from R&D to market over the years:

"If we go back in time to 90s and early 2000s, we were known for doing very good research in the international R&D community but we were not commercially successful. That has changed over time. Now, we are presented as one of the leading companies in commercial conferences with big players." (Vice President of Marketing)

Similarly, the characteristics of the company have also affected its focus and as a consequence the business models:

"If you are private company, you can take your decisions based on your own interests. But, if you are a public company, you have to satisfy a number of different players in the marketplace. If you are not in the financial markets, it is usually much easier to have a longer term view on your business." (Vice President of Marketing)

The role of organizational learning over business model transformation can be seen in the following examples:

"*Our initial aim was not to develop dietary supplements but it was actually to create shelf stable products to be able to exploit more the functional food side with the license model. Spinoff of that was the powder which can actually be used in dietary supplements and we were approached by the health food partners. We had the frozen drug material (powder) and the partner had the production facilities, so we supplied the powder and they produced the capsules. Then we started to see, we can actually create a business model where we can have both royalty and we can sell raw material.*" *(Vice President of Marketing)*

"With the new business models, we started to learn more about marketing & sales, supply chain management, branding and advertising. And we decided to try them firstly in Sweden in collaboration with highly experienced partners that share our interests and complement our skills (...). We had to learn to put pressure on the partner and understand the business in detail, for not to fail."(Vice President of Marketing)

"The industry is built around ingredient model. The more raw material you sell (by overdosing an unstable product) the more money you make. We wanted to change that because we did not think that was fair to penalize partners for having more unstable products. The worse the probiotic material would be, the more money we would make. It was better not have a model where we have different interests with the partners. I want to sell more material to you and you want to reduce the costs. Instead, let's have a model where we have joint interests. We aimed to reduce the costs as much as possible and then share the revenues with partners (rather than just royalties). In this case we supplied the finished product at a cost (rather than raw material), and then we still made the money from royalty. It's about finding different business models to create higher value for the company. That

has then evolved to some finished products, to have our own consumer product basically." (Vice President of Marketing)

As pointed by the CFO, there are mainly three reasons for the coexistence of different business models at the company:

"*Firstly, we wanted to grow the company a lot quicker than we did, which is difficult with licensing model. Secondly, we had very little impact on our success or failure because we were always a step behind of partners. So we had little control on our destiny. Thirdly, we were in a situation in which our patents started to see the end of life (expired) and we needed to secure our long term business with our own branding."*

Overall, coexistence of different business models in the organization is summarized as follow:

"From a company point of view, coexistence of different BMs reduced the risks because we now have some different agreements that summarize our revenue. Five or six years ago, nearly all revenue was coming from one licensing agreement and we were highly dependent on one partner. Besides, the revenue was 1/10 of the current revenue so within 5 years, the company has achieved a great success with the new business models."(CFO)

5. ANALYSIS AND DISCUSSION

In the following section, the authors present the underlying key factors that caused the business model transformation at the biotech company and discuss these factors with the relevant literature. Firstly, a brief summary of the three business models are presented. Secondly, to provide a clear division between the means and ends, the authors present the motives that drive this new strategic direction, the main factors involved in the successful execution and the outcome of this process for the company.

5.1 Summary of Business Models

5.1.1 The License Model

The license model is applied in the functional food business area. The revenue is generated from royalties from ongoing sales of the raw product. The company is mainly a supplier of raw material in this model. The company receives relatively higher royalties compared to the market. However, it is still a small proportion compared to what partner receives from the consumer price. In the licensing model, the company is only responsible for the delivery of raw product.

5.1.2 The Product Model

The product model mainly applies to the consumer health care industry. In this model, the company sells its product as a finished product in bulks to its partner. The partner is responsible for the packaging, marketing and distribution of the product. The percentage of revenue from the ongoing sales is much higher than licensing model. The company does not owe the product brand, but it is often allowed to publish the brand somewhere on the package.

5.1.3 The Consumer Model

The consumer model is also mainly applies to the consumer health care industry. In this model, the company is involved in different activities of the value chain from the product development work till the marketing and sales activities jointly with its partner. The partner and the company equally share revenue and costs. The brand of the product is owned by the company. The profit opportunities are higher in this model compared to others.

5.2 Motives for Business Model Transformation

Based on the findings, the authors identified two main motivations behind the business model expansion that are the growth and more control & power over the value chain.

5.2.1 Increase in Growth Potential

As a public traded company, it must fulfill the needs and expectations of the board of directors and different shareholders. According to the CFO, the major goal of a public-traded company is a steady growth rate and an acceptable amount of dividends. Since its foundation, the company has kept its research-based profile and put most of its resources in its R&D activities. According to vice president of marketing, commercial side has been underestimated for a long period of time which limited the growth potential of the company.

Concerning the situation of the company in 2006, the development nearly stagnated mainly due to two reasons. The focus on clinical nutrition was not successful and did not meet the growth rate and the return that were previously expected by the board and the management. In addition, the new commercial license agreement led to a delay in materializing the existing products. The license model was still the dominant business model and nearly all revenue was coming from the royalties of one dominant partner. As the Vice President of Marketing stated, the company was still profitable, but due to the delay in materializing in an acceptable manner and the failure of the clinical nutrition project the company`s profit declined. Thus, the management and the board of directors were forced to consider new growth opportunities for the company.

According to the Vice President of Marketing, the board finally had a consensus to enhance the commercial focus of the company (rather than the R&D) and recruited a new CEO with a stronger commercial focus who was able to see new growth opportunities for the company in the new business areas.

5.2.2 Increase in Control & Power over the Value Chain

The second and third motives are strongly interrelated. The increase of control in the value chain means to increase its bargaining power in a partnership simultaneously. According to the CEO, the number of activities a company is involved in the value chain with a partner defines the bargaining power in the business relations with this partner.

In the license model, the company has only control over a limited number of activities in the value chain. The main focus is on the research and development of new bacteria strains and finding new applications. Therefore, the company is mainly in a position of a supplier of raw material without any control over the downstream activities such as marketing, sales, branding etc. Although the company developed highly radical and innovative bacteria strains whose quality and durability could not be easily beaten by any competitors, the company captured only a small percentage of the value it created for its partners. It has no say in anything else than the research and development work of bacteria strains and the control over its patents expired in the previous years. As indicated with the car metaphor by the CFO, the company was sitting blind on the backseat and had no control over the car with the license model. This means that the partner has the full control over the product, its markets and the brand which makes the biotech company highly dependent on its partners.

Due to the limited activities of company in the value chain, there has an unequal division of bargaining power in the benefit of the partner. Operating over ten years in the biotechnology sector, the company was aware that an increase of control and power was nearly impossible under these business conditions with the license model in the functional food business area. The major partner was very collaborative; however, it was always the dominant side in the business and captured most of the value from the highly successful products.

5.2.3 Discussion of Motives

Concerning company`s motivation for "growth", it is general expected in a public traded company that a company performs in ways that ensures growth (Louden, 1985). Referring to business models shift, Willemstein, et al. (2007) showed in their study that business models shifts are triggered by the emergence of new profit generating opportunities that need to be utilized to enable firm growth. In the current case, the board of directors and the management were highly interested to grow. New product applications in the R&D pipeline will generate growth opportunities and extra revenue with the product and consumer business models of the company. This is in line with Morris, et al. (2005) who stressed that exploiting new growth opportunities is one of the strategic directions that could cause a business model transformation.

Relating the motives of increasing power and control over the value chain to the previous discussion of value chain innovation, Brownman and Ambrosini (2000) argued that the degree a company can capture value from a product is determined by its level of bargaining power compared to its business partner. Relating this discussion to current case, the company is mainly a business-to-business company and in the position of a supplier of raw materials in the license model.

Hingley (2005) found out that every organization drives for their highest share of the value in a business-to-business relationship and disrupt power asymmetry. However, weaker (smaller) organizations tend to accept the imbalance of power when it benefits from the business relations and a “channel captain” exists on the market that determines the rules to play. In this context, the weaker organization cannot change the dominant position of these specific players in the market; therefore, balance of power is not achievable in this market. The weaker counterpart will accept this situation as long as it receives a reasonable proportion of the value and/or the transactions costs of changing partner is too high. A long-enduring business relationship between these two parties can exist as long as the business context does not change significantly. Applying these insights to the current case, one can see why the company accepted the asymmetry of power in a business relation with its partner. In functional food market, the company had to accept the imbalance of power due industry dynamics, but it still benefits from this relationship with the income from royalties. However, as Hingley (2005) explicitly stated, as soon as the smaller organization able to change the imbalance of power and gain a higher proportion from overall value, it would do it. In the current case, the company has been able to capture a higher value from the consumer price of products and has symmetry of power with the partners in the consumer health care business with the help of product and consumer business models.

5.3 Execution of Business Model Transformation

Based on the findings, leadership and the organizational learning are the major factors which enabled successful business model transformation in the mentioned biotech company.

5.3.1 Leadership

The Vice President of Marketing stressed that the new CEO took the lead in the business model transformation process and expanded the business in the consumer health sector. The new CEO was the first person that gained the full support of the board of directors to initiate dramatic changes in business processes to launch the products with the company brand. The main reasons behind the success of new strategic direction seem to be his previous experiences and his way of leading the change at the company.

Different from the previous CEOs of the company who had a research backgrounds, the new CEO has a business education background and is highly experienced in commercializing the products. His previous work experience in consumer health care and food business are highly important because both industries differ drastically in culture and in predominant business models. He is aware of the characteristics of the business partners in these different industries and he was the first who recognized the limited growth opportunities with the license model in the functional food business area. He knew that it is very difficult for a small company to extend its control and power in this industry. The reasons are highlighted as the low bargaining power of small biotechnology companies compared to the giant food firms and the complex, risky character of business agreements. Due to his experiences in the consumer health care industry, he considered it as the most promising business area for the small biotech company to grow. The partners in the dietary supplements business have a similar size as the company and are easier to negotiate with. Furthermore, the costs and the complexity of the products are relatively lower and the partners are more used to make agreements in which revenue and the costs are equally shared. Due to the less complexity of the product, the small biotech company is able to produce the finished product with the help of partners and can have direct access to end customer with its own brand. Overall, the new CEO used his former experience and knowledge to recognize a new business opportunity in a new business area and adopted the new business models (product and consumer BMs) which are in general more risky, but ensure higher level of control, power and revenue streams for the company compared to licensing model.

In terms of leading the company through this change period, the new CEO followed an open, informal and inclusive leadership style. It was important to him to share his ideas and thoughts with his main team of marketing, sales and finance people. Furthermore, he informed employees about all relevant changes. Overall, it was very important for him to create a good working atmosphere in the company and avoid any change resistances. Besides his employees, he also has to convince the board members to agree to all major decisions. As stated by the CFO, it is not really usually for a small biotech company to invest nearly the same amount of money in marketing and sales of a product to create its own brand. However, the new CEO was able to obtain the approval of the board by stressing the importance of the long-term value of a brand for the company. His vision was to use the product model as an intermediate step before doing the upgrade to the consumer model. The change should not be too radical and stressful for the employees. However, when the CEO started to push the consumer model and the branding strategy, some employees were difficult to convince. As the vice president of marketing stated, he had some doubts in the beginning that this strategy would be very successful and maybe too risky due to the high amount resources and the lack of experiences. However, the good results of the moderate model (the product BM) convinced him and the entire team. Besides, since his arrival, five complete new positions were created and two third of the employees were replaced by new employees. His new team has the necessary skills in marketing, sales and supply chain management. In the product and consumer model, partners must be visited on a regularly basis and the business operations are constantly changing over time for various parts of the value chain. Therefore, the new team must be highly flexible, motivated and able to deal with different partners and different agreements simultaneously. New CEO states that he has found the right people for doing these challenging jobs.

Concerning all the arguments, it is obvious that the CEO is a key factor for the successful execution of the business model transformation due to the changes he initiated to make the coexistences of various business models in two different business areas. The following section elaborates the role of organizational learning in the business model transformation.

5.3.2 Organizational Learning

The organizational learning was an accompanying process during the entire business model transformation that facilitated its successful execution. The insights from companies' experiences with existing business models and partnerships were highly critical to identify the selection criteria for future partnerships, business models and business areas with the highest potential in terms of power, control and growth. Furthermore, the management team acquired new skills or hired people with skills they were lacking in the company. The organizational learning process mainly affected the management team and slightly the board of directors because they were less involved in the daily operations of the company.

The organizational learning is mainly described as trial and error process by the interviewees. However, the results clearly indicated that different dimensions of the business models were well considered and discussed in company and board meetings in detail before being implemented. To illustrate, the company was able to use its previous experiences from a license agreement as a start to expand the business towards dietary supplements. In addition, they did not directly shift from the license model to the consumer model, but went step by step along the value chain to add new activities. Due to the previous experiences of the CEO with the consumer and product models in consumer health care industry, the CEO and CFO developed clear suggestions for business models and evaluated them in detail before trying them out. The CFO stressed that they were playing with numbers for various options of models and tried to select the most profitable business models. To mitigate the risks of failure of the risky consumer model, they decided to stay in their home market and team up only with a highly experienced partner in marketing and sales operations.

Following the new strategy with a stronger focus on commercialization and downstream activities, the company had started to learn more about the previous irrelevant activities of the value chain such as supply, marketing and sales. The management started to participate in various fairs and marketed itself as a company that offers product that meets the demands of end-customers. The vice president of marketing named these activities as "being out there in the commercial world". The management could be highly engaged with companies operating in various field of this sector and learned many details about the overall dynamics and trends in this business sector. At the same time, the management increased its understanding of the marketing side of this business and customer trends that are relevant for the product and consumer models. In these models, the company invested in marketing costs in different levels and without the knowledge of marketing and business, the risks for failure would be too high.

The interviewees stressed that the criteria for choosing the optimal partner has evolved over time with the learning. They realized that due to their lack of commercial experiences, they should not operate alone with the consumer model, but always team up with a partner that share their interests and offers complementary skills and expertise in the commercial side. In the consumer model, finding the best possible partner is extremely critical for the success of product due to the very close interaction with the partner. It is highly important that the company and the partner have joint interests and the business relation creates a win-win situation for both parties where revenue and profit are equally shared. Furthermore, the size of the partner really matters. It is easier to negotiate with a partner of equal size. From the shift from the license model to the product model, they had to acquire various skills and competences that were critical to be a supplier and buyer of raw materials. They had to learn to put pressure on the partner and understand all the details of the business of the supplier to avoid any frauds.

5.3.3 Profit from the License Model

The profitability of the first business model is another very important execution factor for the business model transformation in this company. The revenue from the license model is the "cash cow" that finances the development of the other two business models in consumer health care industry. The license model is a commercial agreement with a partner about a specific royalty, a percentage of the profit margin on ongoing sales. The enduring success of the first juice product in terms of the constant high market share and the long character of the commercial agreement lead to a static very high return for the company. The money would be used to support projects with expected return in the future that secure the growth of the company. According to the vice president of marketing, without the high profit of the license model, the experimentation with the other two business models, which are seen as long-term investment, would be not possible. To finance the development of the product and consumer model, the costs related to marketing and sales in the form of new employees, marketing research or advertising material is met by the revenues that come from the licensing model. These costs are considered as full costs in the accounting system which directly affects the net profit of the company; therefore, only the high profit from the license model can outweigh these negative effects on the net profit of the company.

5.3.4 Discussion of Executional Factors

The organizational learning in this company led to various experimentations with business models that were not tested out in reality, but examined in detail on paper. Furthermore, the experiences and skills that were brought in the company by the new CEO and new team members enhanced the learning process in the company. The leading role of CEO as a change agent opened the ways for new growth opportunities in different business areas and the accompanying learning process caused the successful implementation of new business models that fulfilled the motivations of growth, power and control for the company.

The experimentation with various business models indicates a discovery-driven approach (McGrath, 2010). According to McGrath (2010), the assumptions of business models should be clearly articulated and tested with the lowest possible cost. The plan starts with the question how the outcome looks like when the plan would be successful and secondly, what resources are needed to fulfill this strategy. The company had the desire of control and power over the value chain. As indicated in interviews, CEO and the team considered the different components of the business models in detail before actually implementing them. They examined the strength and weaknesses of the company in detail and came to the consensus that the company should focus on its existing expertise, find partners with complementary marketing skills to launch the products firstly in the home market. The concepts of the business models were clearly articulated from one to another by the goal of more control, power and growth. As stated by the CFO, the new BMs were carefully calculated on paper and step by step tested on the real market to limit the risks of failure.

The advantage of the discovery-driven approach is the low costs because the business models are firstly considered in detail before being actually implemented. For a publicly traded small-sized company which has limited resources, it is a valuable approach. In the business portfolio literature, Sabatier, et al. (2010) already revealed how the financial situation of a company is linked to business model transformation. They noted that "long time lags between investment and the first generation of turnover can often lead to rejection by investors, whereas being able to promise mid-term rents can assure shareholders that they will see a return on their investment within five years" (Sabatier, et al., 2010, p. 442). Previous studies (e.g. Wu, 2008; Nilsson, 2001) shows that board of directors are indeed more risk-averse than the management team and it hampers the exploitation of risky innovative projects for a company. According to Nilsson's (2000) study on the biotechnology sector in Sweden, the managers highlighted the short-term focus of the board of directors and the pressure to meet quarterly earnings. Therefore, they were not able to put sufficient resources in projects that offers unsecure expected returns in the long run. Wu (2008) also pointed out the strong focus of board members to meet the expectations of the quarter evaluations. In the current company, the risk-adversity can also be applied; however, the company could be able to invest in more risky business models, which could be profitable in the long run, due to the secure revenue coming from the license model. Similarly, Sabatier, et al. (2010) revealed that biotech companies use business models with more secure expected returns to compensate the long time lag of the drug discovery value chain.

Considering the organizational learning condition of SMEs, according to Jones and Macpherson (2006), the learning in small medium enterprises occurs as a response to "critical incidents" which endangers the future survival of the company. The owner-manager recognizes the need of external knowledge and partners and then opens the doors of company proactively for the new sources of skills, competencies and expertise. Finally, the new knowledge (expertise) is shared in the organization to institutionalize the learning within the company. In the current biotech company, new CEO recognized the need of external knowledge from the market and decided to open the company to new partners as well as end consumers to learn the dynamics and trends of the new business areas (such as consumer health business). As pointed out above, the company had several key insights from different partners and minimized the risk in the new healthcare business with this strategy. Knowledge distribution and institutionalization of the learning at the company were relatively easy due to online systems available for sharing information, small size of the company and close relationship among the management team.

In the current biotech company, the CEO was clearly the leading change agent. As stated by Govindarajan and Trimble (2011) in their article “The CEO’s role in business model reinvention”, a future oriented CEO should manage the present, selectively forget the past and create the future for the organization. Considering the new CEO’s activities, one can say he successfully managed the present by preserving the existing license model, addressing the concerns of employees and board members related to development of company brand and by keeping the control of current business with his open communication style. Besides, he has destructed the old business strategies of the company which aimed to protect the existing constant revenue and high profitability with the license model in the functional food area. Rather, he created a future for the company in the consumer healthcare in which the market is more fragmented and more suitable for a small company to compete with other competitors. Besides, he realized this transformation step by step by ensuring the success of existing business, and has balanced the R&D focus of the company with commercial success and market growth. In that sense, his activities address the past, present and the future of the company similar to “The CEO’s role in business model reinvention” article.

Sosna, et al. (2010) showed how organizational and managerial cognition are related to the business model transformation process. According to Sosna, et al. (2010), owner-manager has the decision making power and his/her cognition and knowledge related to external environment affects the business models of a company. Besides, relevant team members are also involved in the decision making process by motivating them and by sharing the necessary information in order to allow them to learn and experiment about company decisions. This group creates an experiential wisdom which consists of both negative and positive outcomes of different choices. All these market experiences affect the learning and cognition of team members and shape their decisions related to business model design process. Specifically in the current case, the new CEO of the company believed that it was not possible for the company to grow quickly, have more power in the business deals and in the market with the existing license model. Therefore, he shared his ideas which are based on his cognition and knowledge about the market, with the management team of the company, to learn and experiment about the business models of the company together. In that sense, the new CEO's commercial background in the functional food and healthcare businesses are crucial because his prior experience has affected his cognition and knowledge as well as his decision related to new business models. Similarly, one can say the previous CEO's knowledge and cognition was shaped around research and development (R&D) and that's why he gave more attention to the development of new R&D projects rather than focusing on commercial activities the company. The management team's experiential wisdom based on positive and negative business arrangements with different partners affected their learning and cognition which consequently lead to a more secure, step by step change towards the consumer business model. Rather than quickly and radically expanding the business models, the management team of the company decided to use a moderate business model that is the product model before generating the consumer business model for the company.

5.4 Outcome of Business Model Transformation

The outcome of this process is a business model portfolio where three different business models in two different business areas coexist. The authors reveal the details of the company's business model portfolio and how this process has modified the core-repeated processes of the company.

5.4.1 Business Model Portfolio

In the business model portfolio of the company, three different business models exist simultaneously that differ in risks and expected returns, but also in control, power and growth opportunities. As it was previously discussed, they are interrelated in the way that the product and consumer model are financed by the profit from the license model. Furthermore, the product and the consumer models are used in a different business sector (consumer healthcare) than the license model (functional food). The good experiences of the product model, which has a more moderate character in terms of risk and expected returns, promoted the implementation of the consumer model.

In the license model, the level of control and power was very limited due the characteristics of the functional food industry and the limited number of activities the company had involved in. In terms of launching the product, the company was totally dependent on its partners; therefore, had a limited control over its destiny. The risk level in this model is difficult to estimate compared to the other two models. Due to lack of investment in marketing and sales, the risk level for the license model seems to be lower. However, due to the high dependency on partners and the low bargaining power in the business relations, the failure of a partnership strongly affects the revenues and the growth potential of the company. Therefore, the risk level is low when the partner successfully launches and sells the product on the market with a secure profit for the company. In terms of growth potential and return, if a product is really successful in this model, the growth potential and the expected return will be satisfactory because of the low operational costs and possible options for line extensions. However, the company is able to receive a small portion of the revenue compared to its partner and has no direct access to market and end-consumer. This hampers the possibilities to develop new products in the future which meet customers 'demand without a direct contact to them. In terms of the current developments in the functional food market, the growth opportunities for probiotics are very low due to the unclear EFSA (European Food Safety Association) regulations. Potential partners hesitate to make new agreements without an EFSA health claim because it is allowed to communicate the full health benefit of the product for consumers, only with the approval of EFSA.

The situation of the product model is different than the license model. The company moves one step further along the value chain and sells finished products in bulks (rather than raw material) to the customer. The customer is mainly responsible for the packaging, marketing and sales operations. It is sometimes also allowed to use company brand somewhere on the package. According to the vice president of marketing, additional activities in the value chain means increase of control over the product, however, not necessarily an increase in the bargaining power with the partner. The partner has still the full control over the brand and the market access. However, the time to the market is shorter and decision-making process is easier with the partner with this model in the consumer health sector. The power is slightly higher because the company has full control over the product and do not negotiate about the product development work with the partner. The company can present itself to the partner with finished products which have documented health benefits. In terms of the risk, the product model has slightly lower level of risk than the license and consumer models for different reasons. The product development is already finished before entering business relations; therefore, if a partner decides to make an agreement, it will also launch the product. In addition, the company has lower costs for product development due to the less complexity of the products in consumer healthcare and lower marketing and sales expenses compared the consumer model. In terms of revenue, the company received a higher share than in the license model and have a shorter time lag between investment and expected returns. The growth potential is also higher because the consumer health care business is expanding predictably and it easier to find new partners because the company can able to provide finished products to partners without production facilities.

In the third model, the consumer model, the situation is completely different than in the other two models because for the first time, the company is involved in all activities of the value chain. For that reason, it has equally shared control over the value chain and the revenue with its partner. In terms of the growth potential and the expected return, it has the highest potential among all models with its direct access to end customers with the company's own brand. The expected returns are much higher as well as the growth opportunities because the company receives the equal share of revenue of all ongoing sales and owns the brand which is one of the most valuable part of a product. However, the level of risk is highest among all models because the company has very high investments in the form marketing, sales and advertising expenses which directly affect company's net profit. Furthermore, the company needs to find a good partner that it can work well together. As stated by the vice president of marketing, partners should be highly motivated for the product and share similar interests as well as risks with the company. Still, it is easier to find new partners with consumer model due to its' equal share for investment (risk) and the expected return (profit).

5.4.2 Dynamics in Core-repeated Processes

Concerning the shift in the business models at the company, the core-repeated processes have partly changed. The reasons for the changing dynamics in the core-repeated processes are the additional activities on the value chain, the closer relationships with partners, end-customers and the new mind-set of the company.

The new core-repeated processes were mainly added to the existing ones while the previous core-repeated processes became partly more complex and challenging in the new two business models. The additional new activities are mainly in marketing & sales, supply chain coordination, collaboration with various new partners (for focus group studies, branding strategies and packaging design etc.). Concerning the product development work of the R&D department, the R&D processes have become less complex because the products in the consumer health care business are easier to develop and less sophisticated than in the functional food area. Furthermore, the application for industrializing the products for various markets is also easier because dietary supplements are more standardized products and are not need to be adapted to the local taste of various markets. On the other hand, all processes related to business relations became highly complex especially in the consumer model. As the CFO stated, as soon as the license agreement is set up, it works like an automatic machine with the partner, however, the business relations in the other models are more dynamic and evolving over time. Therefore, the company should constantly visit the partners and potential customers to cooperate with them on different activities of the value chain. Besides, the negotiation processes have become more complex because the company needs to reach an agreement with its partners on various issues.

The interrelations between the core-repeated processes have also evolved. In the license model, the company solely focuses on a specific part of the upstream activities (such as development of new bacteria strains in the R&D laboratories) and the market potential of the product was checked by the partner, before. However, today, due to the stronger commercial focus and direct contact to end-customers, the company is able to assess the market potential of a product in a very early product development stage to revise or terminate it if there is not enough demand in the market. Therefore, the new core-repeated processes (e.g. marketing & sales) are also linked to the old processes which facilitate a strong cooperation between marketing and R&D department at the company. This new collaboration between R&D and marketing & sales in the early product development stages reflects the new mind-set of the company which has a more balance between R&D and the market.

5.4.3 Discussion of Business Model Portfolio & Core-Repeated Processes

Sabatier, et al (2010) in their article “The business model portfolios in the European biopharmaceutical industry” explain how companies use BM portfolio to capture value in different markets simultaneously. According to Sabatier, et al. (2010), “a firm`s portfolio can help to balance the levels of promise and interdependency with other firms via its different business models” (2010, p. 432). The levels of promise are defined by the time lag between investments and revenues, the level of risk and the level of expected returns. All these three dimensions are also highly relevant for the current company’s business model portfolio, as discussed above in detail.

However, in Sabatier, et al. (2010) the biopharmaceutical companies used new business models to finance the long term drug discovery process with more secure BMs that have short term focus to generate profit. The current company did not go through the entire drug discovery chain in the time frame of this case study. The company mainly used the activity of “orchestrating/recombining the knowledge” in a form of a “repositioning model” according to Sabatier, et al.’s (2010) discussion. Organizational learning of the company led to application of its existing bacteria strains to a new business area (dietary supplements). Therefore, the case is more similar to of Sabatier, et al.’s (2010) “repurposing model” that explains the strategy of a company to reposition an existing product. Similar to “repurposing model”, the time lag (between investment and return) and the risk associated with the new product is reduced because the key ingredient was already invented and would be only applied to a new product platform (gut and immune) in a new business area (consumer healthcare). Therefore, the company did not invent any new bacteria strains and did not go through the entire drug discovery process. In the license model, the time lag was long and it had high level of risk because the real product development happened after the license agreement. If the results of product development would not meet the expectations, the project would fail. On the other hand, in the product model, the product development is already finished. If an agreement is set up, the product could be launched much faster to the market, therefore, the time lag is shorter.

Different from the companies in Sabatier, et al.’s (2010) study, the current biotech company was not involved in any new product development work by itself with a license model. The biotech company only renewed the conditions in existing license agreements to increase its royalties. Therefore, the motivation for a business model portfolio was not to balance the time lag between investments and revenues, but to reduce the level of risk and the level of independencies to partners while increasing the revenues in a different business simultaneously. As it is highlighted before, the key motives that drive the development of the business model portfolio at the biotech company was to find new growth opportunities and increase the level of power and control over the value chain. Sabatier, et al. (2010) mention about the level of power and control in their second dimension as related to “interdependencies with other actors”. Their multiple case studies revealed that companies also use different business models to balance their dependency on business partners and to increase their level of control over the value chain. This finding is similar to finding of this thesis because each new business model caused an increase in power and control for the mentioned biotech company.

Overall, Sabatier, et al.'s (2010) findings related to the existence of different business models in the portfolio, to balance the level of risks, expected returns, and level of interdependency is similar to the findings of this case study. However, the main differences between Sabatier et al.'s (2010) case study and this one are the key motives and partly the executional factors for the development of the business model portfolio. According to Sabatier, et al. (2010), "*business models can be balanced to ensure short or medium times-to-market. This is important for small companies, as it is difficult for them to survive the long period (maybe twelve years) without turnover and profit involved in longer-term models*" (Sabatier, et al., 2010, p. 442). However, the current biotech company was not in the need of finding new or more secure income streams to back-up the highly risky drug discovery process. The company was generally interested in finding new growth opportunities and increasing power and control over their partners and the market. Besides, the new income streams from the additional models (product and consumer model) are not safer, but more risky which is different from to Sabatier, et al.'s (2010) findings. Similarly, the current biotech company was not in need of money to guarantee the long-term survival of the organization, as it is the case in Sabatier, et al. (2010). The current biotech company has been highly profitable and had extra cash to spend in new projects; therefore, it was in the need to find new growth opportunities and new revenue streams in different business areas.

Cavalcante, et al. (2011) described various types of business model change that can be also applied to the case to explain the dynamics of the core-repeated processes in more detail. Considering Cavalcante, et al.'s (2011) description of business model extension and revision, the new business models of the company seems to be a mixture of revision and extension. According to Cavalcante, et al. (2011), by extension is meant adding services and/or expanding existing core processes of an existing business model. However, in the case of biotech company, the characteristics and the core-repeated processes of the license model significantly differ from the new business models in terms of partners, products, and the business area. Therefore, this process involves more challenges (such as resistance to change, patch dependency) as it is the case in business model revisions. Cavalcante, et al. (2011) describe the problem of path-dependency which keeps the company on track to execute daily operations, but makes the implementation of new strategies difficult for the organization. Besides, other problems such cognitive manifestations of employees to stick to the old mind-set of the company and internal politics can hinder the change capacity of the company. Concerning the change management at the biotech company, the change agent was the new CEO who came out from the market (rather than internal promotion) and brought a new mind-set to the company. Furthermore, he replaced two third of the employees with the new ones which means that the cognitive manifestations of employees would not be an issue because only employees who shared the new mind-set would stay at the company to deal with the coming challenges. Cavalcante, et al. (2011) define business model revision as changing the some components of existing business with the new processes to explore and exploit new opportunities in the market. The biotech company adopted new business models (product and consumer BM's) and kept its existing BM to function as a cash cow to finance the new ones. Still, the new BMs can be seen a revised version of the previous BMs (licensing to product and product to consumer BM) which aims to exploit different market opportunities with additional new processes (e.g. marketing, sales, advertising, branding etc.) However, the company did not change all the core-repeated processes. To illustrate, the processes to facilitate good clinical documentation and high-quality bacteria strains with real health benefits are still common core processes in all three business models.

Considering the Mangematin, et al.'s (2003) study on business model transformation in the biotechnology sector, the company mainly fits in to category A companies. It focuses on niche markets, more simple products and incremental innovations over the last years. With business models changes, the company has become closer to Type B firms, which aims geographic expansion to enter new markets. Concerning Nosella, et al.'s (2005) study of biotech firms in Italy, the biotech company moved from the category of "New Biotechnology Firm" to a more "Integrated Firm" due to coexistence of different business models. The company is still strongly specialized on probiotics and its applications, but after the business model transformation process it is strongly involved in most activities of the value chain rather than just being a raw material supplier. Similarly, according to Willemstein, et al.'s (2007) categorization, the current biotech company has moved from being a "product firm" which concentrates on upstream activities (such as R&D) to a "hybrid" organization in which a combination of different activities are carried out, due to the business model transformation.

6. IMPLICATIONS & CONCLUSION

6.1 Implications

6.1.1 Managerial Implications

The study clearly points out the important role of the CEO as a key driver for the business model transformation process. The CEO's vision and successful execution (e.g. step by step change, open communication, inclusive management style, recruiting new people with complementary skills etc.) was crucial to realize the higher control, power and growth motivations of the organization with a portfolio of business models.

Organizational learning was another important factor for the successful BM transformation. Without the learning related to different business areas, partners and core processes, it would not be possible for the company to benefit from the coexistence of three different business models. Organizational learning and step by step execution mitigated risk of failure for the company.

The company developed the new business models in new areas of business with the financial support of its existing business model. As the results indicate, it is quite important to optimize the existing business model while looking for new alternatives to exploit new opportunities in the market. Otherwise, a company can lose its current position and levels of revenue while looking for bigger opportunities in new business areas.

Finally, coexistence of different business models that offers different levels of control, power, risk and growth can serve both short term financial needs and long term investments necessities of a company. This portfolio approach can reduce the overall risk for an organization by limiting its dependence on specific partners and business areas. Besides, it can provide strategic flexibility to adapt new market conditions as circumstances changes.

6.1.2 Implications for further research

This study addresses different internal factors (such as reasons of BM change, the role of organizational learning and leadership) involved in the BM change process in a small biotech company. However, more insights are needed related to external factors (such as role of competitors, trends of business, the regulatory environment etc.) which affect the BM transformation process. Besides, dynamics that affect BM transformation can be different in other industries; therefore, further research is needed to understand different BM transformation/portfolio dynamics in various industries. The results of this study suggest that even within the same industry, motivations behind a business model portfolio can be different. Different from the pharmaceutical companies in Sabatier, et al. (2010)'s study, the motivation behind the current biotech company's business model portfolio was to reduce level of dependency on partners, rather than balancing the time lag between investments and revenues in the pharmaceutical drug development process. The current biotech company already had high levels of revenue and it was looking for growth opportunities in the new business areas rather than more secure income streams to back up the highly risky drug discovery process. Thus, even different type of biotech/pharmaceutical companies may have different dynamics that affect BM transformation/portfolio. Besides, more elaborated research is needed to go beyond the categorization of BMs to gain further insights about the factors affecting the business model innovation. Finally, further research is needed to understand the different value propositions of different BMs in a portfolio and their effect on the short term needs and long terms investments of organizations.

6.2 Limitations of this Thesis

Similar to all other studies, this study also has some limitations. First of all, the results of this single case study may not be generalized due to its possible idiosyncratic character. Besides, it is conducted in a specific context (in Sweden) and the results may not be relevant in other contexts. Specifically, European Food Safety Association's regulatory pressures would not be a relevant factor outside of the EU. Limited number of interviews (N=3) may even limit the representativeness of this study in the Swedish context. Finally, this study is conducted in a really limited time in parallel to business development report (with an upper word limit of 14000), which may undermine the quality of the work. Therefore, results should be evaluated carefully in order to gain some insights related to business model transformation without making generalizations.

6.3 Conclusion

As the results of this study indicate, there are mainly three motivations behind the business model transformation of the biotech company, which are the higher control, power and growth for the organization. This transformation is successfully executed with the help of organizational learning, good leadership and financial resources sustained by the existing (licensing) business model of the company. As the result, the biotech company has a business model portfolio which consists of three different business models with different risk, control, power and growth levels. The business model portfolio has expanded the activities of the company over the value chain at different levels and in different business areas. Furthermore, a more balanced approach between research & development and commercialization of the products is adopted for the company. Thus, a higher level of revenue is generated with different business models in the short term to finance the R&D activities of the company, which is crucial for the long term success of a biotech company.

LIST OF REFERENCES

Argyris, C., 1976. Single-loop and double loop models in research on decision making. *Administrative Science Quarterly* ,21, pp. 363-375.

Aspara, J., Lamber, J., Laukia, A. & Tikkanen, H., 2011. Strategic management of business model transformation: lessons from Nokia. *Long Range Planning,* 49, pp. 2-23.

Browman, C. & Ambrosini, V., 2000. Value Creation versus Value Capture: Towards a Coherent Definition of Value in Strategy. *British Journal of Management* , 11(1), pp. 1-15.

Bryman, A. & Bell, E., 2011. *Business Research Methods.* 3. ed. Oxford: Oxford University Press.

Calvalcante, S., Kesting, P. & Ulhoi, J., 2011. Business model dynamics and innovation: (re)establishing the missing linkages. *Management Decision,* 49(8), pp. 1327-1342.

Casper, S. & Kettler, H., 2001. National institutional frameworks and the hybridization of entrepreneurial business models: The German and the UK biotechnology sector. *Industry and Innovation,* 8(1), pp. 5-30.

Chesbrough, H. & Rosenbloom, R., 2002. The role of business model in capturing value from innovation: Evidences from Xerox Corporation`s technology spin-off companies. *Industrial and Corporate Change,* 11(3), pp. 86-92.

Demil, B. & Lecocq, X., 2010. Business Model Evolution: In Search of Dynamic Consistency. *Long Range Planning,* 43, pp. 227-246.

Dobsen, P., 1992. *Approaches to Theory Use in Interpretive Case Studies - a Critical Realist Perspective* , Wellington, New Zealand: Conference on Information Systems.

Eisenhardt, K., 1989. Building Theories from Case Study Research. *Academy of Management Review,* 14(4), pp. 532-550.

Erickson, F., 1986. Qualitative methods in reseearch on teaching. In: *Handbook of research of teaching.* New York: MacMillan, pp. 119-161.

Ghaziani, A. & Ventresca, M., 2005. Keywords and cultural change: frame analysis of a public talk. *Sociological Forum 20 (4),* pp. 523-559.

Govindarajan, V. & Trimble, C., 2011. The Ceo`s Role In Business Model Reinvention. *Harvard Business Review* , January-February, pp. 108-114.

Greeve, H., 1998. Performance, aspirations, and risky organizational change. *Administrative Science Quarterly* ,43, pp. 58-86.

Hingley, M., 2005. Power imbalanced relationships: cases from the UK fresh food supply. *International Journal of Retail & Distribution Management* , 33(8), pp. 551-569.

Hunt, S., 1991. Positivism and Paradigm Dominance in Consumer Reseearch: Toward a Critical Pluralism and Rapprochement. *Journal of Consumer Research,* 18(1), pp. 32-48.

Johnson, M., Christensen, C. & Kagermann, H., 2008. Reinventing your Business Model. *Harvard Business Review,* pp. 51-59.

Jones, O. & Macpherson, A., 2006. Inter-organizational learning and strategic renewal in SMEs: extending the 4i framework. *Long Range Planning* , Volume 39, pp. 155-175.

Kuratko, D., Morris, M. & Covin, J., 2011. *Corporate Innovation & Entrepreneurship.* 3. ed. Canada : South-Western CENGAGE Learning.

Lindgren, P., 2012. Business Model Innovation Leadership: How Do SME ´s Strategically Lead Business Model Innovation. *International Journal of Business and Management*, 7(14), pp. 53-66.

Mangematin, V. et al., 2003. Development of SMEs and heterogeneity of trajectories: the case og biotechnology in France. *Research Policy* ,32, pp. 621-638.

McGrath, R., 2010. Business Models: A Discovery Driven Approach. *Long Range Planning,* 43, pp. 247-261.

Mintzberg, H., 1978. Patterns in strategy formation. *Management Science*, 24(9), pp. 934-948.

Morris, M., Schindehutte, M. & Allen, J., 2005. The entrepreneur`s business model: toward a unified perspective. *Journal of Business Research,* 58, pp. 726-735.

Nelson, R., 2008. Bounded rationality, cognitive maps, and trial and error learning. *Journal of Economic Behavior and Organization* , 67, pp. 78-89.

Nelson, R. & Winter, S., 1982. *An Evolutionary Theory of Economic Change.* Cambridge: Belknap.

Nilsson, A., 2001. Biotechnology Firms in Sweden. *Small Business Economics,* 17(1-2), pp. 93-103.

Nosella, A., Petroni, G. & Verbano, C., 2005. Characteristics of the Italian biotechnology industry and new business models: the initial results of an empiral study. *Technovation,* 25, pp. 841-855.

Penrose, E., 1960. The Theory of the Growth of the Firm - a case study: the Hercules Powder Company. *The Business History Review,* 34(1), pp. 1-23.

Perry, C., 1998. Processes of a cae study methodology for postgraduate research in marketing. *European Journal of Marketing* , 32(9-10), pp. 785-802.

Sabatier, V., Mangematin, V. & Rousselle, T., 2010. From Recipe to Dinner: Business Model Portfolio in the European Biopharmaceutical Industry. *Long Range Planning,* 43, pp. 431-447.

Smith, J. & Fleck, V., 1988. Strategies of new biotechnology firms. *Long Range Planning* , 21(3), pp. 51-58.

Sosna, M., Trevinyo-Rodriguez, R. & Velamuri, S., 2010. Business Model Innovation through Trial-and-Error Learning - The Naturhouse Case. *Long Range Planning,* 43, pp. 383-407.

Tikkanen, H., Lamberg, J., Parvinen, P. & Kallunki, J., 2005. Managerial cognition, action, and the business model of a firm. *Management Decision,* 43(6), pp. 789-809.

Walliman, N., Your Research Project. *2001.* 2. ed. s.l.:SAGE Publications.

Walsham, G., 1995. Interpretive case studies in iS research: nature and method. *European Journal of information Systems* , 4, pp. 74-81.

Willemstein, L., van der Walk, T. & Meeus, M., 2007. Dynamics in business models: An empiral analysis of medical biotechnology firms in the Netherlands. *Technovation*, 27, pp. 221-237.

Wu, H.-L., 2008. When does internal governance make firms innovative ?. *Journal of business Research,* 61, pp. 141-153.

Wu, Y., 2004. The impact of public opinion on board structure changes, director career progression, and Ceo turnover: evidence from CalPERS corporate governance program. *Journal of Corporate Finance,* 10(1), pp. 199-227.

Yin, R., 2003. *Case Study Research: Design and Methods.* 3. ed. s.l.:SAGE Publications.

Zott, C. & Amit, R., 2010. Designing your future business model: An activity system perspective. *Long Range Planning,* 43, pp. 216-226.

APPENDIXES

APPENDIX A: Interview Guide

A) Interview Guide CFO

1. Individual characteristics
    a. Job title
    b. Time in the company
    c. Degree of involvement in business model development (in which dimensions)
2. Business models
    a. Reasons for the shift from the license to the product model
    b. What are the advantages & challenges?
    c. Reasons for the shift from the product to the consumer model
    d. What are the advantages & challenges
3. Actors in the business model process
    a. Your role in the process (interaction, ideas etc)
    b. Initiators in the different stages
    c. Role of board of directors
    d. Role of main competitors
    e. Role of clients/business parts
    f. Role of CEO
4. Other factors involved in the process
    a. What was the inspiration for this business model?
    b. Were there any pressures for new ideas to earn more profit?
    c. How is it linked to the other business models?
    d. Was everyone of favor of this idea in the beginning?
    e. What were the opposing views on that?
    f. What were the risks of this business model?
    g. How did you overcome these barriers?
    h. Was something missing in your organization to make it work? (e.g. business contacts, new employees, additional resources)
    i. What you do think were your key learning after finally implementing the business model?
    j. Do you call related this process to trial & error process?

B) Interview Guide Vice President of Marketing

1. What are the main changes in the company in the last five years?
    a. Core competence today
    b. Why?
    c. milestones
2. Story –telling: transformation from a license model to a consumer model
    a. Why has the transformation happened, what were the reasons?
    b. What is the position of the company today?
    c. How would you describe the process in form of adjective, attributes/ association with the change process?
    d. What was your role in the process?
3. License model : advantages,
    a. How to create value for customer?
    b. What were core competences?
    c. What was position in the market?
    d. Were there barriers/limitations of the business model?
    e. What were the reasons to change it and when happened?
    f. Automatic change in this stage of the company?
4. Product model :
    a. What are the most relevant changes?
    b. What are the advantages compared to the other model?
    c. Drawbacks?
    d. Could you use your skills, knowledge and expertise?
    e. Was something missing in terms of resources/expertise/experience?
    f. What have you learned?
    g. Change resistance?
    h. Create more value in terms of the value chain?
    i. Open what new opportunities?
5. Consumer model:
    a. What are the most relevant changes?
    b. Automatic change?
    c. Advantages? Creating value for customers?
    d. Barriers?
    e. New skills?
    f. Importance of brand?
    g. Change in partners & value chain?
    h. Position of employees & board of directors?

6. Reflections:
    a. Key learning from developing the business model and gone through this process?
    b. What still need to be done?
    c. How do they create synergy?
    d. Future of the company

C) Interview Guide for CEO

1. What are the main changes in the company in the last five years? (milestones)
2. Situation of the company in 2007
3. Situation of the company today (core competences)
4. Story –telling: transformation from a license model to a consumer model
    a. Why has the transformation happened, what were the reasons?
    b. What is the position of the company today?
    c. How would you describe the process in form of adjective, attributes/ association with the change process?
    d. What was your role in the process?
5. Advantages & Disadvantages of the business models
6. Reasons for going for consumer health care for the product and license model
7. Cultural differences between consumer health care business and functional food
8. CEO experiences and background important for the position
9. Background and experiences of previous CEO
10. Strategy of the previous CEO
11. Reflections:
    a. Key learning from developing the business model and gone through this process?
    b. What still need to be done?
    c. How do they create synergy?
    d. Future of the company
12. Relation to board
    a. Role of the board
    b. How to convince them to invest in brand?
13. Management Style for business model transformation process

D) Interview Guide Follow-up questions: Vice President of Marketing

1. Products in the pipeline: no commercial access, why it is not the case? No search for others?
2. Importance of growth (important for board) , Interview with CFO, limited growth opportunities in the license model, why ?
3. But increase of royalties and line extensions happened for the products in the license model?
4. Before the business model change, where the financial resources are used, what was the focus of growth?
5. Control and power limited in license model, why?
6. Why is the power and control higher in consumer and product model?
7. Reduce of dependency on partners in product and consumer model?
8. How would you describe the risk-taking behavior of the company at that time?
9. Life-cycle involved, other expectations
10. Make use of finance, find more profitable financial investment for money from the license model?
11. Different options besides product model / consumer model? What changed your mind?
12. Why can you find more partners for the product and consumer model than in the license model?
13. Idea generation for the previous successful products? Mainly application work than new product development?

APPENDIX B: Transcripts of Interviews (Highlights)

1. Transcript of Interviews CFO (Highlights)

License Model (since 1994)

"The company is defined as a biotech company, and traditional or classical business model for biotech companies is the licensing model"

"You cannot afford a lot of sales and marketing people at the first stages,… you rather talk to big companies to sell your products"

"The partner was the licensee for the products and did all the distribution, all the sales work"

"All the biotech companies stand for the technical and R&D part and then you join a company that has a marketing resource. That's a cheap way to take your products to the market"

"They didn't know any other way of doing it and they used this licensing model"

"All these models have pros and cons. The disadvantages as I see with the licensing model, you are very very dependent on the performance of your partner because you don't have any impact on how sales are developing. It's like seating in the backseat of a car as blind, you have no idea where you are going but you are getting there, Hopefully! And then, there is financial advantage because there are no direct costs associated with licensing normally. The revenue level is low that's because it's just a tiny part of the consumer price. And in some cases, it could be the percentage and even though it's a high percentage, in some cases double digit percentages or royalties but that's still a small portion because that's your partners sales, its not the percentage of consumer price. In this kind of products, that step from partner to end consumer is nearly a double price. On the positive side, the risk is fairly low, you don't put any new resource in it. You don't have to hire people. You don't put money for advertising. So it's a plus business from the first royalty you get and the money goes all the way down to the bottom line. Then you can of course say that is the payoff for all of the R&D expenses of the previous years, so you have to look over a period of time to judge the licensing agreement. To summarize licensing model, very low control -some else is driving the car, you are not driving, you are at the backseat and in worst case you are blind folded, you have no idea where you are going- ,low risk, a small part of revenue from the consumer price"

"When the current CEO started in 2007, nearly all of the revenue of this company was from its products of the license model (one product) and the revenue was 1/11 of the current revenue. Over 5 years, it has gone nearly from nothing to be half of the company's revenue.

Product Model & Consumer Model (since 2004 and 2007, respectively)

"There were several reasons that we would like to go from licensing model to Product model. The product model is selling the capsules normally in bulk or in consumer package. There are many reasons for that. One is, you are still not driving the car but maybe you moved to the passenger seat. There is not a very big risk in it but you could start to build your brand on packaging and that goes both for product and the consumer model. One common thing for biotech companies is that normally you are really dependent on your patents and patents expire, no matter what you do. And patents could be the very important part of the value of a biotech company so you have to substitute or try to create another value and that's normally a brand. The good thing with brands is they do not expire unless you do something really stupid and then it can go to zero in a minute (Laugh). You start discussing with your partner a little bit about marketing, you get a little bit closer to your partner here, visiting them time to time and discuss maybe we can support them about medical marketing, material etc. The risk level is somewhat higher here because you get finished products that you start handling. You can have inventory risks, it's a handling with operation procedures that you need to implement in your company. If you just have the licensing model, it could be one invoice that you need to deal once a month based on what your partner reports. But that's not a way of developing a company really. So with product model comes the risk, you need logistic systems, some financial risk in terms of inventory. We keep some safety stock in case we need to do quick delivery, for example. You also need a big resource in sales and marketing. One important thing with the product model is that we get a bigger share of the value at the end costumer and an important thing for a company at our stage of development is to increase revenue. We are a profitable company, we want to stay as a profitable company but it is more important for us to grow. And if possible keep the profit level as a percentage but not necessarily making more money as a proportion of sales. I think it would be accepted as well if we grow at a steady rate and for a period of time at least, with a little bit smaller profit. So that's why CEO decided that we should not leave the licensing model but we should develop the licensing model. We should keep the licensing model, we should develop the product model for those reasons which you could summarize as building value in your brand, a little bit more control, not full control but a higher control than the licensing model and you get a higher proportion from the value chain, if you put it like that."

"There were some products before CEO came, but they were in very small level so what he did was the decision to say, we should go for this, we should put effort into this, we should put resources into this."

"If you look our reports, licensing model is more or less functional food and the other two product & consumer models are more or less consumer health care. The basic idea for us now, we consider licensing model like a money printer. All the sales and marketing are working with consumer or product model. One reason for that is functional food market is very hesitant at the moment because of

EFSA, so they are not really interested in discussing any new solutions for products in the functional food area (with in licensing model). Europe market is waiting for EFSA to give approval for probiotics and of course it is reflected in R&D, what they prioritized. They are working with new products like dietary supplement stuff, they are not really looking for new food products because there is not customers at the moment that are interested in. Quite a big part of the total resources in this company is dealing with consumer healthcare stuff which is a product or the direct (consumer) model. So idea going forward to use the money that we get from the licensing model, invest this money into product and consumer model to develop them because you need resources to develop them. You need people going out to visit customers, making agreements. You need people developing new products within new product areas, we need logistic people to send all these capsules all over the world etc. So to put it easy functional food is all of the profit and the consumer healthcare is more or less break even or a little deficit, actually. To finalize, if we want to get us close control, at least one hand in the wheel of the car and maybe one hand on the gear shift, than you go to the consumer model because then you start investing money in the marketing towards the end customer. We don't do that in the product model but we do it in the consumer model. For a classical biotech company, putting money on marketing could be surprising to some people, with that goes a quite higher risk as well because you invest money on marketing but you are not sure whether you will get return in the form of sales. The money directly affects your results and performance of your company. Consumer model agreements are made like joint ventures, which means you take the P&L and split into two parts. On part goes to us, the other part goes to our partner. So we share everything from revenue down to profit. Its always like that. You need to put money into a business relationship in order to gain more control, with more money invested, the risk increases, from financial point of view."

"We have three different business model that are quite different but they are related to each other in the way that it would be really hard for us to make business based on product and consumer model because then we would have red figures. The licensing model which we started with really built the base to be able to develop the other two models."

"Main driver of business model change was to start building value in a brand and to build top line to get a higher proportion of the value chain and to get a little bit of control."

"It's more like classical sales work, you need to see your customer on a regular basis. You have several deliveries, and always something can happen in the form of delay, with the quality. In the licensing agreement, as long as you are performing the in the way you should, it's fairly uncomplicated. A lot effort is normally put in to negotiating the licensing agreement but once you are there, it normally runs like automatic machine in a way. But product sales and the consumer model, they need attention all the time. Follow up calls, planning, marketing, it's more like traditional selling products. That is challenge, to handle with two different business models in a small company. So one may end up asking do we spend time on right things, is the marketing staff visiting the right people, are they seeing the right companies? Quite some time is spent on discussions about major plans, sales, volumes, and practical things like that, branding, what we could say about packaging when the new EFSA rules come in to force in December etc. If you go from top to bottom, from licensing model to product model and to consumer model, further down you get, the bigger the effort (licensing/product/ consumer models) and effort equals to resources put into it. But we are very proud what we have achieved in these five or six years, growing from nearly nothing to half of the revenue. From a company point of view, it’s also reducing the risks because we now have some agreements (ten) that summarize our revenue. Five or six years ago, nearly all revenue was coming from one license agreement with our partner. So it’s also a question of spreading the risk in the business both from a product point of view, customer point of view and geographical point of view. So that’s maybe the disadvantage of licensing agreement, you are very exposed to what your partner wants to do. Say that for some reason, they could have decided to not selling this product anymore (the deal is the product) in 2004, I don’t think that the company would have existed today, actually. Many licenses are exclusive as well so once you decided to go for one partner in one geographical market than you stuck with that partner and you are very dependent on that partner.”

“A lot of decisions are reacting on things that are happening in your environment and in a way you can say that’s what we are doing because EFSA is a great hurdle for developing the food side so what do we do? We develop the other part where we are less dependent. When you are run this car that we were talking about, if the road is blocked, what would you do? You have to find somewhere else to go”

“I don’t think this was like one day CEO said now I decided that we should go for product model, its more liked evolved over time.”

“Putting more money into marketing that was a quite discussion at the board because that was a big step nearly like completing licensing with product model. That is quite uncommon for a small sized biotech company to put money into marketing of your own products because that’s someone else far away in the chain would do that. CEO did a great job to convince the board during that discussion”

“The very first patent expired last summer that is predefinition is a risk for the company and then of course what barriers of entry there are in your industry. The history tells us that, the other companies that have patents expired, not really much has happened, really. It’s not as easy as just taking and start making the product in your home kitchen and there is big know-how around it. But when the patents are expiring, there emerges a need to start building value with brands.”

“If you take all the players operating in this industry, I think you can draw arrows among nearly all of them, with different relationships, as customer, supplier, some kind of competition, collaboration. So competitive landscape is massy. ”

2. Transcript of Interview with Vice President of Marketing (Highlights)

"During the last five, I would say, a high priority on consumer health care business that is definitely number one. Number two that would be introduction of more defined branding strategy in connection with different business models. I would also say a stronger application development in general, meaning using one product in different aspects. We have been more marketing and sales focused in the last five years than we were before, predominantly based on the resource allocation and management attention."

"CEO of the company has primarily been people coming from the stronger R&D focus. When the new CEO came that's about 5 years ago, he was coming from more the marketing side, still having a good knowledge about R&D, in basic a business person."

"I have been trying to drive the company for a number of years obviously with a board that has not really understood that you need to have resources as well to be able to accomplish something. That together with the CEO roles, getting the R&D projects going. Yes, It's important if you have an organization that is equipped to take care of the R&D pipeline but if you don't have an organization that has resources and that has possibility of a product to market, then it does not really matter how many products you put into pipeline, if they do not have market access. And the market access has always been the shortcoming of the company in earlier days where the 95% (of the resources) goes R&D and 5% in marketing and sales. Now, we are transformed (over the last six years). I would say 75% (of the resources) go to R&D and 25% to marketing &sales. It was definitely stronger when the new CEO came on board when we were able to agree on a strategy where the focus was getting the products out of the market rather than just to develop in research and as such."

"If we go back in time to 90s and early 2000s, the company was known for doing very, very strong and good research, in the international R&D community but we were not commercially successful. We were not known in the market apart from the isolated R&D community. That has changed over time. Now, we have created a position for ourselves where we are more or less, always presented as one of the leaders in commercial conferences about probiotics, with big players. However, in the same time we have become less visible in the scientific world. I think that's certainly the place where we need to gear up again. If you focus on just one thing, you will be rolled over on the other side. You cannot just focus on one side. You can do that during certain periods of your life cycle because something's maybe more important at a certain life stage but if you want to be successful in the long term, there is no way you can focus on just one. The advantage of focusing on sales & marketing, you get business but on the other hand you don't be on the pipeline, you don't get credibility etc. and it doesn't provides you long term success but short to medium success. R&D usually brings more long term success if you do it in a proper way. And you need to have both short term an long term focus, at the same time."

"If you are private company, you can take your decisions based on your own interests. If you are a public company, you have to satisfy a number of different players in the marketplace. If you are not in the financial markets, it's usually much easier to have a longer term view on your business. The disadvantage in that may be you have an owner that is too much involved on daily business, just like family owned businesses. That's one of key element why it is difficult to prioritize things for the company. The other thing would be that most people tend to, when they are under pressure, prioritize those things that are short term because it becomes much more obvious whether you deliver or do not deliver (succeed or not)."

"What we have been suffering before, we have actually had a view about what would be happening but we were not allowed to allocate equivalent resources to. We have been dreaming that we will have market success just by having good offers etc. but we had not been prepared to invest in enough people to make that happen. That needs, legs, hands and people in the marketplace to create deals, you don't create deals by just sitting in the office. Today this situation is much better, than it was 5 or 10 years ago when it was pretty much risk capitalists behind, where it was a more question of making sure that you dressed the bride in a nice way rather than investing the necessary resources, to actually be able to make things happen. As long as it looks nice, if you don't really know your business, it's a talky game."

"At the end of the day, it comes down to finally getting consensus of the board that you needed someone to be heading the company that has a higher degree of both commercial understanding and experience. The board, they are ultimately taking the decisions, they are the ones that should give strategic guidance in terms of where to focus, what kind of priorities, and at the end of the day they are the decision makers on that. I would say if you go back in time, they didn't know enough about the company, about the market to take the right decisions. They had other priorities for themselves. Then taking the necessary time, listen and understand the company and the market place enough to be able to take the most clever decisions in terms of allocation of resources and priorities. At the end of the day, that is a game played between the CEO and the board. If the CEO does not really, fully understand the dynamics of market place either, apart from the dynamics in the R&D side, it is quite difficult to get work in a proper way. When the recruitment of new CEO, it was very clear that they (the board) finally got the consensus within the board that the new role model would be someone with a more commercial background and understanding. The key driver for that was company could not deliver commercial success for a timely manner compared to expectations of the board and you started to ask yourself why, and that becomes pretty clear. After the new CEO came on board, we have started to build more and more resources around the commercial side. He clearly focuses on much more on getting the board committed."

3. **Transcript of interview with CEO (Highlights**)

"When I came here there was almost no one in the marketing, but we have been able to build a good balanced portfolio of people who have both medical marketing & sales understanding and skills as well as consumer marketing skills."

"We have upgraded the quality of people working here in all areas. Around 5 people left the company and we were able to recruit around 15 very talented people. We didn't expand the staff numbers very dramatically, we only added 5 people in total but then it has been exchange with the old staff, of course."

"When I came here in 2007, the company really only had one business model and that was the traditional licensing model meaning that you get royalty on sales which works really well for the food business. But it was not appropriate for the consumer health care business so what we have done is we have evolved into using much more sophisticated business models compared to 2007. The most important shift was actually to move away from the licensing model in the consumer health care to have more control over the value chain."

"Licensing model didn't work in the consumer healthcare which is much smaller and fragmented. The food product is quite complex technically. It takes time to develop it and you need to control it quite carefully. But dietary supplements are simple products, capsules or tablets fairly generic and you can find people who can do that. Besides, selling a finished product is more attractive for us. A lot of customers are small so they don't sell huge volumes and if we get a licensing from this small volume there is not much money. So we can boost our revenue with the product and consumer models."

"I should emphasize that we are almost breaking even in the consumer healthcare but the whole company is really profitable because we are pumping investments and building consumer healthcare business from the profits we make from functional food. I think we will become in the consumer healthcare in next year or in 2 years."

"The food market is a difficult one for a small company to do commercial agreements with the multinational corporations. It takes long time and it's hard to speak with them. Food companies and pharmaceutical companies are totally different from each other. Food companies typically don't interact with small companies, they develop their own products. The investment in food business is partially in production but mainly in marketing & sales. In the pharmaceutical business, in licensing is an important part of this business. It's about innovation, totally different from food companies in that sense. Pharmaceutical companies are used to dealing with licensing and product from the outside. Everyone is selling and buying products from each other and it's a really complicated environment. The ecological system in the food business is very simple, we do a product but it's going to cost a fortune to sell it because you need to advertise it on TV, you have to pay retailer a lot of money even to be on their shelves. The food product is not an issue, the issue is to sell it. In the pharmaceutical business, the issue is the product. The authorities make the decisions related to pharmaceutical product. But still, in order to sell the drug you need a big sales force to sell it to doctors."

"I see a more predictable growth in the consumer healthcare. There are also opportunities in the food sector for growth but it's more risky and unpredictable. I was convinced that we need more luck to be successful and growing in the food. In healthcare business, you are speaking more or less with equal partners, that's easier to a conversation to have. "

"There is nothing intrinsic in the product model which is necessarily better than the licensing model. They are both good models, they just need to be applied to your circumstances."

"Consumer model was my own initiative and actually it was really hard to sell this model to the board. I had a hard time there. But afterwards everyone was happy because it worked quite well for the company."

"Now we have a balance between R&D and commercial side. You need a mixture of bigger opportunities which will typically take longer time to develop and expensive. At the same time, you need some product that has more commercial potential and less risky in your R&D portfolio."

" It's very much making sure that people are involved so I follow an inclusive management style in here. I always try to be accessible to everyone and informal rather than formal."

"The reason of using different business models is that you need to adapt to the market and you need to find a model that works in within the certain market, that's the main driver actually."

4. Transcript of Follow-up interview with Vice President of Marketing (Highlights)

" May this has been a midcourse from my side, there was a lot of focus on R&D and R&D activities, but not necessarily to put a lot of new products in the pipeline, this would be something that we would have been benefit from. There is a lot of resources put on R&D, but not on projects that would bring products in the medium term market ready rather than long term, still struggling a bit with clinical nutrition which was the focus for the company to move to the major stock exchange, forced to have some focus in order to move to the stock exchange to bring new money. But actually the company was not really in need of money."

"We were already out of red figures for some years, have a pretty positive cash flow. From that perspective the company had resources to fund its R&D activities we wanted to do at that period, but still as I said to make it an interesting case in the stock market. "

"There were not such activities for the products at that time [2004-2006]. It was mainly product development work done mainly by the partner in terms of developing new flavors, or new types of products rather than extending the scientific offer. The focus was primarily done on clinical nutrition and pursuing the development of the immune platform of our company. There were that kind of two major activities. "

"Especially the consumer model. The product model was pretty much how we did business all the way from 2005 and onwards. The consumer model was certainly a model increasing growth. Because you are taking a step further in the value chain. Number 1 is your revenue stream despite you have higher costs and secondly, you may influence decision-making so we are involved in the final decision-making together with that partner rather than just selling the goods and interacting and talking, given recommendations for the partner. "

"The bargaining power was pretty at the lower end in the license model, slightly different in the case with the partner because they had not any R&D and could not do the offer without us etc, some comparison to our partner obviously the bargaining power would be very low, they have the R&D facilities and the resources, what they need from us is basically the license, the patents, the IP in this case, you are on the bandwagon, this is clearly the case."

"The bargaining power is much stronger in the consumer model. "

"The control and power is not necessarily higher in the product model, but in the consumer certainly it is. "

"In the product model, you are step further in the value chain, but this has more to do with revenues rather than bargaining power or control. The big shift turns if you are coming to the consumer model where you are also contributing to financial terms that make in a big difference in the final decision making. In the product model, the question is more how far in the production chain rather than anything else. In the product model, they are doing the product and they do the packaging and deliver and make it to a final product. That does not necessarily mean that we have more power, it is just that we take control over an extended share of production chain, therefore, we receive a higher level of revenue, but we have also associate with it. But this do not change the power game at the end of the day when it comes to decision making around priorities, what kind of activities and invest money into that does not change when you are in the license model or in the product model. "

(Key drivers from license model to product model)

"It was certainly shorter time to the market, more control, making the decision-making easier among our partners because in most cases in the dietary supplement, most customers are not involved in the product, it is very specialized and technical and instead of having to do with the industrialization, you have ready product, the only thing to know how put it in a safe box. "

(From the product model to consumer model)

"Control meaning you can influence the level of success, secondly create a bigger success model that it can be done in volume perspective, three drives revenue in terms of increase the turnover. I would believe if we have done a traditional product sales model, we would done sold 100 000, but not 500 000 units as we did because we were daring to break the market because part of it was our own money. This is what you cannot push for anyone else, but it is a good to show to other partners if you do the co-financing you show this what we did, do you want to try by yourself. There were many motives, but the main would be control, having control over your own destiny and having a show case and increase. "

"Yes, power I put under control. But in the consumer model, you are in a partnership rather than bargaining, you have a joint interest. To relate to a business model, your interest is mutual. My critical factor I see in a partnership is to create an agreement structure in a way that aligns as much as possible the interest of the two parties. Which is in decision making for our partner, has the same interest for our side. This one should not go for volume sharing and the other for value sharing, this a kind of key learning, but you should agree on the price structure. "

"That was the whole idea and structure of the model gaining lots of revenues by rolling out the license model in food where basically just revenues going down by the PNL. To balance those and still have a very nice growth for the corporate P&L whose needs to be balanced. We have seen a big rollout yet, that has consequences for us not moving with the consumer as fast as perhaps we would like to in certain markets. "

(Risk-taking behavior of the company)

"I would say within the company the risk taking in the commercial side is pretty, as it not as high as in the R&D side. This should it should be in a company to be very clear and safe on your science-aspect and when it comes to business, clearly you should be more progressive etc. But from the board of directors it is sometimes to risk-averse in terms of what can be done. The board of directors was more interested in keeping the profit growth in the company rather than having a growth plan. Perhaps have short term effect on profitability and etc. That is obviously the back-side of being listed as a small company and spread ownership where no one is the dominant owner that can take the lead in the direction of the company. "

"The accounting is a bit rigid in that sense. Marketing expenses is always considered as costs. When you invest in your brand, it has immediately negative effects on the full investment on the P&L which basically means your profit goes down. This is the reason why we could not do this major consumer model investment without the revenue of the license model. To say, okay we take the risk, but this has consequences for P&L. So we can the revenue from the license model, which is basically 100 per cent profit and put in the other models, which is still break-even, 10 to 15 profit , but the average become pretty good. "

"I mean the company is always a growing company. It was always name as a company in research. However, the company was not successful in commercializing that. It had a license agreement in the late 1990s, 2000. But the structure of the food industry has changed, so they were more or less wiped out. In the early 2000, when the company was back on its main products for the license model and new investment came in the company, new owners, risk-capitalist wanted to grow quickly. In 2003 and 2004 when the downtown came, the company signed the agreement with its partner and the products were not materialized in a way. When this relationship ended in 2006, we had one again to revent the business model around it. "

"Materialize means that the product comes to the market and license revenue came in the company. This is the difficult think in the license model in the food. When you sign an agreement, there is a lot of development work after that. So the risk factor is between the agreement and the launch. The beauty around moving one step along the value chain is that you have a secured profit. The only thing that could get wrong that they are not good in packaging the product which is kind of ridiculous. But you do not have a product risk in the sense because they already did the development and everything. This is the beauty around the dietary supplement and the health care side. You can go much more quicker. You have done your development and done it once for all. In the food, you have adapt your model to different flavors, tastes etc. There are no materialized risks "

"Downtown of the company around 2006 has mainly to do with agreements not materialized. "

"Concerning the revenue, this strategy has paid off. Now have a fifty and fifty split between consumer health care and functional food and that has been done in very few years. "

(Ideas for the new products in the consumer model)

"This was mainly CEO`s push. That he wanted to try the branding model and he wanted to push to launch ovr own products to balance this push taking revenue streams and one step further in the value chain. This is a large extent driven by the CEO coming in that we all took that way because it is a bit untraditional and I would probably too many years to take that lead. Because what we did was not bit extraordinary when we set it up with our partner in the consumer model. He clearly push where I was a bot hesitating why should we be successful in this market as R&D company with little marketing resources, experience just because it is our home market. But when we started to understand, we can do with a traditional business model meaning that we go together with a distribution partner. The good thing is that we are much closer and have equal part in the revenue than a distributor and a supplier in that sense. My question was always being the access to the distribution locally. "

"In the consumer is easier to find new partners because you are willing to risk your own money. But it puts a lot of pressure finding the right partner because when you are working too close, you must ensure that you can work together. It took a lot of pressure to make sure that it is not a partner of capable of doing it, but it is also capable to work together with you in a good manner. Therefore, two dimensions, not only a profitable company, but also a degree of openness, willing to work. But this insights have evolved over time. “

(Key learnings)

“There are number certain things, but this it would consider as normal business evolution, that you see which things are working which not. I think one learning that worked pretty good selling finished products because you have control over the product and everything rather going the license way where you had to put more resources in too making it happen although having a smaller part of the revenue stream. It would probably more attractive for some partners because they know they have a certain share of the value proportion. But recognized it worked pretty well with the product model“

“We have definitely learned how to position products, how to launch products on the market. The nice idea positioning versus a broader market especially in the Swedish market. And this has certainly also driven our evaluation around partners in terms of having different idea of an ideal partner which it was five years ago. “