

“Business model or strategy: what comes first? A lifecycle perspective in the Scandinavian software industry”

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SECTION 2. Management in firms and organizations

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Business model or strategy: which comes first? A lifecycle perspective in the Scandinavian software industry

Abstract

There is an ongoing debate on how the concepts of strategy and business models relate to each other. Specifically, it is a puzzle whether business models determine strategies, or whether strategies precede business models (Seddon et al., 2004). Based on recent conceptual considerations (Cavalcante et al., 2011), the authors attempt to solve this puzzle by considering their mutual influence at different stages of the company's business lifecycle. For that, the authors use Scandinavian Software Company (SSC) as a case study. The initial idea of a business model is shown to shape SSC's strategy in the birth phase. It is then argued that this relationship changed as SSC entered its growth phase and met competition, and the product market strategy determined the change in the business model. The researchers contribute to the currently underexplored dynamic relationship of business models and strategies over the business lifecycle.

Keywords: business model, strategy, business lifecycle.

JEL Classification: M10, M41.

Introduction

There is an ongoing discussion on the differences between the concepts of strategy and business models. Several researchers use the terms interchangeably (Magretta, 2002). However, business models and strategy have distinct characteristics. While a business model generally describes how a company internally creates value for its shareholders and the most relevant stakeholder networks, a strategy focuses on how the company handles its competitors and its external environment (Magretta, 2002). Thus, the two concepts are complementary rather than synonyms (Zott and Amit, 2008). This raises the question of the relationship between a business model and a strategy (Seddon et al., 2004): one may precede the other, or one concept could be dominant when they coexist in a company. Some researchers have suggested that a business model should be interpreted as a reflection of the company's realized or emergent strategy (Casadesus-Masanell and Ricart, 2010). Others claim that product market strategy follows business model design (Zott and Amit, 2008). In any case, such clear-cut answers come across as very resolute since they assume a static relationship between these two concepts.

However, the static notion of these two concepts is somehow disparate according to the common knowledge that companies adjust their strategies over their business lifecycle (Magretta, 2013; Porter, 1980). Up to now, we have only a rudimentary understanding of how business model's evolve and how they co-evolve with a company's strategy (Cavalcante et al., 2011; Zott and Amit, 2008). We would like to explore if changing strategies always initiate changes in the business model, if it is vice versa, or if the role of championing change alternates depending on the next stage in the business lifecycle. Hence, we pose the question: *What is the dynamic relationship of strategy and business models over the business lifecycle?*

To address this question, we explore how the relation between the two concepts changes during the first two stages of the business lifecycle of Scandinavian Software Company (SSC). The company was founded in 2007 and built its business model around its initial product. Based on this business model, they determined a strategy to enter the market in 2010. The following growth phase developed slower than expected. It turned out that the strategy was not sustainable against the unforeseen adversaries in the external environment, including shifts in customer demands and political regulations beyond SSC's influence. Its consequent strategic adjustment then resulted in an extension of the business model. This development of the business model is somehow similar to the case of Intel, which had a robust business model for microprocessors long before selling those became part of its official strategy.

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1. Theoretical background

1.1. Business models. There is no general accepted definition of a business model (Casadesus-Masanell and Ricart, 2010; Morris et al., 2005). Different researchers have defined the concept in accordance with their specific research settings, which can lead to confusion across studies. Osterwalder and Pigneur (2005, p. 17) identify nine common building blocks in the business model literature. This paper will apply their definition:

“A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams.”

Using the nine building blocks ensures the use of a formal ontology. The nine building blocks are value proposition, target customer, distribution channel, relationship, value configuration, core competency, partner network, cost structure and revenue model.

1.2. Strategy. Strategy is often defined as a contingent plan of actions, which is designed to achieve a particular goal (Casadesus-Masanell and Ricart, 2010). Porter (1980) claims that strategy is the creation of a unique and valuable position, involving a set of activities. The definition from Casadesus-Masanell and Ricart (2010) is shared by Zott and Amit (2008, p. 5) who define a product market strategy as *“a pattern of managerial actions that explains how a firm achieves and maintains competitive advantage through positioning in product markets”*. We use this definition because the strategy of SSC is very much dependent on the products they offer. The definition roots in the positioning school of strategy.

1.3. Difference and relations between business model and strategy. Magretta (2002, p. 91) states that people use the terms business model and strategy interchangeably. She clarifies that *“[b]usiness models describe, as a system, how the pieces of a business fit together”*, and that strategy is the response to external competition. The available actions for strategy are the company's choices that compose the basic input to a business model. Therefore, a business model is a reflection of the realized strategy. This realized strategy could originate from the deliberate/induced method

(Magretta, 2013; Porter, 1980) that is in the focus of our study, but just as well from the emergent (Mintzberg et al., 2005), autonomous method (Barnett and Burgelman, 1996). Zott and Amit (2008) agree and argue that business strategy forms the business model. However, they further state that the situation can be vice versa. This implies that the strategy can be a reflection of the business model. In addition, the business model serves to complete the description of the strategy.

2. Methodology

We use a single exploratory case study, which is typical for research on business models (Albøge et al., 2015; Dalby et al., 2014; Haubro et al., 2015; Larsen et al., 2014; Lueg et al., 2013a, 2013b, 2014; Malmrose et al., 2014; Muhke et al., 2014). We chose a typical case in which it is possible to capture circumstances and conditions of a commonplace situation (Yin, 2009). SSC currently only sells products that are related to their core product EVA. Our main investigation relies on two semi-structured interviews with the CTO (Chief Technology Office) of SSC. Using this type of data source may have some pitfalls, such as different biases of interviewer and interviewee, subjectivity, and reflexivity. To achieve appropriate quality of the research design, we extend our use of data to a mixed method approach to collect richer evidence. These include internal documents, brochures, bulletins, presentation materials, and the company website.

3. Findings

3.1. The case company. SSC is a Scandinavian software company that was founded in 2007. It currently has six employees. We chose this company because it is R&D and knowledge intensive. Software is expensive to produce, but very cheap to reproduce. Therefore, securing the business model is fundamental for staying sustainable over time. SSC specializes in solutions for personal energy management and home control. It produces software that enables the communication between wireless devices like smartphones and intelligent energy meters. Consumers can use the software to monitor their domestic energy consumption and thereby identify possible leaks and excessive consumption. SSC aims at creating greater comfort by automating home services like heating, cooling and ventilation. As an overview for the reader, documents the timeline of events and relates each milestone to a subsection in this report:

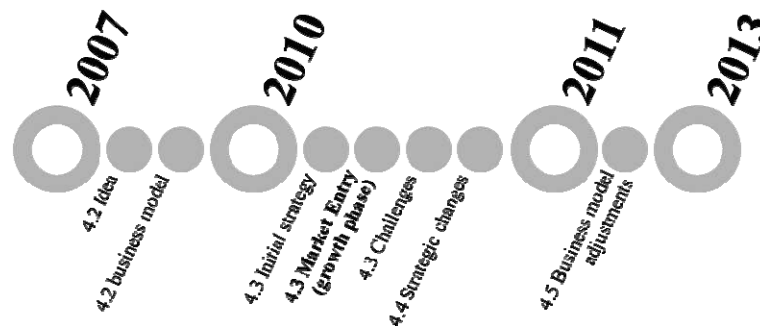


Fig. 1. Timeline of events with relation to subsections in this study

3.2. Birth phase: from idea to business model. SSC was founded based on the idea that consumers should have transparency over their energy consumption data. If this data were available, why did no program use it to inform the consumer in real time? This section aims at analyzing how this idea turned into a business model in the birth phase of the company. For that, we use the four categories of Osterwalder (2005) which

also correspond to the classification of Johnson, Christensen and Kagerman (2008) (short: JCK; their categorization is put in parentheses): product (JCK: no correspondence), customer interface (JCK: customer value proposition), infrastructure management (JCK: key resources and processes) and financial aspects (JCK: profit formula). Figure 2 illustrates the initial business model.

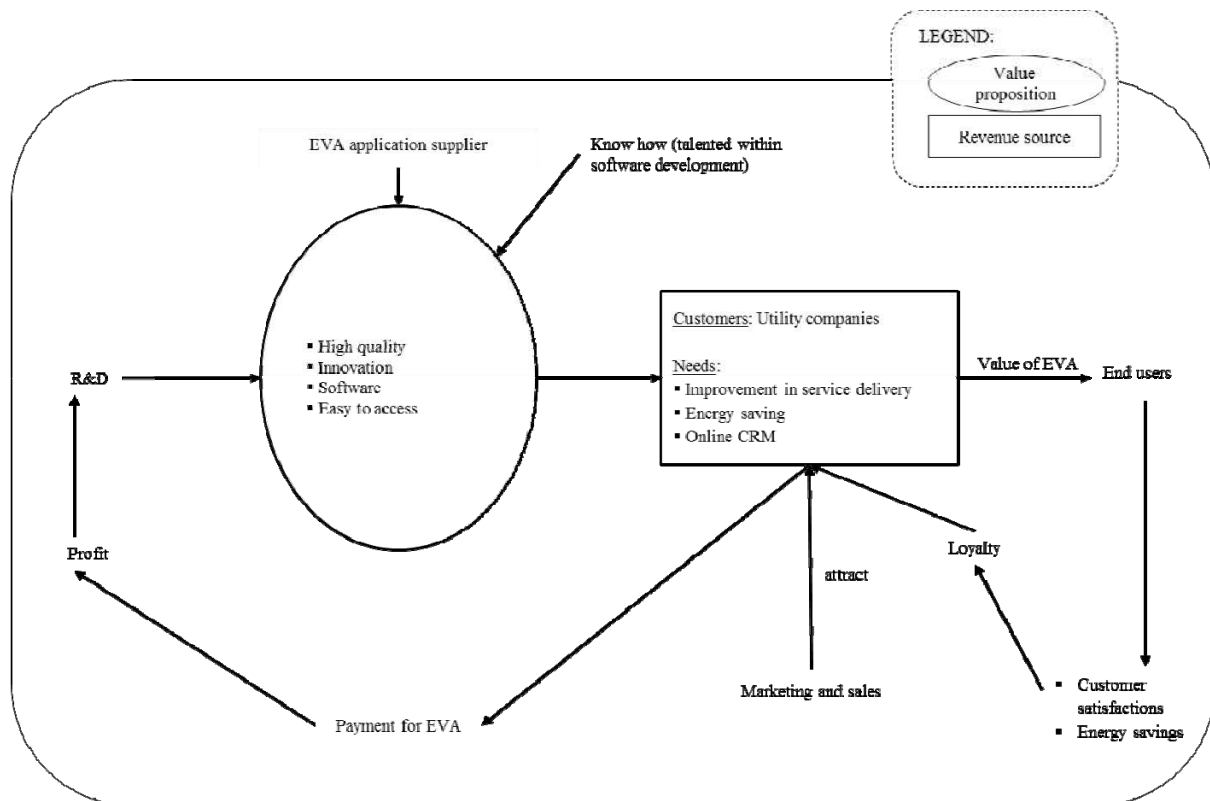


Fig. 2. The business model of SSC based on its product EVA in the birth phase

3.2.1. Product. SSC's product EVA gives a graphical overview of the energy consumption in a household and can easily be accessed through a website. It provides insight into the consumption pattern and thereby allows conclusions on the 'bad habits' of consumers that lead to overconsumption. The software is integrated with a database from the utility company. EVA is able to collect information on all consumption types, which is electricity, water, heating, and gas. Intuitive and interactive graphs are

automatically updated every hour and visualize the consumption of the household. This is a clear improvement over the periodic invoices that only list the total consumption over a period without showing the distribution of consumption. EVA visualizes energy consumption in kWh instead of DKK, because SSC claims that consumers are inclined to pay more attention to savings when they are presented in kWh instead of DKK: when the consumers know that, for example, the hair dryer

costs five DKK per run, they will disregard this small amount since it is scaled down to a daily amount. This would create a counterproductive effect.

3.2.2. Customer interface. SSC's customers are not the consumers of energy but the utility companies serving these consumers. At first, it might appear counter-intuitive that energy companies try to help consumers save energy. Yet, there are several reasons why energy companies pursue endeavors to help their consumers save energy: first, consumers want to save energy in order to save costs. Utility companies use the software from SSC to satisfy their consumers, build loyalty, and thereby sustain their customer portfolio over time. Second, consumers feel more at ease using energy if they have transparency and thereby control over their consumption. Third, avoiding the unnecessary use of energy through SSC's software is part of the utility companies' sustainability programs, i.e., it is part of their effort to reduce their CO₂ footprints.

SSC is needed as a mediator in this process since the utility companies have trouble extracting data effectively. SSC's CTO explains:

"[The utility companies] are good at collecting a lot of data. But it takes an incredibly long time to pull data out of the databases because they haven't built the knowledge to do so. Therefore, it can take them a long time to deliver useful data to the consumers."

Thus, SSC's competence is managing software databases on a high level. In the growth phase of the business lifecycle, this was SSC's access to big customers (the utility companies). SSC reaches its customers through direct customer interaction of the CEO. Most of the consequent customer relationship management, however, lies in the hands of another employee of SSC. When a utility company acquires a license for EVA, it can distribute the license on a closed platform to its consumers. Private consumers can only access EVA if their utility company is a customer of SSC. SSC restricts its distribution of EVA on purpose, because the current way of distribution is the most efficient way. The CTO states:

"We could easily use our website to sell to private consumers. But we don't see again in doing that. The potential customers are the utility companies. These are already more than our CEO is able to visit during one year. So we prefer to keep a direct dialogue when we create and establish a customer relationship."

Another reason for SSC to cooperate directly with the utility companies is the aspect of further developing EVA. It needs to be adjusted to database changes of the utility companies. Also, the utility companies are

a great source of information when it comes to customer preferences.

3.2.3. Infrastructure management. We see the EVA software as the company's main resource. The software is connected to several further infrastructures. To begin with, there is the office and the IT infrastructure. SSC's employees are valuable resources, since they are highly specialized in the programming of energy-related software. SSC's employees value the environment of self-realization that SSC has kept since its startup days. Moreover, there SSC uses infrastructure that spans beyond the boundaries of SSC as a legal entity. SSC shares a specialized business network with several other IT companies. With these they exchange technical knowledge if required.

SSC limits itself to a small sales force and prefers to sell business-to-business, as their business is directed at companies of a certain size. In this business model, the management of the infrastructure is the integration of EVA at the customer site. Each customer has to specify the needs for hardware, meter, and signal. Several different database systems exist, and each of these is used in a different way by each of SSC's customers. As a consequence, customers store data in many different ways. When EVA has to communicate with new types of systems, it will require adjustments, which is time consuming.

3.2.4. Financial aspects. As to the cost and asset structure, the EVA is the single most important item. SSC spent approximately 12 million DKK on EVA's development between 2007 and 2010. It currently employs 3 permanent software developers. These are the components in the cost structure, together with cost of administration and office rent. On the balance sheet in the official annual report, the EVA development projects under construction comprise 98.6% of total assets.

As to the revenue side, SSC generates its revenues through license sales and royalties. SSC receives a lump sum from the utility companies for the license. The lump sum is intended to cover the costs of tailoring EVA to the utility company's data warehouse. The subscription fee depends on the size and consumer base of the utility company, where especially large customers could get discounts. At the same time, the higher prices for smaller utility companies can be capped. So running EVA is still profitable for them. After the initial implementation, the utility companies pay a monthly fee. The fee is based on the number of consumers who use EVA. This subscriber fee secures a continuous, profitable revenue stream for SSC.

3.3. Birth phase: from business model to strategy.

The above analysis documents how SSC arrived at a business model for EVA. The business model was well-developed and precisely indicated how SSC wanted to transact business with its customers and control its operations for profitability. The business model led to an understanding of how SSC could achieve a competitive advantage and a profitable position in the market. We now analyze how SSC addressed the necessary development of a product market strategy as suggested by Zott and Amit (2008).

3.3.1. Strategy development and market entrance.

As expected by SSC, 2010 marked a change in the rules of the market place in their Scandinavian market. Regulators demanded lower CO₂ footprints. As the CTO states:

“We assumed that all utilities companies would change from traditional meters to new types of meters because of a new law that was to be implemented. We were very confident that we should place our product on the market.”

At the same time, the regulator continued the market liberalization started in 2003 and allowed increased competition among utility companies. This further fostered the need of utility companies to differentiate themselves for the consumers. One way to do so for SSC was to offer EVA as an extra service. In the words of the CTO:

“We were able to help the utility companies in achieving the saving targets required by the regulator. And on top of that, we could improve their relationship with the consumers. Electricity companies have been liberalized for a few years now, and regional heating companies are gradually becoming subject to a more professionalized culture and more opportunities. Therefore, they also needed to look out for services they could offer to stay competitive.”

So after knowing its business model for three years, SSC now felt the need to finally also choose a strategy that would help them handle their competition in the market. SSC planned to target big utility companies instead of single consumers, thereby quickly grabbing large market shares. Its closest rivals offered home control systems that lacked many of EVA's features and were not available on mobile devices. Thus, EVA had a very unique value proposition. This fact suggested a differentiation strategy. This choice was further confirmed by the fact that EVA is a knowledge-intensive product that needed premium prices (“platinum services”) in order to amortize the three years of its development.

SSC intended to penetrate its niche market first by selling products to one type of utility supplier. The company hoped that this would then create an

interest for EVA at other types of utility companies. If some utility companies already agreed to the use of EVA, this would create network effects and increase the bargaining power of SSC toward other possible customers. Consumers would demand a comprehensive solution that allowed them to see their consumption of water, heat, and electricity all in one application. So the second part of their strategy was a pull strategy where customers promote SSC.

Since EVA needed to be customized to each customer's database and SSC did not want to make further investments in personnel growth at this early stage, SSC limited itself geographically to the region around its headquarters.

In 2010, SSC eventually entered the market with its product EVA. The utility industry had started to install smart meters in private households, which could transfer consumption data electronically. This made it possible for EVA to extract consumer data and convert it. The utility industry had focused on making optimizations in the grid for 5-10 years, but had now reached a point where they needed to achieve savings through improving customer profitability. Everything seemed optimal for EVA to succeed.

3.3.2. *Challenges related to market entry.* Yet, the strategy did not succeed as planned. During 2010, SSC made just one minor sale of 250,000 DKK. SSC was under pressure to identify the obstacles:

First, the technical integration of EVA was not adequate because of a lower-than-expected engagement of the technical staff on the customer's side. The utility company's technician felt that they were coerced into EVA and lacked ownership, which led to a limited acknowledgement of EVA. They were little cooperative and were reluctant to demonstrate EVA's advantages to the consumers.

Second, market penetration took much longer than expected. Regulators delayed the favorable legislation. Thus, it was not clear which requirements the new smart meters should fulfill. As a result, there was no demand for EVA. In its final version, the smart meter requirements were much lower than initially expected, as the CTO reports:

“No utility company wanted to install anything that went beyond the minimum legal requirements. [...] When the regulator finally proclaimed this framework, there were no ‘requirements’. It was all just ‘recommendations’. This scaled down ambitions for change in the whole industry. [...] Since we entered the market, our challenge has been that many utility companies are not ready. [...] They are either not ready to decide, or they do not have the meters yet.”

As further consequence of these events, SSC's pull strategy based on a light sales force did not work either.

3.4. Growth phase: strategic change. Due to the challenges SSC experienced, its top management decided to adjust the strategy. SSC saw the only option in penetrating the market with a more comprehensive approach. Specifically, SSC wanted to cooperate with the utility companies to offer a simple hardware in addition to EVA that would enable the old meters to communicate with EVA. The CTO acknowledged:

"Instead of coming into the organization with a finished product, we had to change our marketing strategies and engage the utility company in the product development process from the start."

These strategic actions related to new hardware would ensure that SSC established a strong competitive position on the market. It would no longer depend on pre-installed smart meters. SSC's expectation was that even if utility companies did not offer EVA, consumers could buy a hardware package and install EVA themselves to gain a better overview and control of their energy consumption. Delivering hardware to consumers could even turn into a lock-in strategy that would then sustain SSC's business model (Seddon et al., 2004). Additionally, this would give SSC more independence from the much more powerful utility companies (Casadesus-Masanell and Ricart, 2010).

In addition to the hardware, SSC intended to expand EVA by incorporating into it a series of platinum services, such as alarms or hardware plug-in timers, which could help regulate the consumers' consumption pattern. These additional features could generate further revenue, adding value through services and securing their business. For this, SSC wanted to cooperate with partners in their network. The distribution channel for the hardware should still be utility companies or specialized shops that offer equipment from various suppliers.

In conclusion, SSC changed its strategy by responding to adverse market conditions. It stuck to the basic business model of EVA but offered a more comprehensive and unique solution to utility companies and conscious consumers.

3.5. Growth phase: adapting the business model to strategic change. This section analyzes how SSC adjusted its business model from 2010 to 2013 to match the strategic changes made in 2010. As argued by Casadesus-Masanell and Ricart (2010), the essential difference between a business model and a strategy becomes apparent when a company's plan of actions requires modifications to the business model. In this case, the strategy and business model no longer correspond and need to find a new equilibrium. Fig. 1 illustrates the adjustments of SSC's business model (changes are depicted in grey boxes, with grey arrows, or in bold grey writing). We will elaborate on the changes in the following subsections.

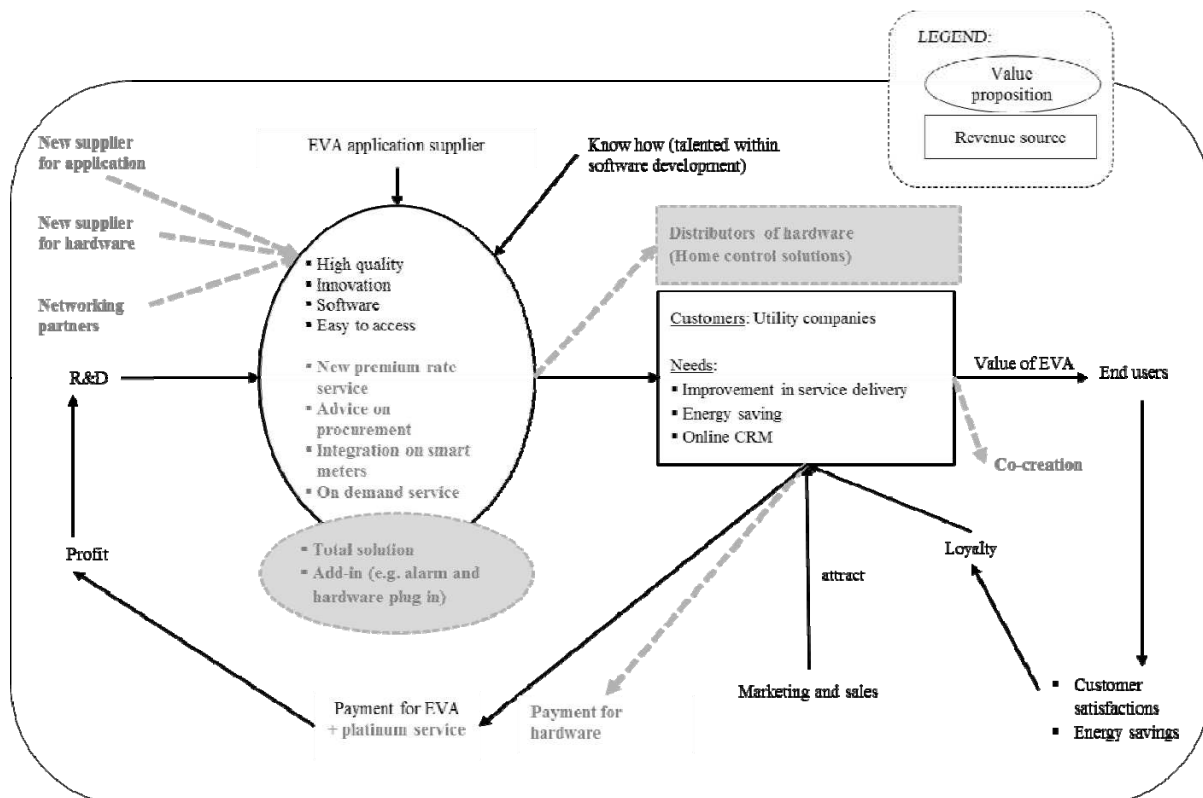


Fig. 1. The business model of SSC after adjustments

3.5.1. Product. SSC started expanding their value proposition in 2011 with the continuous integration of the platinum services. SSC developed some of these services themselves. Others were established in cooperation with the utility companies by offering workshops. The decision to do this was made to integrate their customer preferences and reflect the consumers' needs. Furthermore, the extension of hardware to its bundle of products and services was the only option SSC saw to make sure that consumers could use EVA optimally. SSC now offers a comprehensive solution where utility companies are supported in integrating smart meters, so they subsequently can install EVA. This is a countermove to the slow diffusion of smart meters in the industry. Therefore, SSC changed the product, not only by delivering EVA, but also the infrastructure in the market through its own hardware, its platinum services, and a comprehensive solution to supplement EVA.

3.5.2. Customer interface. SSC modified its business model in terms of its customers as well. In the birth phase, it only intended to target utility companies that installed smart meters. With the strategic change of supplying hardware as well, SSC expanded its possible customer base to all utility companies. To make this possible, SSC obtains knowledge about the entire implementation process of an energy management system and established strategic alliances with suppliers of meters. Additionally, SSC uses utility companies and independent distributors to distribute hardware. According to the CTO, this was the only option they saw, because SSC did not have the organizational resources to handle this extended amount of sales. Consequently, SSC decided not to sell hardware directly to each consumer but to external partners with a minimum order quantity of 1,000 units. These partners would distribute the units among individual consumers. SSC's value proposition had therefore changed. Now it not only included one direct channel to the customers but also used indirect distribution via utility companies and other distributors. The additional platinum services create ownership and acknowledgement for SSC by the consumer.

3.5.3. Infrastructure management. SSC's main resource is still EVA, but the surrounding activities and resources have changed. One very important activity at SSC is the implementation process. SSC includes the employees of the customers by training. Thereby, SSC indirectly helps in serving the consumers optimally. According to the CTO:

"The utility company is responsible for supporting all their own customers. In the end, we are not serving our interests if we are too rigorous about

the concise nature of their relationship. We serve ourselves best if we make sure that our customers are well prepared. So we use a lot of our own resources and make efforts to help them."

Consequently, the value activities changed. Before, SSC only had an interface at the technical side of the EVA implementation for the customer. Now, there is also an organizational aspect that focuses on the consumer. In addition, SSC's infrastructure is based on working with other companies. In its adapted business model, SSC further integrates distributors whose purpose is to distribute their hardware. This partner network creates high value, because SSC is a relatively small company with limited competencies and resources.

3.5.4. Financial aspects. The new business model has two further sources of revenue. The first is selling services indirectly to the consumers. This is done in collaboration with the utility companies by agreeing on a price the utility company must pay every time a consumer purchases an additional service. By that, an additional, profitable revenue stream occurs between SSC and the utility companies. The utility companies are responsible for setting a price and billing the consumers for the extra services. The second new profitable revenue stream is selling hardware to integrators and utility companies that are then distributed to the paying consumers.

Based on the limited available material we received on SSC's cost structures, we can identify the main cost elements in SSC's adapted business model: research and development is still the major part of the cost structure, but the development of the platinum services software updates is mainly funded by the utility companies. Moreover, SSC incurs costs of buying hardware. But since it uses distributors, SSC does not incur costs associated with inventories and sales expenses.

In conclusion, we argue that the business model adaptation is an extension of the previous model and thereby not a radical change. The core logic of the business model changes only to a moderate degree. The reason is that SSC has created new products and processes that all add to the existing operations. During the growth phase of SSC, the business model changes were caused by the change in strategy. So the business model is a reflection of the strategy in the growth phase, while the strategy was a reflection of the business model during SSC's birth phase.

4. Discussion

4.1. Implications for practice. SSC entered the market by doing business with partners who could stock the products and be responsible for all retail sales and communication to the consumers. As a

result, SSC obviously saves resources. But at the same time, it also loses control of the distribution. The utility companies are responsible for retail sales, which may cause possible conflicts of interest: the sale of hardware creates extra value for the consumers because it offers several added services, which is assumed to be in the interest of the utility companies. Yet, it also puts the utility companies in a worse position compared to SSC, because they help SSC to enter the market with their own hardware and create a lock-in strategy. This could create consumer preferences and potentially higher negotiation power for SSC. As a result, the utility companies might consider substitute products in the future to lower SSC's negotiation power.

Another option for SSC is to change its customer focus and distribution channels. Consumers would become primary customers if SSC were to use direct distribution. Advantages are that the company obtains more control, direct consumer relations, and a powerful competitive position. Besides, SSC can take advantage of its marketing competencies. Obvious disadvantages of this alternative are that it requires a vast investment in facilities and resources. Furthermore, the SSC only wants to operate and obtain competencies within the areas of energy savings, security and comfort.

It is relevant to discuss if limiting SSC's competencies is the right decision. Obviously, the company has the possibility of focusing on its current core competencies and outsource generic activities. Hence, it creates value through high knowledge in its core areas. However, we alert that SSC is an innovative and novelty-centered company. So it might be important to build a variety of basic competences and to strengthen the dynamic capabilities for change. Having at least a basic understanding of further competencies prepares SSC against future uncertainty in technological developments (Borisov and Lueg, 2012; Lueg and Borisov, 2014).

4.2. Contributions to the literature. This study addresses the question *"What is the dynamic relationship of strategy and business models over the business lifecycle?"* We focus on 4 major elements of the Business Model, i.e., product, customer interface (customer value proposition), infrastructure management (key resources and processes) and financial aspect (profit formula), and

the interrelationships with product market strategy (Johnson et al., 2008; Osterwalder and Pigneur, 2005). We find that SSC was founded based on the idea of making data of personal energy consumption available to the consumer. From this idea, SSC created its initial business model, which was primarily based on creating and capturing value through providing their software product EVA to utility companies.

We document that strategy and business models are two different concepts for SSC. However, they affect each other (Zott and Amit, 2008). Whether the strategy is a reflection of the business model or vice versa depends on the phase in the business lifecycle of the company. We argue that the strategy is more of a reflection of the business model during the birth phase of the company than the other way around. This is because the technology and the most basic idea of why a customer would pay for it come before the question of how to handle the competitive forces of the market. However, it is arguable whether the underlying thoughts about the business idea were influenced by strategic considerations or simply by creating a value proposition to generate profitable revenue streams. It is doubtful that the management did not consider any actions and activities in light of the market competition, which is important for strategic focus according to Zott and Amit (2008). Nevertheless, we find tentative evidence that the business model substantially affects strategy in the birth phase.

Compared to a business model, a strategy focuses more on responding to competitors (Seddon et al., 2004). In the growth phase (i.e., for SSC three years after it was founded), a company meets the market for the first time. It has to adjust to competitive forces, which we identify as strategic changes. As a result, the business model is more of a reflection of the adjusted strategy during the growth phase of a company (Casadesus-Masanell and Ricart, 2010). We explore how SSC encountered unanticipated conditions in the market. Their strategy was not appropriate, which forced SSC to change its strategy to become competitive. This fits with the notion of Osterwalder and Pigneur (2002) that the business model can be seen as the conceptual and architectural implementation of a strategy and as the foundation for the implementation of business processes.

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