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**STRATEGY CREATION AND DEVELOPMENT
OF YOUNG ENTREPRENEURS
IN HIGH-TECH STARTUPS**

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Abstract

Title: Strategy Creation and Development of Young Entrepreneurs in High-Tech Startups

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Thesis purpose: This paper attempts to describe how young entrepreneurs in high-tech startups frame strategic decisions. Furthermore it seeks to identify how different types of decisions/situations affect the application of different types of logics. Lastly it aims to explore how and why these frames change over time if they do. The insights should indicate how decision-making in practice relates to existing theory and provide practitioners with an expanded repertoire of strategy-related activities and facilitate mutual understanding.

Methodology: Given the rareness of knowledge about how strategic decisions actually evolve an exploratory approach was followed. Moreover a qualitative research design was identified as appropriate, as it was hoped to gain new insights and understandings about strategy creation and development by employing an interpretive paradigm. Furthermore concurrent data, via a verbal protocol, and retrospective data, via a semi-structured interview, was gathered to benefit from methodology-specific advantages and facilitate the draw of strong conclusions.

Theoretical perspectives: In literature two different logics of how to arrive at strategic outcomes can be identified. The first logic roots in the planning school which was shaped by authors such as Stigler (1952), Ansoff (1979) and Porter (1980) and the second logic was mainly formed by Sarasvathy (2011;2008), who suggests an alternative non-predictive logic for strategy making, which she called effectuation. The ideas behind both logics can moreover be found in the exploitation-exploration concept of March (1991), the deductive-inductive strategy making concept of Regnér (2003), the conventional-value innovation logic of Kim and Mauborgne (2004) and planning-transformative approach of Wiltbank, Dew, Read and Sarasvathy (2006). These concepts were the basis for developing a combined model that contrasts a planning logic with a proactive logic.

Conclusions: The research found that a proactive logic for creating and developing strategies dominated. Moreover a relation between the application of a specific logic and different types of situations, such as an uncertain market situation, and different types of decisions, such as channel, pricing, product portfolio and exit/entry decisions was identified. Time-effects on the use and preference for a logic were not found.

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1. INTRODUCTION

1.1 BACKGROUND

The business landscape of today is in a constant process of transformation. Especially companies in high-tech industries have to deal with “demanding customers with altered value requirements, aggressive global competition, market turbulence, rapid emergence of new technologies, and the escalating globalization initiatives of many companies” (Cravens, Piercy and Baldauf, 2009, p.32). Words like *uncertainty, complexity and change* are often used to describe this world, where managers are faced with complex challenges but at the same time exciting opportunities (Cravens, Piercy and Baldauf, 2009; Sebora and Theerapatvong, 2010).

Sure is, those rapidly changing markets necessitate strategic adjustments from the strategy executives (Eisenhardt and Brown, 1999). Strategy can be defined as a “consistent set of decisions that, when taken together, have a significant effect on the long term results of the organization and determine the way resources will be used to build and protect competitive advantage” (Chasteen, 2001, p. 292). The process of how to create and develop strategic outcomes can therefore be described as a decision-making process. The respective strategist has to identify, define and solve strategic decision problems with the given means in order to reach the anticipated position or purpose of the organization (Mintzberg and Westley, 2001). The decision problems are in this context challenges that need to be tackled, rather than negative situations that should be avoided (Meyer, 2007).

Especially in turbulent markets such as high-tech markets, managers are frequently faced with strategic decision challenges that need to be addressed (Lin, Li and Chen, 2006; Cravens, Piercy and Baldauf, 2009). One could hypothesize that this task must be especially hard to accomplish for high-tech startups, which are often led by fairly inexperienced entrepreneurs. But on the contrary these young entrepreneurs managed to invest in successful market-driven strategic initiatives and to build high-tech ventures that are often referred to as the creativity powerhouses in the high-tech segment (Lin, Li and Chen, 2006), being dynamic and revolutionary with regards to their entrepreneurial intensity (Kuratko, Morris and Covin, 2011). Subsequently the question arises how these young entrepreneurs create and develop the strategies for their high-tech startups in this challenging environment?

1.2 PROBLEM DISCUSSION AND RESEARCH QUESTION

There is a vast amount of literature existing dealing with strategy creation and development by applying a normative approach that is seeking an answer to the question how strategies should be made. Within this literature two different frames of how to arrive at strategic outcomes can be identified, which can be described as two different logics. *Logic* is defined as an “internally consistent set of ideas that forms a clear basis for action upon the world” (Saravathy, 2008, p.17).

The first logic presented here can be described as the traditional planning school based on the ideas of neoclassical micro-economics: the individual first gathers all possible and relevant data for the decision, then evaluates the anticipated utility for each alternative, and finally goes for the option with the highest utility (Stigler, 1952). The recommendation of these scholars for strategy executives is to invest in the prediction of the future, as it can be seen as a precondition for good strategy creation. Several other authors refer to these classic ideas, giving them different names such as *deductive strategy making* (Regnér, 2003), *conventional logic* (Kim and Mauborgne, 1997), *causation* (Sarasvathy, 2001; 2008) or *planning approach* (Wiltbank, Read, Dew and Sarasvathy, 2006).

The second logic was mainly shaped by the works of Sarasvathy (2001; 2008) and her colleagues Dew, Wiltbank and Read, however key ideas of her logic can also be found in unrelated works of March (1991), Mintzberg (1994), Regnér (2003) and Kim and Mauborgne (2004). Sarasvathy (2001; 2008) argues that there is besides the traditional planning approach another way of arriving at strategic decisions. Instead of investing in predictive techniques to find opportunities and position beneficial for the future, an entrepreneur could also follow a non-predictive control-oriented approach (Sarasvathy, 2008). Starting with the intellectual, human and social capital of the entrepreneur the strategist could take an action-oriented tactic to create opportunities, new goals, an alternative future (Sarasvathy, 2008) or with the words of Kim and Mauborgne (2004) a blue ocean market. Sarasvathy (2008) named this approach *effectuation*, whereas other authors refer to this kind of thinking as a *transformative approach* (Wiltbank, Dew, Read and Sarasvathy, 2006), *value innovation logic* (Kim and Mauborgne, 1997) or *inductive strategy making* (Regnér, 2003). The recommendation of Sarasvathy (2008) and her followers for strategy executives is to start with existing means, ignore competition, value partnerships and rely on human action as the prime driver for fabricating opportunities when creating and developing strategies.

Although these two streams of literature contain a high degree of variation, a common theme throughout appears to be that only few authors added to their normative decision-making theory a descriptive level by exploring how strategy decisions are actually made in practice (Regnér, 2003; Jarzabkowski and Whittington, 2008). Regnér (2003) and also Johnson, Melin and Whittington (2003) explain that this imperfect understanding results from neglecting the micro-level activities of the strategist, that relate to strategic outcomes.

Sarasvathy, however, developed her effectuation logic by using a descriptive approach. She studied the micro-level activities of expert entrepreneurs with many years of entrepreneurial experience in practice. Her insights include that entrepreneurs in practice apply a combination of logics, but as entrepreneurial experience accumulates the preference for applying effectuation will buildup (Sarasvathy, 2008). Studies from Allan (2003) and Dew, Read, Sarasvathy and Wiltbank (2009) replicated parts of Sarasvathy's study by using expert entrepreneurs and MBA graduate students with none or little entrepreneurial experience as subjects to compare the preferences. The results of both studies indicate a strong correlation between the use of effectuation and entrepreneurial experience, thus support Sarasvathy's hypotheses (Allan, 2003; Dew, Read, Wiltbank and Sarasvathy, 2009). However, as Dew, Read,

Wiltbank and Sarasvathy (2009, p.300) note themselves, “studies using entrepreneurs with different levels of experience would be necessary to make a strong claim in this regard”.

Harting (2004) added a new perspective to previous findings by studying the application of a decision-making logic throughout the development of Circuit City’s used-car retailing unit CarMax from initial idea in 1991 until the establishment of a viable firm in 1994. He employed a descriptive approach examining key strategic decision events via focused interviews with the original corporate startup team (Harting, 2004). The study revealed an initial preference for effectual logic; however, found that in the later development stages “effectual decision-making is marbled in with causal decision-making” (Harting, 2004, p.21). Harting (2004, p.21) concluded that “we might envision a more nuanced approach to how these relative types of reasoning manifest in practice” but failed to relate the application of different types of logics to different types of decisions such as pricing decisions, channel decisions, segmenting decisions, etc. or situations, such as availability of market research resources, access to market intelligence, uncertainty of market developments, etc. Moreover, the study failed to examine in-depth why effectual decision-making dominated initially. The lack of Harting’s work and other literature explaining these aspects offers a strong potential for future research.

Summarizing it can be said that literature highlights the importance of strategy creation and development in the turbulent environment of today and gives normative suggestions of how entrepreneurs should strategize. However, previous literature gives room for further research about how entrepreneurs, other than expert entrepreneurs, in practice frame strategic decisions and how these frames are affected by different types of decisions or situations and time (Regnér, 2003; Jarzabkowski and Whittington, 2008; Dew, Read, Wiltbank and Sarasvathy, 2009). Different frames can be defined as the application of different logics to arrive at strategic outcomes.

Therefore this paper takes a descriptive, instead of a normative, approach, in order to contribute with a greater understanding of how decision-making is carried out in practice. Moreover this work seeks to examine decision-making activities of young entrepreneurs, who just founded a new firm and were able to gather first practical experience as entrepreneurs. Startups operating in the high-tech industry “face the challenge of enormous technology and market uncertainty” (Lin, Li and Chen, 2006, p.169) and are therefore of special interest as they allow the examination of strategy creation and development in an environment where frequent strategy changes are crucial to survive. The specific research questions of this work are:

- *How do young entrepreneurs in high-tech startups frame strategic decisions?*
- *Is the application of different types of logics related to different types of situations or decisions at hand and if yes how does this relationship look like?*
- *Does the application of different types of logics change over time and if yes why and how?*

To study particular logics entrepreneurs use is vital, since they affect the actions of entrepreneurs with regards to strategy creation and development (Gifford, 1992; Elliott, Hayward and Canon, 1998, as cited in Dew, Read, Wiltbank and Sarasvathy, 2009).

1.3 PURPOSE

This paper attempts to describe how young entrepreneurs in high-tech startups frame strategic decisions. Furthermore it seeks to identify how different types of decisions (pricing, channel, segmenting decisions, etc.) or situations (availability of market research resources, access to market intelligence, uncertainty of market developments, etc.), affect the application of different types of logics. Lastly it aims to explore how and why these frames change over time if they do. In order to reach this goal this work first seeks to understand the reasoning and decision process behind strategic actions. An analysis of these “causes” follows to detect patterns or logics which are followed by young entrepreneurs to create and develop strategies. Then the insights are compared to existing studies and literature, connections to theories are made and general conclusions are drawn. In other words this work follows an explorative approach investigating how practice relates to existing theory.

Moreover the work should provide practitioners with an expanded repertoire of activities leading to a strategy and facilitate mutual understanding of what their decision making process may look like.

Since this work will concentrate specifically on young entrepreneurs in high-tech startups, a case study of the entrepreneur Gårdängen, CEO of Crunchfish, a young, innovative, fast growing software company based in Malmö, Sweden, will be applied to explore how young entrepreneurs create strategic decisions in practice. Gårdängen represents a fitting candidate for studying strategy creation of young entrepreneurs in high-tech startups, because he founded his first company Crunchfish together with Paul Cronholm in 2009 and actively shaped the strategic direction of the company ever since first as the Chairman of the Board and now as the CEO (Guo, Guthrie and Woldenga, 2012). He Gårdängen accumulated first practical experience in entrepreneurship and therefore will be the unit of analysis.

Crunchfish being a company active in the very dynamic and fast changing segment software development additionally adds the advantage of studying strategy creation in a highly uncertain and complex environment, which escalates the significance and frequency of strategic decisions.

1.4 KEY CONCEPTS

This work revolves around strategy creation and development, therefore it is important to have a proper understanding of this concept. By following the definition of Chasteen (2001) strategies are sets of decisions that result in long term consequences for the organization and govern how resources are utilized to stay competitive. These decision-making activities include the creation of entirely new strategies and the development of existing strategies. In order to arrive at strategic outcomes two different sets of ideas can be identified in literature that influence the strategic actions, also named logics (Sarasvathy, 2008).

The first logic roots in the planning school which was shaped by authors such as Stigler (1952), Ansoff (1979) and Porter (1980). A strategist who follows this logic would invest in the

prediction of the future to find opportunities and consequently be able to position beneficial for the future (Wiltbank, Read, Dew and Sarasvathy, 2006).

The second logic was mainly shaped by the works of Sarasvathy. A strategist who follows this logic would start with existing means and rely on human action as the prime driver for fabricating opportunities and thus creating an alternative future (Sarasvathy, 2008). Since the future can be created there is no need to predict it (Sarasvathy, 2008).

These two logics represent the two key concepts this work is based on.

2. THEORETICAL FRAME OF REFERENCE

This chapter will first present a two-logic model for strategy creation and development and then discuss the different concepts the model is based on in more detail.

2.1 TWO-LOGIC MODEL: THE PLANNING AND PROACTIVE LOGIC

As the previous chapter already laid out, two different logics of how to arrive at strategic outcomes can be identified in existing literature. When examining this literature different starting points of the various authors contributing to the strategy creation and development literature can be identified. March (1991), for instance, discusses exploitation and exploration activities in the light of organizational learning, while Regnér (2003) on the other hand is interested in the differences of strategic activities in the periphery and center of a firm. Furthermore, Kim and Mauborgne (2004; 2005) seek to explain success with an alternative approach to strategy, which is close to Sarasvathy's (2001; 2008) goal, since she aims to identify a second alternative toolbox for arriving at strategic decisions. Finally Wiltbank, Read, Dew and Sarasvathy (2006) order existing strategy literature along the dimensions prediction and control to develop a framework that strategy executives can choose from when deciding what to do next.

Despite these different starting points each concept ended up identifying two contrasting logics of how to approach strategic decisions. By combining and organizing certain aspects of these different concepts a two-logic model for strategy creation and development can be constructed. The first logic will be referred to as the *planning logic*, as it is rooted in the classic planning school. The second logic was named *proactive logic* to express the non-predictive action-orientation towards creating something new. These contrasting logics will now be described along the dimensions basic assumption, involvement of externals, strategic activities, offerings, customers, recommendation and benefits of the respective logic.

2.1.1 PLANNING LOGIC

The *planning logic* roots in the planning school which was shaped by authors such as Stigler (1952), Ansoff (1979) and Porter (1980). Their ideas can be found in the exploitation concept of March (1991), the deductive strategy making concept of Regnér (2003), the conventional logic of Kim and Mauborgne (2004), the causational logic of Sarasvathy (2001; 2008) and the planning

approach of Wiltbank, Read, Dew and Sarasvathy (2006). The following illustration and subsequent paragraphs will describe how a strategist following the planning logic will create and develop strategies.



Illustration 1: The Planning Logic

Firstly, the environment is viewed as exogenous, hence independently existing of the firm or entrepreneur (Sarasvathy, 2001). In other words the industries conditions are obtained as given (Kim and Mauborgne, 2004), thus the job of the entrepreneur is to develop strategies fitting to these prevailing conditions in order to defeat industry competitors (Sarasvathy, 2001; Kim and Mauborgne, 2004).

Secondly, externals are involved in strategy making in the sense that competitor analyses and careful planning represent the basis for strategic decisions, as recommended by Ansoff (1979) and Porter (1980) (Sarasvathy, 2001; Wiltbank, Read, Dew and Sarasvathy, 2006). A constant benchmark with competitors, thus the accumulation of knowledge within industry boundaries, is necessary in order to identify areas of competitive advantage and disadvantage (Regner, 2003; Kim and Mauborgne, 2004).

Specific activities include competitor and industry analyses and planning activities (Wiltbank, Read, Dew and Sarasvathy, 2006). In general business intelligence about the existing industry is

gathered and predictive techniques are applied to gain strategic knowledge (Regnér, 2003; Sarasvathy, 2008). These activities are the basis for finding business opportunities and refining and extending prevailing competences, technologies and paradigms accordingly (March, 1991; Kim and Mauborgne, 2004).

The products or services which are offered to the customers are determined by the traditional industry boundaries (Kim and Mauborgne, 2004). That means that first an industry analysis is carried out in order to identify an advantageous positioning and then that product or service is offered which leads to the highest expected return given the current industry conditions (Sarasvathy, 2001).

Moreover, the customers are selected by starting with all possible customers and then narrowing down to the most profitable customer segment by following a segmenting, targeting and positioning process (Sarasvathy, 2008). This segmentation approach focuses on the differences between the customers, thus leads to segment-specific customization (Kim and Mauborgne, 2004). In the case the firm desires to grow the customer base has to be retained and expanded through further segmentation and customization (Kim and Mauborgne, 2004).

The planning logic is based on the essence to predict an uncertain future: “To the extent we can predict the future, we can control it” (Sarasvathy, 2001, p.252). Therefore the recommendation for entrepreneurs following the planning logic is: “Try harder to predict and position more accurately” (Wiltbank, Read, Dew and Sarasvathy, 2006, p.982).

Concluding it can be said that there are specific benefits of applying a planning logic as the basis for strategic decisions. In the case of a certain, well-defined and less complex environment (March, 1991; Regnér, 2003) the exploitation of prevailing resources, strategies and knowledge can allow a firm to reach expected return in existent markets by maximizing the value of current offerings (Sarasvathy, 2001; 2008; Regnér, 2003; Kim and Mauborgne, 2004). Thus the planning logic is especially suitable for the perfection and refinement of existing strategy (Regnér, 2003).

2.1.2 PROACTIVE LOGIC

The *proactive logic* was mainly formed by Sarasvathy (2001; 2008), who identified an alternative strategy creation and development logic, which she called effectuation logic. Her ideas can be found in in the exploration concept of March (1991), the inductive strategy making concept of Regnér (2003), the value innovation logic of Kim and Mauborgne (2004) and transformative approach of Wiltbank, Dew, Read and Sarasvathy (2006). The following illustration and subsequent paragraphs will describe how a strategist following the proactive logic will create and develop strategies.

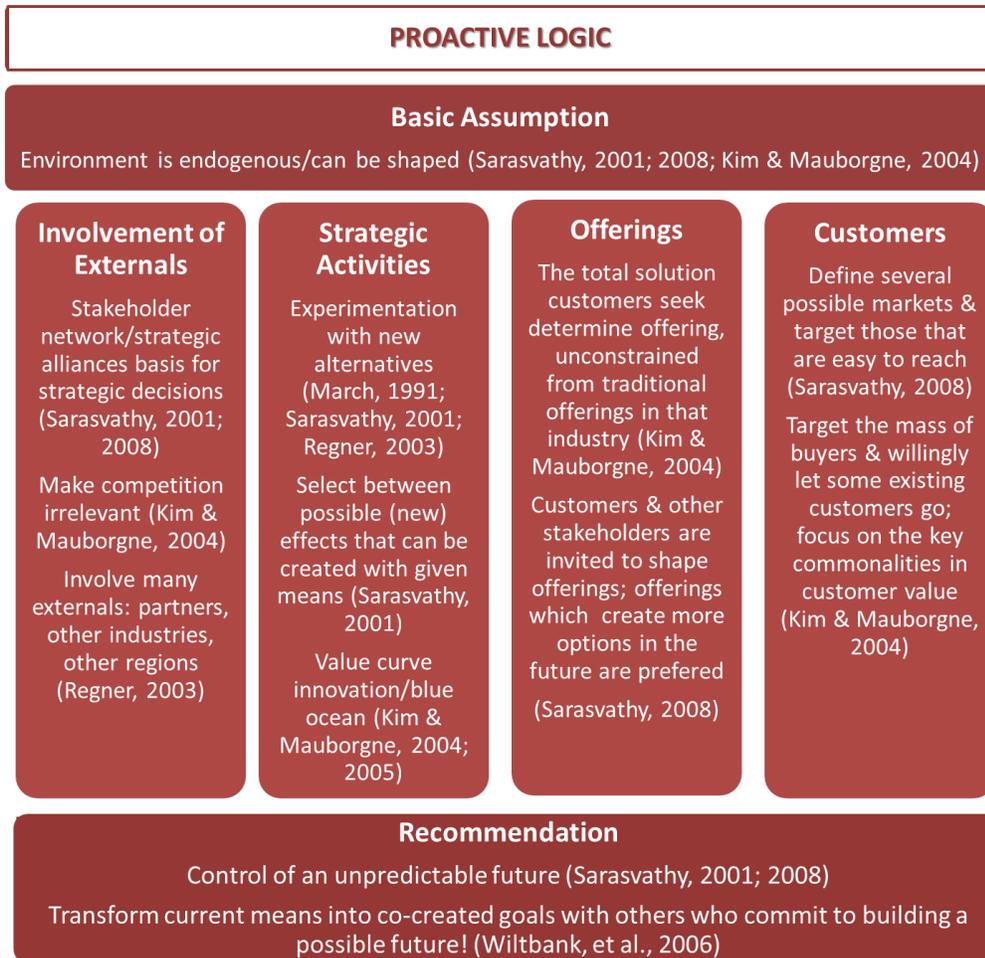


Illustration 2: The Proactive Logic

Firstly, the environment is viewed as endogenous, something that can be shaped and created into a new market and an alternative future together with other stakeholders (Sarasvathy, 2001). Subsequently, prediction and competitors are made irrelevant by changing the industry conditions and creating a new market (Kim and Mauborgne, 2004).

Competitors are therefore ignored and not used as benchmarks (Sarasvathy, 2001; 2008; Kim and Mauborgne, 2004). Instead the resources are focused towards creating a complete solution for the customers (Kim and Mauborgne, 2004). By doing so other externals, such as partners, are highly involved in the creation and development of strategies and contacted to accumulate new strategic knowledge (Sarasvathy, 2001; Regner, 2003; Kim and Mauborgne, 2004). Strategic alliances are seen as contributors and enablers for creating value for customers and can resolve uncertainties and entry barriers; thus represent the basis for strategic decisions (Sarasvathy, 2001).

Specific activities focus on experimentation with new alternatives, such as technology and market experiments, to create new opportunities (March, 1991; Regner, 2003; Sarasvathy, 2001; 2008). The starting point is existing means, the intellectual, human and social capital of

the entrepreneur, which are then combined to new effects or new markets (Sarasvathy, 2001; Kim and Mauborgne, 2004; 2005).

For the proactive logic those products or services are offered which represent a complete solution for their customers, often crossing existing industry boundaries (Kim and Mauborgne, 2004). Existing means, including those of stakeholders, are experimented with to create new alternative options and furthermore initial customers and other stakeholders are invited to shape the offerings (Sarasvathy, 2001). Moreover those offerings are preferred that allow more options in the future, rather than those that maximize returns in the present (Sarasvathy, 2001).

The first customers are selected based on who the entrepreneur is, what the entrepreneur knows and whom the entrepreneur knows (Sarasvathy, 2008). Then strategic partnerships are developed, which influence the segment definition with their set of means (Sarasvathy, 2008). Finally several possible markets are defined and those are targeted that are easy to reach (Sarasvathy, 2008). The resulting customer segments are defined by their commonalities and not their differences, thus can be expanded by developing additional products for the initial customer segments (Kim and Mauborgne, 2004; Sarasvathy, 2008). This can result in the creation of a completely new market (Kim and Mauborgne, 2004; 2005; Sarasvathy, 2008).

The proactive logic is based on the essence to control an unpredictable future: “To the extent we can control the future we do not need to predict it” (Sarasvathy, 2001, p.252). Therefore the recommendation for entrepreneurs following the proactive logic is: “Transform current means into co-created goals with others who commit to building a possible future” (Wiltbank, Read, Dew and Sarasvathy, 2006, p.982).

Concluding it can be said that applying a proactive logic as the basis for strategic decisions is beneficial in ambiguous and complex contexts (Regnér, 2003), when new possibilities should be explored (March, 1991). New combinations of old and new resources and industry factors together with alliances and other cooperative strategies can enable a firm to create new markets (Sarasvathy, 2001; 2008; Regnér, 2003; Kim and Mauborgne, 2004). Therefore, the proactive logic is particularly suitable for the creation of new strategies (Regnér, 2003).

2.2 EXISTING CONCEPTS ON STRATEGY CREATION AND DEVELOPMENT

After having presented the two-logic model the different concepts the model is based on will be discussed in more detail.

2.2.1 EXPLOITATION VS. EXPLORATION

The first concept which will be presented is March’s (1991) work on exploitation and exploration. Entrepreneurs have to deal with the challenge to create and develop strategies in a turbulent environment. Often they have to have strategies in place that on the one hand make them survive in existing markets and on the other hand help them create new markets (Sarasvathy, 2008). March (1991, p.71) picks up this trade-off as “the relation between the exploration of new possibilities and the exploitation of old certainties in organizational learning” by studying complications that arise when allocating resources between the two.

In his article “Exploration and Exploitation in Organizational Learning” he defines the core of *exploitation* as the fine-tuning and enlargement of prevailing competences, technologies, and paradigms, whereas the experimentation with new alternatives builds the essence of *exploration* (March, 1991). When comparing the returns from exploration with exploitation it becomes evident, that those from exploration are “systematically less certain, more remote in time and organizationally more distant from the locus of action and adaption” (March, 1991, p.73). Returns from exploitation on the other hand are positive, proximate, and predictable. March (1991) exemplifies this statement by explaining that the undertaking to find novel ideas, markets, or relations is less certain to succeed, demands a longer time, and is affected by more diffuse effects than the development of existing ideas, markets or relations. Key words such as search, variation, risk taking, experimentation, play, flexibility, discovery and innovation are frequently found in connection with exploration (March, 1991). Contrarily, exploitation is verbalized with refinement, choice, production, efficiency, selection, implementation and execution expressions (March, 1991).

The following table summarizes the differences of exploitation and exploration:

Category	Exploitation	Exploration
Focus	Exploitation of old certainties	Exploration of new possibilities
Essence	Refinement & extension of existing competences, technologies, & paradigms	Experimentation with new alternatives
Returns	Positive, proximate, predictable	Uncertain, distant, often negative
Keywords	Refinement, choice, production, efficiency, selection, implementation, execution	Search, variation, risk taking, experimentation, play, flexibility, discovery, innovation

Illustration 3: Exploitation vs. exploration (based on March, 1991)

March (1991) points out that both exploration and exploitation are crucial for organizations. The problem which arises is that organizations often have to decide between the two strategies as they compete for scarce resources. The decisions consist of explicit choices, calculated decisions about competitive strategies, and implicit choices, which are woven into various facets of organizational forms and customs, such as procedures for increasing and decreasing slack, search rules and practices, methodology of target development and adaptations, and incentive systems (March, 1991).

He further explains that on the one hand exploring new alternatives slows down exploiting existing skills (Levitt and March, 1988). Eventually, an over-engagement in exploration leads to many underdeveloped new ideas and too little unique competence (March, 1991). But on the other hand improving competences for existing procedures make experimentation with other procedures unattractive (Levitt and March, 1988). Subsequently, an over-engagement in exploitation yields to “suboptimal stable equilibriums” (March, 1991, p.71).

March (1991, p.71) concludes that “maintaining an appropriate balance between exploration and exploitation is a primary factor in system survival and prosperity”.

2.2.2 DEDUCTIVE VS. INDUCTIVE STRATEGY MAKING

The second concept which will be presented is Regnér’s (2003) contribution to strategy creation literature. Regnér (2003) aims with his article “Strategy Creation in the Periphery: Inductive Versus Deductive Strategy Making” to contribute filling the strategy literature gap concerning the examination of micro-level processes and activities for strategy creation and development. The research was based on the research question “How do managers create and develop strategy in practice?” (Regnér, 2003, p.57). He carried out a longitudinal single in-depth case study and multiple retrospective studies involving four multinational companies (Regnér, 2003).

Regnér (2003, p.57) gained the insight that essential strategy activities vary heavily between the periphery and center of a company, leading to a “twofold character of strategy creation”. The periphery of a company is described as subsidiaries, projects, business and technology units, whereas the corporate and divisional management and the board of directors belong to the center of a company (Regnér, 2003). In other words, periphery and center differ in location and social embeddedness (Regnér, 2003).

An examination of the strategy creation and development approaches used in the center and periphery resulted in the following insights: The center focused on the exploitation of existing resources in the existing industry via the use of experts and planning and analysis activities (Regnér, 2003). Formal reports, documents, intelligence, industry experience and routines were the basic action mechanisms through which strategic knowledge was generated (Regnér, 2003). These activities assisted in “the adaptation, cultivation and perfection of prevailing knowledge”, thus centered on the perfection of current strategies (Regnér, 2003, p.77). Simultaneously, the activities failed to support the development of new strategies. Regnér (2003) named this strategy development approach *deductive*.

The periphery followed a different strategy making approach. The periphery focused on exploring new resources and industries, via the use of heuristics and trial and error activities. It was externally oriented, thus broadened their horizon beyond their industry and geographical boundaries and looked out for things to learn from partners, other industries and regions (Regnér, 2003). Informal contacts and encounters and technology and market experiments were the basic action mechanisms through which new strategic knowledge was generated (Regnér, 2003). Strategy activities in the periphery focused on the integration, organization and combination of new strategic knowledge from numerous external actors and industries, thus were especially suitable for “developing and progressing the strategies forward in the complex and ambiguous outer contexts that surrounded them” (Regnér, 2003, p.77). Regnér (2003) named this strategy creation approach *inductive*.

The following table summarizes the differences of the deductive and inductive strategy making:

Categories	Deductive	Inductive
Action direction	Industry focused: planning, analysis, and expertise use	Externally focused (partners, other industries, regions): trial & error, probing environment, heuristics use
Basic action	Exploitation of prevailing resources	Exploration of new resources and

mechanisms	and industry - Formal reports, documents, intelligence - Industry experience and routines	industries - Informal contacts and encounters - Technology and market experiments
Sense-making	Established strategy interpretation, patterns and structures	Trying out, adjusting and generating new strategy interpretations
Knowledge structure	Emphasizing current knowledge structure	Establishing new knowledge structure
Strategy content	Refinement of existing resource and industry factors: perfection of prevailing strategy	New combinations of old and new resource and industry factor: strategy creation

Illustration 4: Deductive vs. inductive strategy making (Regnér, 2003, p.78)

Regnér (2003) concludes that his work revealed how managers create and develop strategy by employing an inductive or deductive approach, dependent on their location at the periphery or center. He points out that both tactics are crucial for strategy creation and development, but recommends the inductive and exploratory strategy making in ambiguous and complex contexts, whereas a deductive approach should be followed in well-defined and less complex situations (Regnér, 2003).

Finally, Regnér (2003) discusses some limitations of his study: Firstly, the insights were arrived at by examining four organizations leading to issues with regards to generalization. Secondly, sophisticated psychology techniques could have improved the analysis of specific differences in sense-making and knowledge structures over time. Lastly, the study only examined implemented strategies disregarding those that were decided to be discarded.

2.2.3 CONVENTIONAL LOGIC VS. VALUE INNOVATION LOGIC

Kim and Mauborgne's (2004; 2005) value innovation concept will be presented next. The inventors of the term blue ocean strategy, Kim and Mauborgne (2004, p.172; 2005), started the development of their strategic decision framework with the research question "Why do some companies achieve sustained high growth in both revenues and profits?" In a decade-long study of high-growth firms and their unsuccessful rivals the authors arrived at the conclusion that the difference can be found in how the two groups approached strategy. While the unsuccessful firms followed a strategic thinking that focused on "staying ahead of the competition", thus pursued a *conventional* strategic logic, the successful firms made their rivals irrelevant through a specific strategic logic, which the authors call *value innovation* (Kim and Mauborgne, 2004, p.172).

In order to illustrate the differences between the two logics, Kim and Mauborgne (2004; 2005) categorized the conventional logic and the value innovation logic along five basic dimensions of strategy: industry assumptions, strategic focus, customers, assets and capabilities and product and service offers.

For the first dimension, industry assumptions, the authors explain that conventional strategists obtain their industries' conditions as exogenous, hence they formulate their strategy fitting to these conditions (Kim and Mauborgne, 2004). Value innovators on the other hand understand the conditions as endogenous and strive for “blockbuster ideas and quantum leaps in value” (Kim and Mauborgne, 2004, p.174).

With regards to the strategic focus conventional strategists make their strategic thinking dependent on competitors (Kim and Mauborgne, 2004). Constantly, strengths and weaknesses are compared in order to build competitive advantages and win the battle over incremental market share. Value innovators examine competitors as well, but not as benchmarks or role models they have to follow (Kim and Mauborgne, 2004). Instead they shift their focus to the customer side and try to create an offering with a considerable increase in value. By discarding intense competitor analyses they manage to make resources available for identifying and supplying entirely new sources of value, which often results in the greatest competitive advantage (Kim and Mauborgne, 2004).

The third dimension deals with customers. Strategists following the conventional logic retain and expand their customer bases in order to achieve growth for their firms (Kim and Mauborgne, 2004). Customer segmentation and consequently segment-specific customization are the results of this strategy. Value innovators on the contrary concentrate on the commonalities of customer’s needs and assume that a less customized offer will attract due to its significant leap in value (Kim and Mauborgne, 2004). In other words they target the core of the market, despite potential customer losses on the periphery.

The view on assets and capabilities is described in the fourth dimension. Conventional strategists search for business opportunities that can be exploited with their existing assets and capabilities, whereas value innovators “assess business opportunities without being biased or constrained by where they are at a given moment” (Kim and Mauborgne, 2004, p.175). They leverage their current assets and capabilities as well, but additionally ask themselves “What if we start anew?”, thus often understand customer’s needs and the change of them better and dare to act on that insight easier (Kim and Mauborgne, 2004, p.175).

The last dimension discusses product and service offerings. Within the conventional logic firms compete within “established boundaries defined by the products and services the industry traditionally offers” (Kim and Mauborgne, 2004, p.175). Value innovators however focus on the total solution for the customers which often results in a crossing of those boundaries (Kim and Mauborgne, 2004).

The following table summarizes the differences of the conventional and value innovation logic:

The Five Dimensions of Strategy	Conventional Logic	Value Innovation Logic
Industry assumptions	Industry’s conditions are given.	Industry’s condition can be shaped.

Strategic focus	A company should build competitive advantages. The aim is to beat the competition.	Competition is not the benchmark. A company should pursue a quantum leap in value to dominate the market.
Customers	A company should retain & expand its customer base through further segmentation and customization. It should focus on the differences in what customers value.	A value innovator targets the mass of buyers and willingly lets some existing customers go. It focuses on the key commonalities in what customers value.
Assets and capabilities	A company should leverage its existing assets and capabilities.	A company must not be constrained by what it already has. It must ask, What would we do if we were starting anew?
Product and service offerings	An industry's traditional boundaries determine the products and services a company offers. The goal is to maximize the value of those offerings.	A value innovator thinks in terms of the total solution customers seek, even if that takes the company beyond its industry's traditional offerings.

Illustration 5: Conventional logic vs. value innovation logic (Kim and Mauborgne, 2004, p.174)

The presented differences govern, according to Kim and Mauborgne (2004, p.174), “which questions managers ask, what opportunities they see and pursue, and how they understand risk”. In order to achieve growth the managers should in a first step seek to create new value curves by eliminating and reducing those factors that the industry takes for granted, leading to sinking costs (Kim and Mauborgne, 2004; 2005). Moreover, they should raise and create those elements that the industry does not provide, hence lift buyer value (Kim and Mauborgne, 2004; 2005). An increased buyer value and sinking costs reinforce each other due to lower prices on the customer side and economies of scale on the companies side (Kim & Mauborgne, 2005). Eventually, as Kim and Mauborgne (2004; 2005) conclude, can the combination of eliminating, creating, reducing and raising features to levels unprecedented in the industry lead to profitable growth and the creation of an entirely new market free from competitors, their so called blue ocean market (Kim and Mauborgne, 2005). In order to achieve sustainable growth the creation of new value curves has to be repeated constantly and target the product, service and delivery aspects of an offering, since new opportunities can be found in each of the aspects (Kim and Mauborgne, 2004).

Kim and Mauborgne (2004) mention that the applied logic was repeatedly not verbalized, regardless of the significance it represents for a firm. Therefore they applaud to firms to start with identifying and articulating the current applied logic as a first step towards sustainable, profitable growth (Kim and Mauborgne, 2004).

2.2.4 CAUSATION VS. EFFECTUATION

Sarasvathy contributed to strategy literature with several articles and her book “Effectuation: Elements of Entrepreneurial Expertise” (2008). Her (2001; 2008) goal is to establish her theory

that besides the traditional planning approach another way of arriving at strategic decisions exists. She named the two contrasting decision-making logics *causation* and *effectuation*. Whereas strategists following the causation logic invest in predictive techniques to find opportunities and position beneficial for the future, effectuators employ a non-predictive control-oriented approach (Sarasvathy, 2008). By asking themselves who they are, what they know and whom they know, referring to the intellectual, human and social capital of the entrepreneur, effectuators start with existing means when making a decision (Sarasvathy, 2008). Then they take an action-oriented tactic to create the future, instead of waiting for it to happen, as they rely on human action as the prime driver for fabricating opportunities when creating and developing strategies (Sarasvathy, 2001; 2008).

In order to illustrate the differences between the two logics, Sarasvathy categorized the causation and effectuation logic along four basic principles:

The first principle describes that strategists following the causation logic select between alternative decisions by choosing that one with the highest expected return (Sarasvathy, 2001). Effectuators instead experiment with various alternative options by utilizing their existing means and prefer those that if it all went wrong would result in an affordable loss. Moreover effectuators emphasize alternatives that “create more options in the future over those that maximize returns in the present” (Sarasvathy, 2001, p.252).

The second principle deals with the way how externals are involved in the strategy making process. While a causation logic leads to a focus on competitive analyses as a basis for strategy creation and development, as suggested by Porter (1980), an effectuation logic highlights partners and strategic alliances “as a way to reduce and/or eliminate uncertainty and to erect entry barriers” (Sarasvathy, 2001, p.252). Often, initial customers are seen as partners that help developing a segment definition (Sarasvathy, 2008).

Thirdly, Sarasvathy (2001) points out that the strengths of a causation logic lies in the exploitation of prevailing knowledge, whereas effectuation is better suitable for exploiting contingencies that occur unpredictably, building on the ideas of March (1991).

The last principle discusses the emphasis on prediction and control. Mintzberg (1994) discovered by examining numerous case studies that there seems to be a strategy formation logic that does not center on analysis and prediction but instead on synthesis and action. Sarasvathy builds on Mintzberg’s insight and concludes that causation processes are based on the essence “to the extent that we can predict the future, we can control it” (Sarasvathy, 2001, p.252). The market is viewed as exogenous, independently existing of the firm or entrepreneur. Subsequently the job of the entrepreneur is to conquer as much market share as possible by applying predictive techniques to identify a superior strategy. Effectuation processes however center on “to the extent that we can control the future, we do not need to predict it” (Sarasvathy, 2001, p.252). In an interaction with other stakeholders who buy into the business idea, it is possible for effectuators to create a new market and thus an alternative future, making prediction obsolete or at least less important (Sarasvathy, 2001).

The following table summarizes the differences of the causation and effectuation logic:

Categories of Differentiation	Causation	Effectuation
Givens	Effect is given	Only some means or tools are given
Environment	Exogenous	Endogenous
Underlying logic	To the extent we can predict the future, we can control it	To the extent we can control the future, we do not need to predict it
Outcomes	Market share in existent markets	New markets created through alliances & cooperative strategies
4 principles:	<ol style="list-style-type: none"> 1. Expected return 2. Competitive Analyses 3. Exploitation of existing knowledge 4. Prediction of an uncertain future 	<ol style="list-style-type: none"> 1. Affordable loss 2. Strategic Alliances 3. Exploitation of contingencies 4. Control of an unpredictable future

Illustration 6: Causation logic vs. effectuation logic (based on Sarasvathy, 2001, p.251):

Sarasvathy developed her theory by following a descriptive approach that examined micro-level activities of expert entrepreneurs in practice. An expert entrepreneur is defined as someone who had personally or together with other entrepreneurs founded and taken public at least one firm and stayed as a full-time entrepreneur in that firm for at least 10 years (Sarasvathy, 2008). Her insights include that entrepreneurs in practice apply a combination of logics and the “use of and preference for particular modes is related to the entrepreneur’s level of expertise and where the firm is in its life cycle” (Sarasvathy, 2008, p.16). She furthermore assumes that entrepreneurial novices differ in the utilization of effectual logic moderated by the availability of resources; the more resources available, the less likely they will use effectuation (Sarasvathy, 2008). Furthermore she predicts that as entrepreneurial experience accumulates the preference for applying effectuation in the young stages of firms will buildup (Sarasvathy, 2008). Additionally to these correlations Sarasvathy (2008, p.28) explains that the decision process is furthermore influenced by the “beliefs about the predictability of the future”. The more the entrepreneur believes the future is driven primarily by human action and thus fundamentally unpredictable, the more the entrepreneur will apply effectuation (Sarasvathy, 2008).

Sarasvathy (2008) recommends viewing entrepreneurship as a method, rather than a destination. And as such entrepreneurship can be fueled by an effectual logic or a causal logic, representing two different toolboxes to choose from. She concludes her book by listing several unanswered questions and suggesting new research ventures in numerous fields thus motivates to contribute empirical evidence for her theory (Sarasvathy, 2008).

2.2.5 PLANNING VS. TRANSFORMATIVE APPROACH

The last framework which will be presented is based on Wiltbank, Read, Dew and Sarasvathy’s work about strategy creation and development. Wiltbank, Read, Dew and Sarasvathy (2006) carried out an extensive literature review in order to address the question “How can organizations decide what to do next?” They ended up categorizing the various approaches they found in literature into four logics along the dimensions prediction and control justifying that “assumptions about prediction and control are either explicit or implicit in virtually all

formulations of strategic management research” (Wiltbank, Read, Dew and Sarasvathy, 2006, p.984). Therefore their literature analysis centered on extracting these positions (Wiltbank, Read, Dew and Sarasvathy, 2006).

The first identified logic of how entrepreneurs arrive at strategic decisions is characterized by an emphasis on prediction as a means to control the future (Wiltbank, Read, Dew and Sarasvathy, 2006). Critical articles that were positioned in that corner of strategic logic include Ansoff’s (1979, p.17) article about strategic management, where he recommends analyzing and planning every strategic action systematically, otherwise the market will be found “pre-empted by more foresightful competitors”. Another classic was identified that follows the same logic: Porter (1980, p.47) argues “a central aspect of strategy formulation is perceptive competitor analysis (...) to develop a profile of the nature and success of the likely strategy changes each competitor might make”. Wiltbank, Read, Dew and Sarasvathy (2006) identified the commonality that all these articles are based on the premise that the future should be predicted to position better and summarize them under the term *planning approach*. The fame of the business plan, in practice and pedagogy, indicates the acceptance of this approach (Chandler, DeTienne, McKelvie and Mumford, 2011). The recommendation for a strategist in the framework of this approach would be “try harder to predict and position more accurately” (Wiltbank, Read, Dew and Sarasvathy, 2006, p.983).

The *transformative approach* is, contrary to the planning approach, characterized by a focus on control making prediction obsolete (Wiltbank, Read, Dew and Sarasvathy, 2006). According to the authors can Kim and Mauborgne’s value curve innovation theory be positioned in this quadrant since they suggest moving beyond reacting to traditional market intelligence and towards the controlled creation of entirely new markets together with partners (Wiltbank, Read, Dew and Sarasvathy, 2006). Furthermore can Sarasvathy’s effectuation logic be described as a transformative approach, for the reason that in an effectuation logic human action is seen as the prime driver for creating alternative futures leading to shrinking importance of prediction (Sarasvathy, 2001). The recommendation for a strategist in the framework of this approach would be “transform current means into co-created goals with others who commit to building a possible future” (Wiltbank, Read, Dew and Sarasvathy, 2006, p.983).

The two other identified logics are combinations of the first two presented. The *visionary approach* emphasizes prediction and control and starts with a visionary goal of the entrepreneur about what the firm should achieve in the future, which stimulates and guides the prediction and evaluation activities of the firm and the collection of relevant means (Hamel and Prahalad, 1989; 1991; Tellis and Golder, 2002). By basing the strategic actions on the imagination of the future, visionary leaders in the end create the direction of the future according to their vision (Courtney, Kirkland and Viguerie, 1997). The recommendation for a strategist in the framework of this approach would be “persistently build your clear vision of a valuable future” (Wiltbank, Read, Dew and Sarasvathy, 2006, p.983).

The *adaptive approach* suggests minimizing the efforts to predict the future, and instead concentrating the energy on recognizing present opportunities and quickly adapting accordingly to capture these opportunities and defeat competitors (Teece, Pisano and Shuen, 1997).
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Therefore the emphasis is neither on prediction, nor on control, and instead on adaptation. This school proposes a need of a fast decision maker who uses “not forecast information” but “real time information” (Eisenhardt, 1989, p.549) “to quickly accomplish reconfiguration and transformation ahead of competition” (Teece, Pisano and Shuen, 1997, p.521). A rapid response to the events as they emerge is the core of this thinking, which results in a learning process where strategies are adapted constantly following the feedback from the environment (Mintzberg, 1994). The recommendation for a strategist in the framework of this approach would be “move faster to adapt to a rapidly changing environment” (Wiltbank, Read, Dew and Sarasvathy, 2006, p.983).

The following table summarizes the differences of the planning, transformative, visionary and adaptive approach:

Emphasis on Prediction	High	PLANNING try harder to predict and position more accurately	VISIONARY persistently build your clear vision of a valuable future
	Low	ADAPTIVE move faster to adapt to a rapidly changing environment	TRANSFORMATIVE transform current means into co-created goals with others who commit to building a possible future
		Low	High
Emphasis on Control			

Illustration 7: Planning, transformative, visionary and adaptive approach (Wiltbank, Read, Dew and Sarasvathy, 2006, p.983).

For the development of the two-logic model a similar approach was followed. But besides organizing the different concepts existing in literature along the dimensions prediction and control, they were structured along the dimensions basic assumption, involvement of externals, strategic activities, offerings, customers, recommendation and benefits of the respective logic. These dimensions were chosen by combining the here presented concepts. Moreover the focus was put on the planning and transformative approach, resulting in a two-logic model, as they represent the two extremes most commonly discussed in literature (see March, 1991; Régner, 2003; Kim and Mauborgne, 2004; 2005; Sarasvathy, 2008).

3. METHOD

3.1 RESEARCH DESIGN

Given the rareness of knowledge about how strategic decisions actually evolve and especially about strategy creation and development of young entrepreneurs an exploratory approach was followed. Moreover a qualitative research design was identified as appropriate, where words are emphasized rather than quantification in the collection and analysis of data (Bryman and Bell, 2011). By applying an interpretive paradigm it was hoped to lead to new insights and understandings about strategy creation and development of young entrepreneurs.

Furthermore the research design was influenced by the thoughts of Johnson, Melin and Whittington. Their work on strategizing suggests using an “activity-based view of strategy that focuses on the detailed processes and practices which constitute the day-to-day activities of organizational life and which relate to strategic outcomes” (Johnson, Melin and Whittington, 2003, p.3), which is supported by Regnér (2003) who proposes a micro-level examination of strategic activities as well. Accordingly the study examines micro-level strategic management activities in order to find a pattern or logic which is followed to create and develop strategies. Logic is defined as a set of ideas that the entrepreneur constantly employs to act upon the world (Sarasvathy, 2008). To study these logics of entrepreneurs is vital, since they “influence how they formulate problems, what alternatives they perceive, generate and attend to, which constraints they accept, reject, and/or manipulate and how, and why they heed certain criteria rather than others in fabricating and implementing new” (Elliott, Hayward and Canon, 1998, as cited in Dew, Read, Wiltbank and Sarasvathy, 2009, p.289). Consequently an identification of a particular logic by examining strategy related activities over a longer time period has the potential to explain how entrepreneurs create and develop strategies and if the applied logics are related to specific decisions or situations and change over time.

Using the great access to Crunchfish and the case subject Gårdängen a deep insight into a young entrepreneur’s strategy creation and development activities was possible, which is why a single in-depth case study was carried out. By doing so the design follows Regnér’s (2003, p.58) request to examine “what managers really do in terms of strategy creation and development”.

3.2 PROCESS

As a preparatory step information about Crunchfish and the environment of the company was collected to get familiar with the current offerings of Crunchfish, their customers and competitors. The data was gathered in the framework of a business development project, specifically dealing with their technology Active3D, carried out beforehand. For this project the researcher took the role of an external consultant. Although the preliminary project focused on one of their products much information was also relevant for this study and therefore will be referred to.

This preparatory step was then followed by a think aloud verbal protocol, where the subject had to think aloud while solving a set of common entrepreneurial decision problems for an imaginary product in an imaginary firm. The purpose was “to understand what mental processes take place as someone attempts to solve a problem” (Smagorinsky, 1989, p.465), thus to gain insights beyond what is accessible with traditional research instruments. Interviews gathering retrospective data, for instance, rely on the recall and impressions from the subject and add little to the understanding of the internal structures of cognitive processes (Smagorinsky, 1989). Ericsson and Simon (1993) argue that verbalization of thoughts that occur during task completion offer the closest connection between actual thoughts and verbal reports. The reason behind this is that concurrent verbalization - verbalization during decision-making - allows the researcher to directly examine the cognitive process of the subject by getting a deep insight into the decision-making steps between stimulus introduction and the final decision outcome (Kuusela and Paul, 2000).

However, by using protocol analysis the researcher assumes that the research instrument has no impact on the sequence and content of thoughts, thus directly reflects the thinking-process of the participants. Therefore, Ericsson and Simon (1993) carried out numerous studies on this topic which led to the insight that the sequences and contents of thoughts are the same when the subjects think aloud or complete the task silently. The only identified difference was that the subjects who had to think aloud were slower in the completion of the task, which can be explained by the additional time needed to verbalize the thoughts (Ericsson and Simon, 1993). Following these ideas the think aloud protocol methodology has high internal validity as it addresses the true causes of the decision outcomes made by the subjects (Ericsson and Simon, 1993).

The role of the researcher was to make the participant familiar with the verbal protocol method, hand out the decision problems question by question in a written form, silently listen to the thoughts of the subject and when necessary answer comprehension questions. The verbal protocol was carried out before Gårdängen was interviewed about real-life strategic decisions he had to make, in order to limit the influence of retrospective, subjective preconception and arrive at unbiased thoughts while making decisions (Smagorinsky, 1989).

After the verbal protocol Gårdängen was asked in a semi-structured, face-to-face interview about real key decisions he had to take in the development of Crunchfish. This interview added a retrospective perspective to the analysis of Gårdängen's strategy creation and development and enabled the researcher to analyze his direct responses to particular dimensions of strategy creation. Furthermore, this methodology was chosen, because an interview asking about retrospective data - verbalization after decision-making - has the advantage to get rich insights into statements about final decision choice (Kuusela and Paul, 2000). Moreover, using a semi-structured approach enabled a discussion driven by Gårdängen in order to stay close to his lived experience.

An analysis of the key decision events taken in the development of Crunchfish and for the imaginary firm followed guided by the two-logic model for strategy creation and development. Particularly it was examined what logic Gårdängen applied for each decision, if and how specific situations or decisions relate to the applied logic and if and how time effects the application of a logic. To arrive at a conclusion the concurrent data won through the protocol analysis was combined with the retrospective data gained via the analysis of key decision events at Crunchfish, thus taking advantage of the benefits from both methodologies. This approach enhances the necessary "corroboration to draw strong conclusions" (Smagorinsky, 1989, p.472).

Finally the insights were compared to prevailing literature, particularly Sarasvathy's (2008) hypotheses about the use of and preference for particular decision-making logics, and general conclusions were drawn.

3.3 DATA COLLECTION

The information for the preparatory step about Crunchfish and the environment of the company was collected via primary and secondary research in the framework of a preparatory

business development project. The primary research consisted of semi-structured face-to-face interviews and informal discussions with the CEO Gårdängen and employees at Crunchfish. The secondary research included the gathering of published materials in any form (journal articles, articles in online newspapers, webpages, blogs, etc.) about customers, competitors and other actors in the software development market. The insights gained from this research can be found in detail in the respective business development report (see Guo, Guthrie and Woldenga, 2012) and as such represented the basis for this study as they equipped the researcher with a rich picture of the company Crunchfish and its environment.

The research instrument for the think aloud verbal protocol consisted of three entrepreneurial decisions centering on the transformation of an imaginary product called *venturing* into an imaginary firm called *Entrepreneurship Inc.* (see appendix, ill.2). The first set of questions dealt with the identification of a market for the product, specifically asking the subject to identify possible customers, competitors, partners and growth prospects for the imaginary company. The definition of a market for the imaginary product was the topic of the second set of decisions. Here the subject had to make marketing decisions, such as choosing a market segment, a selling price and distribution channels. Lastly financing decisions had to be made by choosing one out of three financing options for a specific scenario.

The three decision fields were taken from Sarasvathy's (2008) research instrument, which she used to develop her effectuation logic. The full research instrument contains ten decision problems starting with identifying the market for the product and ending with developing an exit strategy. Sarasvathy (2008) developed the problems from informal consultations with local entrepreneurs, a pilot study, case studies and histories of startups. The instrument was applied partly, because it should reflect realistic situations Gårdängen might have lived through. Since Gårdängen's entrepreneurial experience is limited to the first years of Crunchfish the decision sets are limited to those which on a regular basis occur in the first years of running a new venture. To make sure the decisions represent realistic situations, Gårdängen was asked after the verbal protocol to evaluate the quality of the decisions with regards to how realistic he found them. His answer was that these decisions are discussed in his business every day, but unfortunately have not been answered all yet (Gårdängen, 2012a). Therefore the decisions can be seen as realistic. Besides applying Sarasvathy's instrument only partly, some information in the instructions was deleted, which was found unnecessary or posed the risk of influencing the subject too much. Furthermore, some questions were deleted when found unnecessary or biased towards a specific logic and added when found missing.

The interview guide for the semi-structured interview asked about key decision events that occurred in the development of Crunchfish and some additional questions which were targeted at revealing Gårdängen's strategy creation and development logic (see appendix, ill. 3). The first three questions were aimed at identifying Gårdängen's motives to found Crunchfish and understanding how his personal preferences and experience influenced the foundation of a new company. These questions were inspired by Sarasvathy (2001; 2008), as she argues that by analyzing the answers to these questions the researcher can distinguish if the founding of the company was motivated by reaching a specific goal or simply happened due to the employment of prevailing means. Then a very open question followed which should motivate the interviewee

to talk about all key decision events that had to be made from the initial idea until today. This was done in order to develop a timeline map, which would illustrate what decision-making logic was applied for each key decision event at what time. Consequently it visualizes in an abstract way if the applied logic changed over time and if there is a relation between applied logic and similar situations or decisions. The timeline illustration was inspired Harting (2004), who applied this tool as well to map the key strategic decision events at Circuit City's used-car retailing unit CarMax from 1991 until 1994. While the interviewee went through each key decision event specific follow-up questions were asked, to assure that all crucial events are recalled from the interviewee. These crucial events include financing, pricing, segmentation and channel decisions and were inspired by the verbal protocol of Sarasvathy (2008). Moreover the follow-up questions asked specifically if market research or other predictive techniques were applied to arrive at the respective decision. This was done to understand if the subject relies on industry intelligence as a basis for making strategic decisions which would show a preference for a planning logic. The second last question of the interview was aimed at making the subject talk about his standing towards prediction and control, which was motivated by Sarasvathy's concept (2001; 2008). Finally the last question was inspired by Wiltbank, Read, Dew and Sarasvathy's (2006) four-logic model and sought to come into a discussion with the interviewee about predictive techniques, flexible strategies, visions, control and partnerships, to get a better understanding of the subject's preferences regarding decision-making logics.

The verbal protocol and the interview was taped and then transcribed as a basis for the analysis.

3.4 METHOD FOR DATA ANALYSIS

In a first step the key decision events which happened in the development of Crunchfish were chronologically ordered and mapped into a timeline. Then for each decision the transcribed data was investigated for key words or semantic chunks that expressed a specific decision-making logic guided by the previously presented two-logic model for strategy creation and development (Shaw, 2006; Sarasvathy, 2008; Bryman and Bell, 2011). In the case a combined application was identified then it was examined if one logic dominated or if both were applied equally to arrive at a strategic decision. Eventually each decision was marked with the respective logic or logics in the timeline. Finally the map illustrated if at a given time for a given situation or decision a specific logic dominated. As mentioned earlier the timeline illustration was inspired by Harting (2004).

The decisions which Gårdängen made for the imaginary firm were analyzed similarly. The difference was that instead of ordering them chronologically they were presented in the order the respective questions were asked during the verbal protocol. The analysis of these decisions aimed at understanding what mental processes take place while Gårdängen solves imaginary, but common decision problems, thus allowed for a direct examination of his cognitive process excluding retrospective bias.

These results were then combined with the results from the timeline analysis in order to discuss Gårdängen's overall strategic decision framing. Moreover, similar decisions were analyzed together to examine if the application of a specific logic can be explained with different types of

situations or decisions. Lastly, it was analyzed if the application of logics changed over time and if yes why and how. Finally all insights were compared to hypotheses in literature, particularly those of Sarasvathy (2008), and general conclusions were drawn.

3.4 REFLECTION OF METHOD CHOICES

By using the great access to Crunchfish and the case subject Gårdängen an in-depth study of a young entrepreneur's strategy creation and development activities was possible. Moreover a qualitative research design was followed to get new insights and understandings about "what managers really do in terms of strategy creation and development" (Regnér, 2003, p.58).

But relying on a single entrepreneur case study in combination with a qualitative research design can lead to several problematic issues. Firstly, the qualitative research can be too subjective, due to the personal relationship between interviewee and researcher and the unsystematic, subjective decisions about what to interpret as noteworthy (Bryman and Bell, 2011). Secondly, the study is hard to replicate, as it relies on the researchers' initiative and lacks standard procedures (Bryman and Bell, 2011). Lastly, the qualitative research findings are arrived at by carrying out a verbal protocol and a semi-structured interview with only one individual in a specific high-tech startup in Malmö, resulting in generalization issues (Bryman and Bell, 2011).

But the aim with this study is not to generalize to populations, but to theory (Bryman and Bell, 2011). The results should investigate how practice relates to existing theory by following an explorative approach. And since knowledge about strategy creation and development of young entrepreneurs in practice is rare a qualitative research design was identified as appropriate to gather new insights and understandings about this topic.

Moreover concurrent and retrospective qualitative data was gathered, since retrospective data allows rich insights into statements about final decision choice, while concurrent data allows deep insights into the decision-making steps between stimulus introduction and the final decision outcome (Kuusela and Paul, 2000). Therefore combining the methodologies leads to robust conclusions by benefitting from both advantages (Smagorinsky, 1989).

4. PRESENTATION OF RESULTS

The following chapter presents the results which were gathered through the preparatory step, the verbal protocol and the semi-structured interview.

4.1 PRESENTATION OF THE CASE

Before founding Crunchfish, Gårdängen was working at Ericsson for 11 years in various positions including tester, developer, project manager, program manager, and head of operations for Sony Ericsson (Gårdängen, 2012b). But as he notes "I got tired of inefficiencies like internal fighting and (...) shark behavior. That was not really my interest. (...) Also the lack of ideas and

the lack of pushing things forward for the best of the company” (Gårdängen, 2012b). Therefore Gårdängen (2012b) quit and decided to found his own company.

4.2 STRATEGY CREATION AND DEVELOPMENT AT CRUNCHFISH

4.2.1 BUSINESS IDEA

In 2009 he founded together with Paul Cronholm, who also worked at Ericsson, the company Crunchfish (Guo, Guthrie and Woldenga, 2012). Cronholm started as the CEO, while Gårdängen represented the Head of Operations and the Chairman of the Board (Guo, Guthrie and Woldenga, 2012). Their business idea was to give information to customers through mobile phones and through the web (Gårdängen, 2012b). Gårdängen (2012b) did not actively decide to found a company in the software development area “it was a natural thing (...) I do something that is interesting for me and the natural thing was software development.” Gårdängen (2012b) explained that there are in general two ways to start a company: either you start with an idea yourself, which is what they did, or you see a way of solving a problem for your customer. He is convinced that success is more likely to happen in the latter case.

4.2.2 DEVELOPING THE INITIAL FRAMEWORK

The first key decision event Gårdängen (2012b) had to take was to develop the initial framework for the company. “How can we get the resources without paying a dime? Or how can we get the capital to buy the resources? But I experienced it was smarter to negotiate with larger companies that had a lot of people on the bench” (Gårdängen, 2012b). At that time the economy was bad, thus he “went around to get free consultants that were (...) not in active assignments” (see appendix, illustration 5). Eventually he made a deal with a couple of larger consultancy firms. The consultants were assigned to software development projects within Crunchfish for little money and in return he taught them how to develop applications for mobile phones etc. (Gårdängen, 2012b). Additionally the deal included getting cheap office space and that is how Crunchfish started (Gårdängen, 2012b). This decision was made in the beginning of 2010 (Gårdängen, 2012b). The only capital which was put in the company was the startup capital of 50,000 SEK (Gårdängen, 2012b). However, Gårdängen (2012b) stated that this money did not represent the money he would be willing to lose if all went wrong. “I don’t think I ever thought about that. There is no cut-off point. If you are a true entrepreneur (...) you do everything you can in order to succeed” (Gårdängen, 2012b).

4.2.3 ATTRACTING THE FIRST CUSTOMERS

The next key decision event for Gårdängen (2012b) was to find a way to attract customers. His approach was to use contacts which he got on the way and which quickly grew into a wide contact network when they started with Crunchfish and interacted with many people (Gårdängen, 2012b). “In the beginning I was just using contacts which I got on the way. When we started out we got a lot more contacts, so we used them and their network to introduce our solutions. They were like *Oh you are doing this, well perhaps you can do that (...) I will introduce you to that guy*” (Gårdängen, 2012b). In other words, initial customers recommended Crunchfish to their network and so on so forth (Gårdängen, 2012b).

4.2.4 SHAPING CRUNCHFISH AS AN APP COMPANY FOR PHONES

Then they had to find a direction for the company as the next key decision event (Gårdängen, 2012b). According to Gårdängen (2012b) Crunchfish could have easily become a company mainly developing web-based solutions and e-learning products or whatever there was possible on the web at that time. But instead there was an increased interest of their customers to develop software for mobile phones. Furthermore only four or five application companies were competing for market share in Sweden (Gårdängen, 2012b). These circumstances started to shape Crunchfish as an application company for phones, something they have not thought about from the beginning (Gårdängen, 2012b). They started developing their own apps, as soon as they got a hold of the needed resources (Gårdängen, 2012b). Examples of some of Crunchfish's early products are the mobile app Hearway, which enables navigation via audio instructions (Apple, 2011a), and Yapa, which enables voting on and displaying of polls (Apple, 2011b). According to Gårdängen (2012b) this was the only way for them to create references, which eventually allowed them build their own customer network starting in the beginning of 2010.

The decision to focus on mobile phone apps was motivated by the fact that as this point "it was a blue ocean market" (Gårdängen, 2012b). To realize that Gårdängen (2012b) did not carry out market research, or as he states "We didn't do market research [it] was more a feeling". Their apps target a variety of industries including medicine, telecoms, automotive, banking, health, sport, mobile operators, trading, security and data aggregation companies, and businesses of all size, such as Toyota and Microsoft but also other small and medium sized businesses (Crunchfish, 2012a).

4.2.5 PRICING FOR THEIR FIRST PRODUCTS

In order to develop a price for these first apps Gårdängen (2012b) calculated the time it took to develop the apps and multiplied it with a price per hour, which included a profit. He stated they thought of them as a consultancy firm and therefore used this approach. They did carry out some research to understand what would be the most reasonable price, but actually decided against a very low price which was a pricing strategy of some of their competitors (Gårdängen, 2012b). Gårdängen (2012b) was confident: "We had a good design, a good crew, we were fast, so why should we charge less?"

4.2.6 DECISION TO WAIT WITH ACTIVE3D

At some point in 2010 Cronholm showed that it is possible to detect fingers in very dim light conditions by using a camera (Gårdängen, 2012b). But they felt it is too early for this technology, so they decided to not work on it (Gårdängen, 2012b).

4.2.7 DECISION TO MOVE ON WITH ACTIVE3D

In the beginning of 2011 Gårdängen (2012b) decided to invest in the idea from Cronholm to develop an imaging platform for mobile devices that could recognize motions. His motivation: "We didn't do work on this until the world mobile congress, when I (...) had the gut-feeling that now we have to invest in this" (Gårdängen, 2012b). This technology would be designed to make

precise 3D control of a user interface through gestures and eye-movements in electronic devices possible (Crunchfish, 2012b). Thus it can be seen as an innovation which has besides other possible functionalities the potential to complement and partly even replace touch screen interaction with touch-less movement detection (GigaOM, 2011; Hot Hardware, 2011; Guo, Guthrie and Woldenga, 2012). Gårdängen (2012b) expected it to hit the market in 2012, so they started with the development of the technology, which they called Active3D.

In the course of 2011 Active3D gained shape. The developers at Crunchfish were able to develop Active3D as a pure software product, solely relying on a standard front-end camera, often already featuring on the manufacturer's devices (Crunchfish, 2012b; Guo, Guthrie and Woldenga, 2012). Consequently it can be put into action in a variety of devices as it requires no hardware space, is easy to integrate and portable without adding extra build on material cost (Crunchfish, 2012b). Furthermore Active3D consumes as much energy as any other standard application and lowers the standby time only marginally (Crunchfish, 2012b; Guo, Guthrie and Woldenga, 2012). Moreover they were able to improve the performance of Active3D day by day, having no problem to compete or even out-compete the performance of competing solutions (Guo, Guthrie and Woldenga, 2012). In comparison to other companies offering motion control technologies it has to be noted that only two competitors offer software-only solutions (Guo, Guthrie and Woldenga, 2012).

4.2.8 DECISION TO PARTNER UP TO DELIVER ACTIVE3D

Another central point of Active3D is the fact that it is a white label product. Accordingly it will first be developed to a common design fulfilling basic requirements, such as recognition of hand and eye movements and translation of these movements into control commands (Guo, Guthrie and Woldenga, 2012). And then it has to be made compatible to each end-product it should work on in the second step, which includes an adaptation to each user interface (Guo, Guthrie and Woldenga, 2012). Since Crunchfish's strength lies in the development of the technology itself, Crunchfish focused on improving the performance of the technology (Guo, Guthrie and Woldenga, 2012). For the integration of the technology into the customer's device Gårdängen made the decision to look out for a partner company with integration skills and resources (Guo, Guthrie and Woldenga, 2012). Together with such a partner Crunchfish would be able to offer a complete solution to their customers, which is a valuable selling point in the eyes of Gårdängen (2012b): "For Active3D (...) there is no other technology out there that is faster and more precise than us using only one camera. But it's not about our technology here, it's about packaging it so that the user will find a value. So by teaming up with partners we can do beautiful stuff and then the customer will say *This is what I need*".

4.2.9 DECISION TO MOVE AWAY FROM THE APP MARKET

At the end of 2011 Crunchfish offered "over 50 applications for devices based on Android, iPhone, iPad, WP7, Symbian, Linux and Windows", thus being one of the leading app developers in Scandinavia (Crunchfish, 2012a). But in December 2011, Gårdängen (2012b) understood the following: "We went very fast within two years from a blue ocean to a red ocean market. (...) When we started we were four or five companies in Sweden that made applications now there are fifteen hundred or two thousand application developers in Sweden that sell applications."

He further went on and made clear that “competing in this big noise is virtually impossible”, since every competitor pushes down the prices via for instance employing developers in India for app assignments in Sweden (Gårdängen, 2012b). Therefore Gårdängen (2012b) made the key decision to deliver their last application in December 2011.

4.2.10 DECISION TO MOVE TO PRODUCTS AND PLATFORMS

In the beginning of 2012 Gårdängen took over the CEO position (Guo, Guthrie and Woldenga, 2012). In his opinion 95% of companies start off with one thing end up doing something else. These firms are still left on the market, meaning they must have done something right (Gårdängen, 2012b). He notes: “I think the success of a business is how fast you can change your mind-set to make money or bring out a product that is needed on the market” (Gårdängen, 2012b). Therefore Gårdängen made in January 2012 the decision to develop a couple of products or platforms, which can be licensed or sold to different customers many times, instead of constantly looking for application assignments (Gårdängen, 2012b).

The Crunchreader, an in-house developed low cost publishing tool, is one such example (Crunchfish, 2012c). By using a standard flat-file PDF, the tool creates for instance a product catalogue, prints or brochures with all the interactivity that can normally be found in standard apps (Crunchfish, 2012c). Crunchfish calls their tool a cross-platform, which allows combining a clear presentation of information with an interactive experience to meet communication objectives (Crunchfish, 2012c). Interactivity options include “Facebook and Twitter sharing, email recommendations, multi-language support and advanced multi touch controls for any publication” (Crunchfish, 2012c). One main selling point for this publishing tool is that Crunchfish offers it at a very low price compared to other products and services on the market (Crunchfish, 2012c; Gårdängen, 2012b). Moreover the customers will only get charged one-time for a publication, which includes the delivery of statistics about how many people read the content and which parts they responded to most (Crunchfish, 2012c; Gårdängen, 2012b). It is an application as well, but a product in the sense that they can sell it many times without customizing it for every sell, thus giving Crunchfish a “lifeline to keep going” (Gårdängen, 2012b). Gårdängen (2012b) explained that they can put more resources on it “to make it better, more beautiful, contain more features, but still [they] can sell the same package many, many times”.

Gårdängen (2012b) stated that he generally applies the logic “to the extent I can control the future, I do not need to predict it” rather than “to the extent I can predict the future, I can control it”. He justified: “It’s very hard to predict the future. I mean you can do an estimate, but we cannot predict it” (Gårdängen, 2012b). He further explained that his decision to focus on products like the Crunchreader “was more (...) something that we have been seeing for a long time. (...) It’s actually solving a problem, (...) looking at how can we do the life better for customers” (Gårdängen, 2012b). The Crunchreader offers a solution for an easy switch between work computer and iPad, thus creates value for the customers (Gårdängen, 2012b). He further elucidates that the approach to start with solving a problem, instead of just pushing an idea to market is something they should have done from the beginning, because it looks like they can actually earn a lot of money with that (Gårdängen, 2012b). This approach did not include trying

to predict the future, for instance he is not interested in what the biggest competitor Salesforce is planning. Gårdängen (2012b) knows they are developing a cloud based CRM system to solve the problem, but according to Gårdängen “we are not doing a CRM system, we are actually doing a publishing tool for normal businesses. It’s actually a blue ocean again” (Gårdängen, 2012b). This publishing tool will be offered at a price way lower than those currently existing. That allows them to attract not only those companies that publish magazines, but also those businesses that want to publish free information for the purpose to market themselves (Gårdängen, 2012b). This market is much bigger than a couple of publishing firms, as it includes millions of companies (Gårdängen, 2012b).

4.2.11 DECISION TO SELL THE CRUNCHREADER THROUGH PARTNERS

With regards to the distribution channel for the Crunchreader, Gårdängen (2012b) decided to sell it via partner companies and allow them to resell it through sub-license agreements for instance. Eventually this would end up in a wide customer network, where everybody is incentivized to sell Crunchfish’s solution (Gårdängen, 2012b). This means Crunchfish is in need of partner companies that have themselves a need to publish information very easy and very fast and additionally a network of other companies that could also be interested in that solution (Gårdängen, 2012b). Gårdängen (2012b) states this would enable Crunchfish to skip employing a lot of sales people and through a revenue share with their partners allow them to introduce the Crunchreader quickly to the market.

4.2.12 PRICING FOR CRUNCHREADER AND ACTIVE3D

Comparing the approach to arrive at a price for the first apps they offered and for the products they offer today Gårdängen (2012b) indicated that today they are more analytical than in the beginning. He explains: “We are always looking at the model. How can we create a value for the customer to buy this? It’s not about the technology, (...) it’s about developing a model” (Gårdängen, 2012b). Now they think about the uniqueness of the product, the demand on the market, and the business partners who bring Crunchfish’s products through the distribution channels to the final customer (Gårdängen, 2012b). Their aim today is to develop a business model which allows them and their business partners to make money and includes an incentive for their partners to keep Crunchfish as their supplier (Gårdängen, 2012b). Gårdängen (2012b) further elaborated “of course we experiment a little bit, but follow the most likely strategy given the different knows and unknowns.”

4.3 SITUATION TODAY

Today the company employs around 20 employees in Sweden, with offices in Malmö and Stockholm, and is moreover active in other locations around the world (including London, UK and Seoul, South Korea) growing steadily (Guo, Guthrie and Woldenga, 2012). An assessment of the entrepreneurial health of Crunchfish revealed that the company can be described as a dynamic company according to Kuratko, Morris and Covin’s (2011) entrepreneurial grid. This includes a high level for the degree of entrepreneurship, consisting of high innovativeness, risk-taking and proactiveness, and a moderate level for the frequency of entrepreneurial events (Guo, Guthrie and Woldenga, 2011; see appendix, ill. 1).

At present Crunchfish gets positive feedback from those companies that were offered the Crunchreader: “We have a product that many companies are interested in, now we need to harvest” (Gårdängen, 2012b). Therefore Gårdängen (2012b) is convinced that it was the right decision to refocus and concentrate on what he calls “products”. With regards to Active3D “it looks like this technology is going to be invested in heavily next year that is 2013” (Gårdängen, 2012b). However some of the digital product manufacturers are aiming to introduce gesture technology already Christmas 2012, as far as Gårdängen (2012b) knows from correspondence with them. He concludes therefore that they are not too early out with Active3D, but are instead “in the middle of the stream of possibilities that are created right now. (...) Now it is a matter of timing, right technology, how likeable we are, the pricing (...) [and] everything that will be in the judgment of the companies buying our technology” (Gårdängen, 2012b).

Lastly, Gårdängen (2012b) expressed that he never monitored competitors very closely: “We do not care about competitors, we care about what we do.” Consequently they spent more resources on building a partner network than on competitor analyses (Gårdängen, 2012b).

4.4 POSITION TO PREDICTION AND CONTROL

Gårdängen (2012b) was first unsure about which of the following statements fits better to his strategy creation style:

- a. I invest in predictive techniques to position Crunchfish favorably for the future.
- b. I invest in flexible strategies to effectively respond to changes in the environment.
- c. I invest in predictive techniques to realize my vision of the future.
- d. I believe the environment is unpredictable, but can be created through cooperation with others.

After a while he picked the first one without further comments (Gårdängen, 2012b). When he was asked to explain why he changed his mind and picked one and four explaining that he applies a little bit of both. He clarified that he knows where the market is heading in general, for instance he knows that the number of smartphones and tablets is increasing and that the whole sector is driven by hardware innovations, such as “better screens, better touchscreens, better sound, etc.” (Gårdängen, 2012b). But he cannot predict the future exactly (Gårdängen, 2012b). He elaborates “I believe we can win by offering a better ecosystem, (...) [which] together with one or two things will create a whole solution. So if I look at statement four creating partnerships and use them to create things that I am not so good [at, then] that is really good, yes” (Gårdängen, 2012b). For Active3D for instance the technology itself is unique in the sense that there is no other technology out there that is faster and more precise using only one camera (Gårdängen, 2012b). However just their technology alone does not create enough customer value. Only in a whole package the user will find a value, so Crunchfish has to team up with partners (Gårdängen, 2012b).

When looking back at the first statement Gårdängen (2012b) admitted that the future is not predictable in that sense that he knows exactly what is going to happen tomorrow. On the other hand he believes in change and in investing in stuff where he can see that this will hit. Finally he recognized “okay so I guess I am more a gut-feeling guy than looking at figures and numbers”

(Gårdängen, 2012b). He does not invest a lot of resources in trying to predict the future, but made clear that he does gather bits and pieces of information here and there (Gårdängen, 2012b). Overall he recommended though “actually it is not good to over-consume too much information with regards to who is doing what, because then your imagination is clouded by stuff that others do and maybe that is the weak point. If everybody does the same or similar things then you don’t have any uniqueness” (Gårdängen, 2012b).

Gårdängen (2012b) disclosed that there is no black and white when it comes to making a decision about following a predictive or controlling approach. He concludes “I’m more of a gut-feeling guy. I have not done the predictions and analyses to a science, but I don’t want to have my judgment cluttered. I want to choose and pic the directions that we start with and then see that they are holding and then we keep going” (Gårdängen, 2012b).

4.5 STRATEGY CREATION AND DEVELOPMENT AT IMAGINARY FIRM

The following results were gathered via the verbal protocol, where Gårdängen had to solve a set of common entrepreneurial decision problems for an imaginary product in an imaginary firm.

4.5.1 IDENTIFICATION OF POTENTIAL CUSTOMERS, COMPETITORS AND PARTNERS

Gårdängen’s (2012a) first reaction after being asked about potential customers for the imaginary product *Venturing*, was that the product is a tough one with regards to making a high margin product out of it. He further explained that educational products are generally not valued that much, as long as no certification can be connected to it. But on the other hand, he clarified that high-margin and expensive products normally attract a smaller market than low price products. Therefore, he eventually suggested two potential customer groups: “Perhaps it can be two strategies: (...) one for institutions or education companies where certification is one part of the solution, then you can take a little bit more money on this and for a higher volume market and cheaper price you can have a (...) very rudimentary solution that does not contain so many features.” (see appendix, ill.4).

When asked about potential competitors for the product he noted “yeah well there are always competitors” (Gårdängen, 2012a). He furthermore stated that he knows of simulation games which are on the market already and added that eventually all companies offering education about entrepreneurship via simulation techniques, also in booklet format, will be competitors.

With regards to partners he clarified “I don’t see actually potential in this product, if you cannot get a partnership program”, especially on a high volume market (Gårdängen, 2012a). As a potential partner he suggested to find a supplier that sells similar products, encompasses an existing distribution network and most importantly has the right size to sell the product to those that are felt to be the customers in a very easy and fast way.

4.5.2 DECISION ABOUT NEED OF INFORMATION

Gårdängen (2012a) then stated that he would need customer, competitor and partner information already in the early stage of the imaginary company. Customer information in order

to know to whom to offer the product to, competitor information in order to identify the competitive advantage and added value, and partner information in order to find a way to go global with the product (Gårdängen, 2012a). At first Gårdängen (2012a) would gather information which is relevant for a SWOT analysis, because then he could see his product in relation to competing products and that would help him developing a pricing strategy. In this light he also would gather information about the potential customers, such as universities and education establishments, to understand the demand. This in turn highly effects the pricing as well, as there needs to be a balance between a too low and too high price, depending on how high the demand is (Gårdängen, 2012a). Knowledge about potential partners needs to be accumulated as well, in order to find the right firm that can sell the product easy and fast to the customers (Gårdängen, 2012a).

4.5.3 EVALUATION OF GROWTH POSSIBILITIES

When thinking about growth possibilities for this company, Gårdängen (2012a) answered: “What you can do is first license it to establishments that deal with education. When that goes further down the street, when it evolves and so on, you can have a simulation center for companies and that could be much, much bigger. You can (...) have a week or weekend training for management.” He would focus on management training and not necessarily on employee training in general, as companies are more willing to pay for education in the higher management levels, as for staff in lower levels (Gårdängen, 2012a).

4.5.4 TARGET MARKET DECISIONS

When Gårdängen (2012a) had to define the market for *Venturing* and decide on a target market segment, he responded: “I would target the (...) cheapest and easiest one (...) to sell and distribute. That would be my first segment.” He made clear that in this case it would be MBA institutions or similar companies, which actually get good money for their education, thus would be more willing to invest in such tools (Gårdängen, 2012a). For this reason he would exclude universities, since they would probably not have much money in their budget to buy a simulation system like *Venturing*.

4.5.5 PRICING DECISIONS

In order to develop a pricing model Gårdängen (2012a) would examine competing products, calculate development costs, decide on a long-term or short-term investment strategy, identify a price customers would be willing to pay and a way to motivate the price (Gårdängen, 2012a). He noted: “It’s all about risk management. How much time you feel you need to get your investment back and also living on that meanwhile (...) you can always have a gut feeling about how much this product can be sold for (...) sometimes I change my mind twice a day, thinking about how to sell something to someone (...) if you can motivate the price then they will pay the price” (Gårdängen, 2012a). Gårdängen (2012a) would sell *Venturing* by applying a license fee model as that is the easiest way to bring the product to the market and commit customers for a longer time period, which at the same time secures income for the company over a longer time period. Moreover he would sell the licensing contract to a bank, so that *Entrepreneurship Inc.* can get money upfront from the bank and reinvest it (Gårdängen, 2012a). His pricing choice would mainly be affected by the ecosystem he could offer with his solution. Gårdängen (2012a)

states that the most important thing is to offer customers a whole solution instead of just one part of something that could bring value to the customers. In his opinion “that is the most likely situation where you can fast come to the market.”

4.5.6 CHANNEL DECISIONS

Gårdängen (2012a) saw two ways to bring the product to market. The first would be to start an education channel and to try to attract people there. But employing a lot of own people to do that is not easy, cheap and fast (Gårdängen, 2012a). He would therefore as a first step team up with companies that already have education or event centers and license the product to them. Only such a partnership would enable to be very fast to market and have a fast return on investment (Gårdängen, 2012a). He preferred this channel, through partner networks, over going through universities (Gårdängen, 2012a). His choice for this channel was affected by the time-to-market and the package or ecosystem which the channel can offer (Gårdängen, 2012a). In his words: “I am always thinking time-to-market. In order to come to the market you need to have a distribution network, a good package and an ecosystem that offers everything” (Gårdängen, 2012a). He justified that private education centers would bring it faster to market and could offer the whole ecosystem for the software tool to work (Gårdängen, 2012a).

4.5.7 MARKETING DECISIONS IN GENERAL

Gårdängen (2012a) concludes that the aspect time-to-market would influence his marketing decisions the most, because “cash-flow that is what you need in order to survive”.

4.5.8 FINANCING DECISIONS

For the last decision field Gårdängen (2012a) had to decide how he would finance the development and marketing of an enhanced version of the imaginary product. He was given three financing options and initially voted for going to the venture capitalist (Gårdängen, 2012a). But after further thought he realized that the venture capitalist would probably not understand his company, since “they are running from some kind of template. As long as it gives profit they don’t say anything, but any month that this company will lose money it’s going to be hell” (Gårdängen, 2012a). Furthermore they would probably install a new board of directors and a new CEO (Gårdängen, 2012a). Then Gårdängen (2012a) considered the second financing option, taking on board a friend of the family as a partner. But he quickly found disadvantages for this option as well, since the family friend would take a big part of the profits as salary, which cannot be guaranteed for the future (Gårdängen, 2012a). In the end he concluded that he would choose neither the first nor the second option and instead came up with a fourth financing option (Gårdängen, 2012a). He would either go to smaller capitalist groups and give each investor a small percentage of the company with a maximum of 20% in total, or he would try to find bits and pieces of other companies that would like to go under one big umbrella (Gårdängen, 2012a). In other words he would take on partners with special competences and preferably existing customer networks, in order to boost the revenues faster (Gårdängen, 2012a). Eventually this could lead to an introduction on the stock market within five years as he explained (Gårdängen, 2012a).

If both the venture capitalist and the family friend would take only 33% of the company, he would prefer to go to the venture capitalist (Gårdängen, 2012a). He explained that there are some golden rules in business and one of them is to never do business with family or friends, since there is always the risk that it can “end up in a bad way” (Gårdängen, 2012a). Moreover he noted “the condition needs to be that you have strong control and that you can do whatever you want” (Gårdängen, 2012a). Finally Gårdängen (2012a) gave the answer “I would perhaps bootstrap for a while and then take on companies that are undervalued and maybe not making so much money, but need somebody that guides them”, thus creating a fourth option. With them he would build a conglomerate of companies with the goal to introducing it on the stock market (Gårdängen, 2012a). That would lead to a higher value than doing it all alone (Gårdängen, 2012a).

5. ANALYSIS AND DISCUSSION

5.1 THE USE OF A PLANNING AND PROACTIVE LOGIC...

In order to analyze how Gårdängen frames his strategic decisions, each key decision that Gårdängen had to take in the development of Crunchfish and each decision he took for the imaginary firm were examined to see if he applies a certain logic to create and develop strategies. The presented two-logic model will be used as a basis for this analysis.

5.1.1 ... FOR DECISIONS AT CRUNCHFISH

Gårdängen based his decision to found a company in the software development area based on who he was and what he knew at that time. He was a former tester, developer, project manager, program manager, and head of operations at Sony Ericsson (Gårdängen, 2012b), thus familiar with software development. Furthermore his decision was influenced on whom he knew, since he was familiar with Cronholm before, who became then the co-founder and first CEO of Crunchfish (Guo, Guthrie and Woldenga, 2012). Gårdängen (2012b) was not actively aiming at founding a software development company after he quit Sony Ericsson, he merely used his existing means to select between the possibilities and “the natural thing was software development”. Since Gårdängen developed his business idea based on current means without having a specific goal in mind (Sarasvathy, 2001; 2008) he followed the proactive decision-making logic for this first key step.

The initial framework for the company was set up by involving external consultancy firms and starting a partnership with them, that was advantageous for both parties (Gårdängen, 2012b). Gårdängen (2012b) educated them in software development and got cheap labor and office space in return. This innovative way of getting access to cheap resources by utilizing his contact network, is in line with a proactive decision-making logic. This conclusion is strengthened through the focus on developing partnerships.

The first customers were attracted by again utilizing the existing network of Gårdängen (2012b). These initial customers then recommended Crunchfish to their network, which resulted in a quick growth for Crunchfish’s customer base (Gårdängen, 2012b). So Gårdängen targeted those

customers that were easy to reach for him by employing his prevailing means and focusing on the commonalities of the different customers, instead of targeting those with the highest expected return. This behavior stems from following a proactive logic.

Crunchfish then grew into an app company for mobile phones, a market which just started to develop, due to increased interest from customers (Gårdängen, 2012b). So without carrying out further market research and by just following his feeling (Gårdängen, 2012b), Gårdängen allowed the customers to shape Crunchfish's product portfolio. Furthermore the apps targeted various segments and different sized businesses (Crunchfish, 2012a), showing the interest in developing several markets and targeting the mass of buyers. By preferring the input of early customers over market research and focusing on various segments and creating a new market, Gårdängen showed the use of a proactive decision-making logic.

Gårdängen (2012b) made his first pricing decisions based on some research about prices from competitors to get a feeling for a reasonable price, thus employed a planning logic. At the same time, however, he eventually decided to price Crunchfish's apps above the industry average, because he felt confident about Crunchfish's design, crew and speed (Gårdängen, 2012b). The neglecting of industry pricing averages sounds more like following a proactive logic. Therefore his early pricing decisions were made with a combined application of a planning and proactive logic.

The decision to wait with developing a motion technology in 2010 was based on a mere feeling (Gårdängen, 2012b), showing a clear dominance for proactive decision-making. But in 2011 Gårdängen (2012b) got influenced by insights won at the world mobile congress, which led to the gut-feeling that the time is ripe to invest in Active3D. Since his decision was inspired by information won at the world mobile congress a decision based purely on a proactive logic can be excluded. But strong arguments for at least a dominance of proactive decision-making can be found. Gårdängen decided to invest in a software-only motion technology that has not been offered before, thus committed himself to experimenting with new alternatives, potentially crossing industry boundaries and possibly creating a new market. Therefore his applied logic can be described as primarily proactive with some planning logic marbled in.

Gårdängen's (2012b) decision to partner up with a company that can integrate and customize Active3D, allows them on the one hand to offer a complete package to their customers and on the other hand to benefit from the partner companies customer network. The invitation of strategic alliances to create a whole solution for customers and the use of partners as distribution channels speaks for the application of a proactive logic.

At the end of 2011 Gårdängen (2012b) made the decision to move away from the app market, despite their leading position. His decision was based on increasingly aggressive competitors on the attractive app market (Gårdängen, 2012b). The focus on competitors strengthens the guess that his decision was motivated by a planning logic. But at the same time it can also be interpreted as following a proactive logic, because Gårdängen understood that with his current means and partnerships a surviving on the app market is not possible. Therefore this red ocean market has to be left behind and resources invested in creating a new blue ocean market. To

sum up his decision can be seen as one arrived at with a combination of proactive and planning reasoning.

In the beginning of 2012 Gårdängen (2012b) announced that the focus will be from now on products and platforms that can be sold or licensed-out many times without the need for heavy customization from the start, such as the motion technology Active3D or the publishing tool Crunchreader. The Crunchreader combines the presentation of information in a pdf-document with the interactivity of a website and will be offered with a different pricing model and at a lower price than existing publishing tools (Gårdängen, 2012b). Consequently it offers a quantum leap in value and attracts besides publishing firms any business that needs to publish information. The motion technology Active3D also offers added value to customers, due to the software-only attribute resulting in the absence of build on material costs and no need for hardware space as long as a standard camera is already featured on the device (Crunchfish, 2012b; Guo, Guthrie and Woldenga, 2012). Subsequently it can be integrated in a variety of devices and targeted to numerous customer segments. Moreover a complete solution including the integration and customization will be offered with the help of strategic partnerships. Gårdängen's emphasis on offering complete and new solutions to the mass of buyers which is possible due to the focus on commonalities in customer value is clearly following a proactive logic. Moreover he starts with given means to experiment with new combinations and involves partner companies to create new value curves for customers and possibly new blue ocean markets, while at the same time ignoring competitors and even making them obsolete; again a clear sign of applying proactive decision-making logic.

Regarding channel decisions, Gårdängen (2012b) decided to sell the Crunchreader via partner companies and allow them a resell through sub-license agreements in order to develop a wide customer network quickly. He prefers this approach over solely relying on own sales channels as it would take longer, be more costly and risky (Gårdängen, 2012b). Gårdängen's willingness to share revenue with partners and emphasis to get easy and fast access to the newly created market in order to dominate from the beginning speaks for following a proactive logic.

Gårdängen (2012b) indicated that the pricing decisions for products such as the Crunchreader and Active3D are based on looking at the whole business model, whereas he earlier only focused at the product itself to arrive at a price. Now pricing decisions are made based on the whole solution and added value for their customers, the uniqueness of and demand for the product and business partners that complete and distribute the offering and in return need to be incentivized to remain as partners (Gårdängen, 2012b). By involving partners, ignoring competitors and focusing on the whole solution for customers Gårdängen's decision-making logic can be described as proactive.

The following illustration gives an overview of each key decision event by presenting them chronologically ordered in a timeline. Moreover the timeline summarizes the analysis of Gårdängen's use of a planning and proactive logic for each key decisions event in the development of Crunchfish:

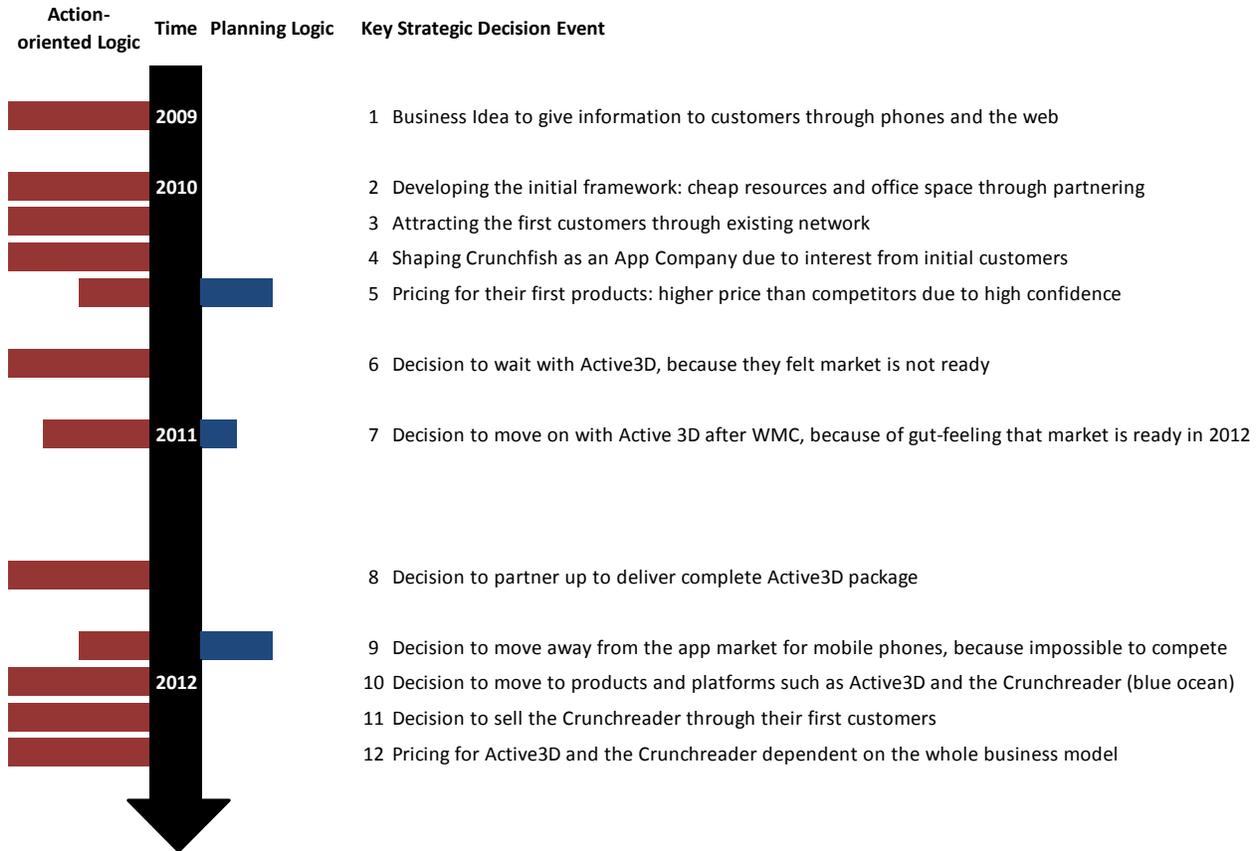


Illustration 8: Use of Planning and proactive logic for key decisions at Crunchfish

5.1.2 ... FOR DECISIONS AT IMAGINARY FIRM

For the imaginary product Gårdängen (2012a) identified two potential customer segments: an enhanced version could be sold to the high-price, but low volume market of education companies and a rudimentary version could be sold to the low-price, but high volume market of universities. He recognized partners as being crucial to distribute the product fast and easy to the market and competitors were seen as something that will always exist (Gårdängen, 2012a). Since he directly identified several possible markets based on the given product and highlights the importance of partners his decision-making can be seen as proactive.

Information about customers, competitors and partners is needed by Gårdängen (2012a) in order to put together a functioning business model for a complete solution. He needs to see the product in relation to competing products be able to develop a pricing strategy (Gårdängen, 2012a). Partners have to be identified as well in order to find a distribution channel for the product (Gårdängen, 2012a). Mainly Gårdängen would engage in analysis and planning activities to create a business model, thus shows a planning decision-making logic. But some proactive logic is marbled in as well, as he emphasized the need for a whole solution for the customers and information about partners that would be responsible for distribution.

Gårdängen (2012a) would grow the imaginary company by starting from licensing-agreements with education companies and then adding in cooperation with these companies a simulation center to attract even more customers for the product, such as the manager clientele. Hence by adding more value to the offer, instead of customizing and narrowing it down more, Gårdängen would expand his customer base by offering a product that attracts the mass market. Therefore his decision-making is proactive.

At first Gårdängen (2012a) would target the customers from MBA institutions or similar companies, since they are the cheapest and easiest to sell and distribute to in comparison to the customers from universities. His emphasis on easy to reach customers speaks for an application of a proactive logic.

However, to be able to construct a pricing model Gårdängen (2012a) would carry out a customer and competitor analysis, thus following a planning logic. But he stressed the necessity to find a way to motivate the price at the same time. And one such possibility is to offer the whole ecosystem around the software tool, which would mean to include partnering distributors in the pricing strategy (Gårdängen, 2012a). The involvement of partners on the one hand and the customer and competitor analyses on the other hand result in a mixed application of proactive and planning logic.

Gårdängen (2012a) would team up with education or event centers to distribute the product to the market, instead of employing own sales staff or going through universities. This decision is based on his preference for easy, cheap and fast distribution methods. Moreover education or event centers would be responsible for the whole administrative side of the product (explaining the customers how it works, billing, etc.), thus contribute to the whole ecosystem of the software and enable to offer a complete solution to the customers (Gårdängen, 2012a). His emphasis on strategic alliances to offer a complete solution quick and easy to customers is a sign of proactive decision-making.

For the last decision field Gårdängen (2012a) decided against the venture capitalist to finance the development and marketing of an enhanced version of the imaginary product, due to the lack of understanding for the company and their urge to take control. He furthermore disregarded to welcome a friend of the family as a partner, since his salary cannot be guaranteed for the future and Gårdängen's reservation towards making business with family or friends (Gårdängen, 2012a). Instead he chose to bootstrap for a while and then gain cash via partnering up with undervalued firms that have special competences and/or valuable customer networks and introducing this conglomerate to the stock market (Gårdängen, 2012a). His emphasis when choosing a financing option was to keep control and only allow those to get involved with the firm that in return add something to Crunchfish's competence or customer base. This approach can be described as proactive decision-making as it highlights control and strategic alliances.

The following illustration summarizes the analysis of Gårdängen's use of a planning and proactive logic for each decision at the imaginary firm:

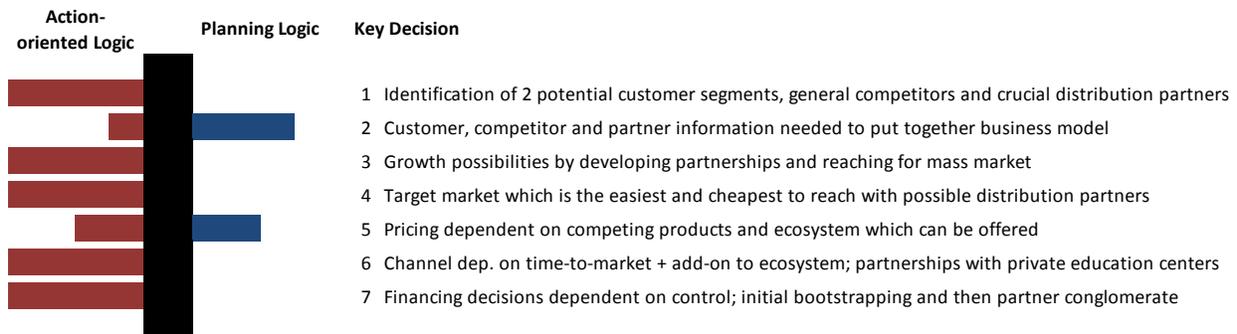


Illustration 9: Use of planning and proactive logic for key decisions at imaginary firm

5.2 THE INFLUENCE OF SITUATION OR DECISION AND TIME

Overall, Gårdängen framed his strategic decisions in the development of Crunchfish by preferring a proactive logic. However for three out of twelve decisions a planning logic was marbled in. For the imaginary firm he preferred a proactive logic for the majority of decisions and in one out of seven cases a planning logic dominated. This chapter analyzes the specific decisions and situations and the influence of time in further detail to explain the respective use of a proactive or planning logic. To do that the decisions were grouped into three decision fields: product portfolio decisions, channel decisions and pricing decisions. The presented two-logic model will be used as a basis for this analysis.

5.2.1 PRODUCT PORTFOLIO DECISIONS

Gårdängen's product portfolio decisions started with offering mobile phone apps, then investing in a new motion technology and finally moving to products such as Active3D and the Crunchreader completely. All these decisions have in common that the respective markets for these products at the given time were either just about to develop or were created by Crunchfish. Gårdängen aimed at exploring new possibilities with each product portfolio decision and focused on strategic alliances with partners to realize his goal to create a new market. The contexts in which the products were launched can be described as ambiguous and complex. According to March (1991), Sarasvathy (2001; 2008), Regnér (2003) and Kim and Mauborgne (2004; 2005) following a proactive decision-making logic in these circumstances is beneficial, which Gårdängen essentially did, at least a proactive logic dominated clearly.

His decision to move away from the app market, despite Crunchfish's leading position, however, was based on a combination of a planning and proactive logic. Regnér's (2003) argument that the planning logic is especially suitable for the perfection and refinement of existing strategy can be supplemented by the appropriateness of a planning logic for exiting strategies as well. Once the app market for mobile phones matured to a more certain, well-defined and less complex environment (March, 1991; Regnér, 2003) Gårdängen saw through market research that the exploitation of prevailing resources, strategies and knowledge does not result in a sustainable growth anymore. Thus Gårdängen arrived at this insight by following a planning logic. Then he combined this insight with his understanding that the exploitation of current means and partnerships of Crunchfish does not change the situation that the app market turned into a red ocean market (Kim and Mauborgne, 2005) making it harder and harder for Crunchfish

to stay competitive. Therefore, by following a proactive logic Gårdängen took his resources from developing apps and invested them in moving to a different market (Kim and Mauborgne, 2005).

Gårdängen (2012a) viewed the market for the imaginary product as a tough one with regards to making a high-margin product out of it. He assumed that competitors already exist and information about competing products is available and accessible, thus interpreted the environment for the product as certain, well-defined and less complex (March, 1991; Regnér, 2003). Therefore he would engage in gathering information as a basis for constructing a business model for the product, meaning he would apply a planning logic, as this seemed beneficial for this situation. However he still tried via the use of partnerships, a focus on the whole solution for the customer and adding new value to the initial offering (Sarasvathy, 2001; 2008; Kim and Mauborgne, 2004; 2005) to create something new with the software tool. So he additionally applied a proactive logic.

Concluding it can be said, that whenever Gårdängen made product portfolio decisions his application of a decision-making logic can be explained with how predictable the market environment was viewed (Sarasvathy, 2001; 2008) and if an exit or entry decision was made. The more unpredictable the environment the more Gårdängen relied on a proactive logic for making product portfolio decisions. Additionally he preferred a proactive logic for entry and a mixed planning and proactive logic for exit decisions. A trend to move from the application of one logic to another over time could not be identified. Therefore Gårdängen's application of decision-making logics can best be explained with the different decisions (entry or exit) and situations (uncertain/certain) in which he had to make pricing decisions.

5.2.2 CHANNEL DECISIONS

In order to bring the in-house developed apps for mobile phones to the market Gårdängen decided to directly sell to existing contacts, get recommended by these initial customers, shape the offerings according to customers' needs and from there develop a wider customer network. For Active3D own contacts but also those from partner companies that integrate the technology on the respective device were used to distribute the technology. Furthermore the add-ons of the partner companies to the ecosystem of the technology allow Crunchfish to offer a complete solution. Eventually this distribution strategy should lead to easy and fast access to the customers in order to dominate the market from the beginning. The same distribution strategy is followed for the imaginary product: education centers are responsible for completing the software solution and distributing it to the end-customers in a fast and easy manner. And the Crunchreader will be brought to market by activating own contacts and setting up reselling arrangements for customers, to stimulate an easy and fast rolling out of the product. For all products Gårdängen started with the existing means to develop the distribution channels, emphasized the creation of partnerships and involved stakeholders in the decision which customers to target with the offering (Sarasvathy, 2001; 2008; Regnér, 2003). Therefore Gårdängen's channel decisions were purely based on a proactive logic.

Gårdängen made channel decisions at Crunchfish at different development stages, but still employed the same decision-making logic. Furthermore he used the same logic for making channel decisions for the imaginary product. Therefore, time-related effects seem to have no consequence on his application of a proactive logic for strategic decisions dealing with building distribution channels.

5.2.3 PRICING DECISIONS

For both, the pricing of Crunchfish's first apps and the imaginary product, Gårdängen started with industry intelligence (Kim and Mauborgne, 2004; Wiltbank, Read, Dew and Sarasvathy, 2006) to arrive at a reasonable initial price to start with, thus applied a planning logic. For newer products, such as the Crunchreader and Active3D, however, Gårdängen does not show any sign of a planning logic. When comparing the different products and situations under which the pricing decisions were made the following becomes evident: when Crunchfish entered the app market other companies had already launched apps for phones (Gårdängen, 2012b), thus it was possible for Gårdängen to include competitive prices for his own pricing decisions. For the imaginary product Gårdängen would examine the prices of potentially competing also non-software products that educate customers in entrepreneurship, which he assumed to be available as well (Gårdängen, 2012a). Motion recognition software on the contrary is generally sold to the end-consumer as one feature on an electronic device and licensed-out to manufacturers of electronic devices (Gårdängen, 2012b). Therefore in order to get access to competitors prices Gårdängen would have to get access to the very sensitive licensing agreements, which is nearly impossible. Moreover, the business model of the Crunchreader is based on a totally different value curve and a different pricing model (Gårdängen, 2012b) making a comparison of prices unviable.

Concluding it can be said that the access to competitor information and closeness to the competing products might have influenced the simultaneous application of a planning logic. If there was no access and product closeness Gårdängen solely relied on a proactive logic to decide on prices. A trend to move from the application of one logic to another could not be identified. Therefore the different situations in which Gårdängen had to make pricing choices can best explain his choice for a logic when making pricing decisions.

6. CONCLUSIONS AND IMPLICATIONS

6.1 CONCLUSIONS

This research set out to explore how young entrepreneurs in high-tech startups frame strategic decisions. The conclusion is that the young entrepreneur Gårdängen frames his strategic decisions in real life and also in a simulated environment overall by preferring a proactive logic. For few strategic decisions a planning logic was marbled in with the proactive logic, but only in one case a planning logic dominated. Summarizing it can be said that Gårdängen generally focuses on control, rather than prediction, because in his eyes it is possible to do an estimate for the future, but it is very hard to predict it (Gårdängen, 2012b). Therefore he gathers some information about a possible future but warns about the over-consumption of especially

competitor information as it can “cloud” your imagination and thus decrease your uniqueness (Gårdängen, 2012b). Instead he emphasizes partnerships, control and the creation of new markets (Gårdängen, 2012a). Often this includes moving completely from one business model to another, which is a crucial skill to achieve business success in Gårdängen’s eyes.

Furthermore the research aimed at examining if the application of different types of logics can be related to different types of situations or decisions at hand and if yes how that relationship looks like. The result is that the use of a logic can be related to specific situations and decisions. Gårdängen applied for all channel decisions a proactive logic. For product portfolio decisions the application of a specific logic was dependent on the two different decision types exit or entry decision; a proactive logic was preferred for entry and a mixed planning and proactive logic for exit decisions. Moreover, the more unpredictable the market was viewed by Gårdängen the more he relied on a proactive logic for making product portfolio decisions. The access to competitor information and closeness to the competing products influenced Gårdängen’s pricing decisions. If there was no access and no product closeness he solely relied on a proactive logic, otherwise he would use planning logic simultaneously to decide on prices.

The last research question was to analyze if the application of different types of logics changed over time and if yes why and how. Concluding it can be said that no time-related effects on the application of a specific logic for all examined decisions could be identified. However, Gårdängen’s application of decision-making logics can be explained with the different situations he was in and decisions he had to make.

When comparing these insights to the results of Allan (2003), Sarasvathy (2008) and Dew, Read, Wiltbank and Sarasvathy (2009), who found a strong correlation between the use of an alternative logic and the accumulation of entrepreneurial experience, following conclusion can be made: for Gårdängen no trend of moving from one logic towards another was visible, instead he showed a strong preference for a proactive logic from the beginning and throughout. Moreover, Gårdängen’s application of a logic was not moderated by the availability of resources, as hypothesized from Sarasvathy (2008) for novice entrepreneurs, since he even in later stages, where he had access to more resources did not show a shift towards a planning logic. Dew, Read, Wiltbank and Sarasvathy (2009, p.300) claimed that “studies using entrepreneurs with different levels of experience” are necessary to support their conclusions. This study examined an entrepreneur who is according to Dew, Read, Wiltbank and Sarasvathy’s (2009) a novice entrepreneur, since Gårdängen has fewer entrepreneurial experience than their examined expert entrepreneurs, but does not support their findings. However, the more Gårdängen viewed the future of a specific market as unpredictable, the more the proactive logic dominated with regards to product portfolio decisions, supporting at least one of Sarasvathy’s (2008) hypothesis and the findings from Harting (2004) for one type of decision.

Overall the research found that the young entrepreneur Gårdängen applied besides the traditional planning logic an alternative logic for creating and developing strategies, which supports Sarasvathy’s (2008) concept that entrepreneurship can be fueled by two different toolboxes to choose from.

6.2 IMPLICATIONS FOR FUTURE RESEARCH

This research followed Dew, Read, Wiltbank and Sarasvathy's (2009) request to examine entrepreneurs with different levels of experience, rather than focusing on the two extremes novices, such as MBA students, and expert entrepreneurs to understand the effect of experience on the application of a decision-making logic better. Moreover it followed Harting's (2004, p.21) suggestion to follow "a more nuanced approach to how these relative types of reasoning manifest in practice" by analyzing the effect of different types of decisions and situations on the application of a proactive and planning logic.

An explorative approach was followed to investigate how practice relates to existing theory and found that practitioners indeed not only rely on a traditional planning logic for making strategic decisions, conversely a preference for a different logic was identified. Moreover, it indicated that the specific choice for a logic is not influenced by the entrepreneurial experience of the subject, when following Sarasvathy's (2008) definition for entrepreneurial experience, or by the availability of resources for market research. Instead it found a relation between the application of a specific logic and different types of situations, such as an uncertain market situation, and different types of decisions, such as channel, pricing, product portfolio and exit/entry decisions. However, the conclusions were arrived at by relying on a single case research design; therefore additional research is highly desirable.

Possible new research ventures could examine how previous working experience of the entrepreneur outside his/her own company influences the application of a decision-making logic. Gårdängen, for instance, started his new venture with eleven years of working experience at Ericsson, also in the strategic "decision-heavy" position Head of Operations. One could hypothesize that this previous experience with strategic decision making, although not in the framework of being an entrepreneur, has a positive impact on the preference for a proactive logic, which is indicated by the results of this study.

Further research could also investigate more in depth how different types of decisions and situations affect the use of and preference for a specific logic. For instance, this study was based on examining the strategy creation and development activities of a young entrepreneur in a high-tech venture, where strategic decisions often had to be made under uncertainty due to the nature of that industry. Moreover the study found a preference for a proactive logic. Therefore it would be interesting to get further proof on the influence of situations to applied logic to draw strong conclusions in that direction, as this study solely relied on a single case.

Lastly concurrent longitudinal studies employing a multi-methodology approach are recommended. By combining several data gathering methodologies, such as interviews, observations, discussions, verbal protocols, etc. more decision events could possibly be identified and analyzed and thus give a richer explanation of why a specific logic is preferred for a specific strategic decision. Moreover, the examination of entrepreneurs over a longer timeframe could explore probable time-effects, as postulated by Sarasvathy and her colleagues, more in-depth.

6.3 PRACTICAL IMPLICATIONS

In this research a two-logic decision-making model was developed out of prevailing concepts that presents specific characteristics for two alternative logic “toolboxes” that can be employed when creating and developing strategic decisions.

Thereby it facilitates practitioners to develop mutual understanding of what their strategic decision making process may be based on. In this manner it furthermore provides them with an expanded repertoire of strategic activities and reasoning to choose from when creating and developing strategies and allows them to consciously compare the benefits and downsides of each logic for a specific situation and decision. By communicating their reasoning behind their strategic actions, that is explaining why a proactive or planning logic is advantageous to follow for this decision or situation, to employees, supervisors and other stakeholders, the understanding for specific strategic actions can be improved.

This is why entrepreneurs are recommended to get engaged with these alternative decision-making logics for strategy creation and development to fuel their strategic activities and allow for a better understanding of them.

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APPENDIX

ILLUSTRATION 1: CRUNCHFISH IN THE ENTREPRENEURIAL GRID OF KURATKO ET AL. (2011)

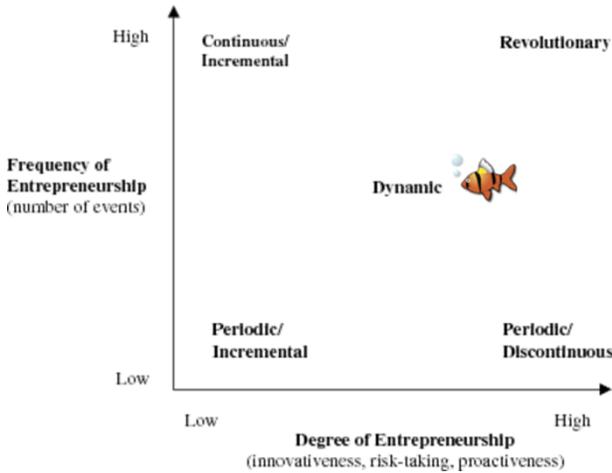


ILLUSTRATION 2: RESEARCH INSTRUMENT FOR VERBAL PROTOCOL

INTRODUCTION

In the following experiment, you will solve three decision problems. The problems arise in the context of building a new company for an imaginary product. A detailed description of the product follows this introduction. Although the product is imaginary, it is technically feasible and financially viable.

Before you start on the product description and the problems, I do need one act of creative imagination on your part. I request you to put yourself in the role of the lead entrepreneur in building this company—i.e., you have very little money of your own to start this company, but you have about five years relevant working experience in the area.

DESCRIPTION OF THE PRODUCT

You have created a computer game of entrepreneurship. You believe you can combine this game with some educational material and profiles of successful entrepreneurs to make an excellent teaching tool for entrepreneurship.

The game part of the product consists of a simulated environment for starting and running a company. There are separate sub-simulations of markets, competitors, regulators, macroeconomic factors and a random factor for "luck." The game has a sophisticated multi-media interface—for example, a 3D office where phones ring with messages from the market, a TV that will provide macroeconomic information when switched on, and simulated managerial staff with whom the player (CEO) can consult in making decisions.

At the beginning of the game, the player can choose from a variety of businesses the type of business he/she wants to start (for example: manufacturing, personal services, software, etc.) and has to make decisions such as which market segment to sell to, how many people to hire,

what type of financing to go for, etc. During the game, the player has to make production decisions, such as how much to produce, whether to build new warehouses or negotiate with trucking companies, etc.; marketing decisions, such as which channels of distribution to use, which media to advertise in, and so on; management decisions involving hiring, training, promoting, and firing of employees, and so on. There is an accounting subroutine that tracks and computes the implications of the various decisions for the bottom line. The simulation's responses to the player's decisions permit a range of possible final outcomes—from bankruptcy to a huge win.

You have taken all possible precautions regarding intellectual property. The name of your company is *Entrepreneurship, Inc.* The name of the product is *Venturing*.

Please think aloud while solving the following problems, that means say everything that passes through your head while you try to complete the tasks.

DECISION FIELD 1: Identifying the market

1. Who could be your potential customers for this product?
2. Who could be your potential competitors for this product?
3. Who could be your potential partners for this product?
4. Will you gather information about potential customers in this early stage?
5. Will you gather information about potential competitors in this early stage?
6. Will you gather information about potential partners in this early stage?
7. Will you gather information about something else in this early stage? What information?
8. Which information would you gather first?
9. What do you think are the growth possibilities for this company?

DECISION FIELD 2: Defining the market

10. Will you select a market segment/segments you can sell your product to?
11. What affects your choice of the market segment/segments?
12. How will you arrive at a price for your product?
13. What affects your pricing choice?
14. How will you sell your product (channel)?
15. What affects your choice of the channel?
16. What affects your marketing decisions the most?

DECISION FIELD 3: Financing

During the first year of running your company you have invested all your savings to develop a prototype of an enhanced version of your product, which you presented at the Computer Games Fair. You won the first prize in the “New Product” category with this enhanced version. This in turn has led to inquiries from large retailers to market the presented prototype nationally.

You estimate that it will take you 18 months to develop the enhanced version and about six months after that to actually roll it out on the selected channels. You estimate that you will need \$5 million until break-even – this includes product development, putting in place excellent support staff, full-blown advertising, and sales cost.

You estimate the following sales projections for the first five years (you are at the beginning of year two now):

	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>
<i>Sales</i>	\$100 000	\$500 000	\$1 million	\$6 million	\$10 million
<i>Profits</i>	\$ < 0	\$ < 0	\$0	\$100 000	\$2 million

You have three financing options:

- A. A venture capitalist which specializes in startup companies in toys and games and other consumer entertainment products is willing to finance you \$5 million for 48% of your company.
- B. A friend of the family who has extensive experience in selling educational materials is eager to go into partnership with you – for 33% of the company. He is able to invest \$5 million but wants to work for the company at a base salary of \$200 000 per year. He agrees to accept a minimum level of \$60 000 for the first two years to keep his family going and defer the rest to when the company starts making money. You like and respect this man and have no personal feelings against him.
- C. You continue to bootstrap the company with internal cash flow – then grow at much slower pace.

17. Which option would you choose? Why?

18. If the venture capitalist is also willing to take only 33% of the company, which option would you choose?

FOLLOW-UP QUESTION:

19. Do you find the decision problems realistic? Why/Why not?

ILLUSTRATION 3: RESEARCH INSTRUMENT FOR SEMI-STRUCTURED INTERVIEW

1. What did you do before Crunchfish?
2. How did you arrive at the idea to found Crunchfish?
3. How did your personal preferences and your experience influence your decision to found Crunchfish?
4. What were the key events, the key decisions you had to make, through the whole life cycle of Crunchfish from business idea until today?

Ask when fitting to the key event:

- Was the amount of money you invested that what you would have been ready to lose if all went wrong?
- How did your target customer segments develop?
- Did you try to predict the future, with market research for instance, as a basis for your decision?
- How did you arrive at a price for your products? By doing market research or following a more experimental approach?

- When you compare how you arrived at the prices for your first products and your approach today, has anything changed?
 - How important were partnerships and networks for you?
 - Did you monitor competitors closely? Why/ Why not?
 - On what did you spend more resources: competitor analyses or building a partner network?
5. Which statement fits better to you? Explain why!
- a. to the extent I can predict the future, I can control it
 - b. to the extent I can control the future, I do not need to predict it
 - c. both don't fit; alternative: _____
6. Which statement fits better to your strategy creation style? Explain why!
- a. I invest in predictive techniques to position Crunchfish favorably for the future.
 - b. I invest in flexible strategies to effectively respond to changes in the environment.
 - c. I invest in predictive techniques to realize my vision of the future.
 - d. I believe the environment is unpredictable, but can be created through cooperation with others.