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Title:

**Critical success factors that influence the
corporate venturing process**

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ENTN39 Internship and Degree Project

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Pre-word

We would like to thank our internship company for letting us getting insights and interview people in vital positions for our thesis. Without their openness and honesty this study would not have been possible

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Abstract

Title:

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Key words:

Entrepreneurship, intrapreneurship, corporate venturing, success factors, new product innovation, product development process, technology-based company

Purpose:

We investigated the influence of different factors on the corporate venturing process. Therefore we combined several factors from the organizational level with characteristics from the individuals involved in the project. We used the theory and compared it to primary data which we got from interviews with business developers from our case company. This helped us to analyze the influence also from the perspective of the individuals itself, which attracted very little attention by scholars until now.

Methodology:

The primary data is collected through semi-standardized interviews and the secondary data includes literature, earlier studies and information from "Company A". Data collection has been done to get a deeper insight and enable for us to understand the phenomenon of corporate venturing. The goal with this study is to get an understanding of the corporate venturing process for "Company A" and therefore qualitative data collection tools have been used.

Theoretical perspectives:

The theories used in this study are within the area of corporate entrepreneurship and focus on the different factors influencing the venturing process as described in literature.

Empirical foundation:

This study includes interviews with employees at "Company A" working with the two different projects, managers and the founder. The interviews were semi-standardized and executed after an interview guide that was developed when the authors got more insight into the company.

Conclusions:

Based on the earlier explained models and theories about corporate venturing, product development and critical success factors, we created an own holistic new product development model, which we used to analyze data from case X and Y. The factors we included in our model were investigated regarding their influence and importance for the project's success. All included factors were deemed to be crucial for the outcome of the specific projects in our cases. We delivered practical examples on how these factors influence the process and should be managed.

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1. Introduction

1.1 Background

Technology today has a growing impact on the economy and society. Due to this the ability of companies to permanently innovate products and their own business model has become crucial for their future success (Menzel et al., 2007). While innovations are seen as one of the driving forces for growth and competitiveness (Chesbrough, 2003), the key factor for the long-term success of any corporation lies in its ability to innovate (Magadley and Birdi, 2012). The importance of an innovative spirit, creative research and idea generation in a company has increased during the last years. As the innovation does not occur before the idea is put into practice (Choi and Chang, 2009), the ability of a firm to develop these ideas and inventions and turn them into innovations becomes crucial for the company's success and survival in today's increasingly competitive market (Cooper, 2000; Schumpeter, 1934). Even though the first step of the innovation process is the creativity and idea generation (McAdam and McClelland, 2002), it is as important that companies find ways to facilitate inventions in an efficient way and are able to pick out the right ideas to nurture. The capability to develop ideas into products is a source of competitive advantage (Menzel et al. 2007).

In recent year's organizations all over the world, fostered corporate entrepreneurship to revitalize not only their operations but also to achieve strategic renewal and build new capabilities (Narayanan et al., 2009). Furthermore Venkataraman et al., (1992) argue that innovativeness will flourish within established firms through corporate entrepreneurship and that corporate venturing can contribute decisively to the development of the corporate strategy (Ireland et al. 2001). A products lifecycle is shorter than ever and the need for innovations has never been higher. Even though most companies are aware of the importance of this, they fail to innovate and thereby risk facing an unsecure future (Cooper and Edgett, 2006). Khurana and Rosenthal (1998) describe that companies create core groups within the company with the responsibility to identify risks and challenges. Naffziger et al. (1993) highlight vital organizational factors which can effect and influence the work in reaching the goal. In addition the individual will consider what resources and time it will take to overcome potential challenges (Kuratko et al., 2011). Organizations therefore look for employees who are persistent and confident problem solvers (Naffziger et al., 1993).

1.2 Problem Discussion

We contended that a decent level of research has been done about the areas of corporate venturing, product development and critical success factors as single issues (Frost and Egri 1990, Guth and Ginsberg 1990, McGrath MacMillan 1992, Rogers 2004, Cooper and Edgett 2006, Hilletofth and Eriksson 2011). The quest for the factors that are responsible for new product development success has been a popular topic among researchers for the last decade (Cooper and Kleinschmidt, 2007).

But regardless of all the research that has been done, the challenge of developing new products is still huge and only one out of four new product development projects succeeds commercially (Cooper and Edgett, 2007). The reasons for the success and failure of these projects have not entirely been investigated.

So beside the single areas of corporate venturing, product development and key factors, we tried by combing earlier findings in literature with our new insights from a case study at “Company A” to analyze the relationship between them to get new insights. There have been discussions about the influence of critical success factors before on the project level. This research has its limitations as it misses out organizational level factors that might influence the project’s outcome. A detailed study of projects in terms of the influencing factor also in relation to company practices and organizational structures is missing.

1.3 Research Question

Based on the missing connection of organizational and factors and individual characteristics with regards to the corporate venturing process we investigated the following research question:

“What influencing factors are needed to overcome challenges in the corporate venturing process?”

We analyzed the corporate venturing process on the basis of two different cases within “Company A” and secondary data from former research. We reviewed and tracked the specific ventures to understand the process and disclose specific activities. Subsequently the actual process of “Product X” and the “Product Y” project was compared.

1.4 Purpose

We investigated the influence of different factors on the corporate venturing process. Therefore we combined several factors from the organizational level with characteristics or traits from the individuals involved in the project. We used the theory and compared it to primary data which we got from interviews with business developers from our case company. This helped us analyze the influence also from the perspective of the individuals itself, which attracted very little attention by scholars until now. We investigated different types of corporate venturing and product development models and highlighted their pros and cons. Many existing models focused on the early phases of the process including, idea generation and planning or the organizational structure which is needed for a successful corporate venturing. Other models like Rogers' et al. (2004) focus more on the commercialization and the connection to supply chain activities. As there was no model with a holistic view, we created a new model based on inputs from earlier research.

Our research was part of an embedded single case study (Yin, 2009) at "Company A". The aim was to investigate the development of a new product innovations and therewith the connected corporate venturing process. "Company A" has created a new business department in which we got the chance to work. At that time some of this department's projects were well structured and controlled while some were more ad-hoc. Just as in other companies, organizational intrapreneurship most often is the basis for the technical innovations and firm renewal at "Company A" (Menzel et al. 2007). Theory and experience with earlier development projects from "Company A" was used to indicate potential ways for a new venture. The reason for using "Company A" was that we worked with a project here and during this study got inspired by the company's various work methods and focus on innovations. The fact that "Company A" has developed a new business department with the goal to develop ideas outside their core business, was for us a thrilling motive.

We got the opportunity to look at two corporate venturing processes which we analyzed with the help of relevant literature and interviews. With these two case studies we captured the product development process of two product innovations named "Product X" and "Product Y". We analyzed which challenges these ventures had during their development processes, how they were solved and what factors influenced this process. Main reason for comparing the two development projects was to be able to discover general challenges and make suggestions how to overcome these. Our study could help "Company A" and similar companies to improve the process of creating ventures in the future.

1.5 Delimitations

We took in consideration, that “Company A” is an established technology company that works after an IT-business model. The company has created a new business department (host department) from which new business ideas are supposed to be turned into innovations. The cases, we have used to examine the corporate venturing process, are from within “Company A’s” new business department which will differ our study from earlier ones and therewith limit the use of our findings for others. In line with this is the fact, that we only have Swedish cases which may decrease the global reach of our study. However our goal was to make the study valid for a broad level of companies, independent of size, but we believe the study mostly will be of use for mid- and large organizations.

2. Theoretical frame of reference

We will in this chapter give an overview of literature regarding corporate venturing, new product development and key factors that influence the development process. By combining parts from these areas, we will develop an own model. The newness in our model could be argued as limited due to the fact that it's built up by a combination of other models. We although argue that the model will contribute to literature and be suitable as the base on which to analyze our gathered data.

2.1 Corporate entrepreneurship and corporate venturing

Companies around the globe have used corporate entrepreneurship over the past decade as a way to recreate their operational structures, achieve strategic goals and build up new capabilities which have inspired also the academic attention (Narayanan, Yang and Zahra, 2008). The process of corporate entrepreneurship takes place in a wide variety of organizational contexts, from large established organizations to small start-up or internal corporate venturing (Van de Ven, Venkataraman, Polley & Garud, 1989). The process of internal corporate venturing is characterized through ambiguity and uncertainty (Daft and Lengel, 1986).

The importance of innovativeness for firm's existence is high and due to this research has investigated ways to improve the level within established organizations through internal venturing or corporate entrepreneurship (Venkataraman, McGrath and Macmillan, 1992). In research, corporate entrepreneurship is mostly referred to as the idea generation, -development and -implementation in organizations (Hornsby et a., 2002), while corporate venturing stresses the creation of new ventures within or outside the corporation (Sharma and Chrisman, 1999). As there is a distinction in research between internal and external venturing, we adhere to the definition that "internal" includes innovation and new business incubation, while "external" usually focuses on corporate venture capital, joint ventures, acquisitions and licensing (Narayanan et al., 2009). There are different definitions and terms for the entrepreneurship concept within organizations. Besides the two terms corporate venturing (MacMillan et al., 1986) and corporate entrepreneurship (Burgelman, 1983) also intrapreneurship (Pinchot, 1985) was used to describe this phenomenon.

Entrepreneurship overall is considered as the process of uncovering an opportunity and developing an idea to create value through a new innovation (Churchill, 1992). This is perceived as a behavioral phenomenon or process of emergence (Gartner et a., 1992). Zahra and Hayton (2004) describe technological entrepreneurship as the creation of new firms within corporations as well as independent entrepreneurs with the goal of the exploitation of technological discovery. Regarding corporate entrepreneurship, this view is somewhat limited as it excludes important aspects. For

example the creation of new business units within existing organization which is the main strength of intrapreneurship (Menzel et al., 2007). Within the field of intrapreneurship the research can be divided into three main areas (Antoncic and Hisrich, 2003). The first area focuses on the individual intrapreneur and its characteristics (Fayolle, 2004). The second research area has its focus on the new corporate ventures and the various types in particular. The third area covers the entrepreneurial organization and how its structural characteristics influence intrapreneurship (Hornsby et al., 2002). Other earlier studies focused also on intrapreneurships effects on the company's performance (Zahra and Gravis, 2000). Intrapreneurship could broadly be explained as entrepreneurship within an existing organization (Antoncic and Hisrich, 2003) and defines the creation of new business opportunities and ventures with the help of new technologies in existing organization (Menzel, 2007).

Corporate venturing is the part of intrapreneurship which results in the creation of new business ventures within an existing organization (Stopford and Baden-Fuller, 1994). It can include various forms of ventures from more semi-autonomous units to independent entities. These ventures may reside inside or outside the existing organization (Sharma and Chrisman, 1999) and according to Pinchot and Pellman (1999) both the process of intrapreneurship and corporate venturing are highly dependent on individuals who take the leading role as they believe that there will not be any innovation without an individual involved. Green et al. (1990) strengths this by saying that ideas without formal champions are less likely to become a successful commercial venture. However intrapreneurship has a close connection to the organization as a given environment, which stands in clear contrast to independent entrepreneurship (Menzel et al., 2007). This means that the intrapreneurship process executes through a permanent interaction between the organizational and the individual level. It starts from the opportunity recognition and results in an innovation of mostly technology nature. One model that illustrates the corporate venturing process in detail is the model of Naffziger et al. (1993).

Naffziger et al.'s interactive model of Corporate Entrepreneurship (1993) (Appendix 1)

Naffziger et al.'s model (1993) defines the venture creation as a process of interaction between the individual/organization and their environment. Successful intrapreneurship should be reached through this framework. Components within the model are seen in Appendix 1 and described briefly here.

This process takes place, before the actual development of a new venture or product. In literature there are various organizational factors that foster corporate entrepreneurship. Some are also found in this model, and will among others be further described in chapter 2.3. "Key factors".

Organizational characteristics that foster corporate entrepreneurship

The first thing is the willingness among managers to facilitate entrepreneurial projects. They should manage the company in a way so it quickly adopts ideas from employees and make sure that they recognize these people. Work discretion capture to what level employees feel free or controlled in their work (Kuratko et al., 2011). Employees must feel secure in that they are allowed to make their own decision regarding work tasks even if it leads to failure. Rewards and reinforcements can have different appearances, but the goal is to encourage and highlight achievements and in the same time motivate individuals to be innovative (Miles et al., 2000). Time for employees to do entrepreneurial activities is captured in time availability. Companies have to balance the work load and avoid putting time constrains. Long term problem solving in teams are vital to allow. Organizational boundaries consist of regulations, administrative mechanisms and descriptions for employees. Boundaries can be both imagined and real, but common is that they prevent employees to search for ideas outside their work tasks. Organizations should therefore avoid having standard procedures and job descriptions (Naffziger et al., 1993).

Individual characteristics that foster Intrapreneurship

The importance of organizational factors in this model is as high as the value of right individual characteristics. Employees with innovative behavior can with training influence the climate in the company and contribute in the work towards innovations. Naffziger et al., (1993) selected five individual traits based on existing literature, although not meant to be exhaustive. These five factors are mainly selected because they match and interact with the ones in "organizational characteristics". The employees should be risk takers and have a need for achievement. They should like to have personal control and clear goals to strive towards in their work.

Precipitating Event / Environmental Change

The interaction between organizational and personal characteristics need some form of precipitating event to lead to a decision about acting entrepreneurial. Environmental factors such as heterogeneity, dynamism and hostility are mentioned as influencing factors (Zahra, 1991). Example

of events within these factors is the change of management team, a new competitor in the market, new types of demand or the development of a new technology. When other conditions points in the direction of acting entrepreneurial these types of organizational or environmental changes are often the final ignition that cause intrapreneurial events (Naffziger et al., 1993).

Decision to act Intrapreneurially

The result from the three first headings; “organizational characteristic”, “personal characteristics” and “precipitating event” leads up to the decision to act intrapreneurially or not (Naffziger et al., 1993).

Business / Feasibility Planning

The next step in the process is to form a business plan including all operations involved in a new venture creation. Segments which are needed to be developed in a business plan are marketing research, analysis, financial calculations, management structure and risk estimation. A well-developed business plan will increase the new ventures chances and studies of ventures which have failed showed that many of them could have been avoided with a business plan (Bruno et al., 1987). This plan represents a complete analysis of the ventures chances to success (Timmons, 1980). Even though Naffziger et al. (1993) argue that a complete business plan is vital, the implementation depends on two factors; resource availability and ability to overcome barriers.

Resource Availability & Ability to overcome barriers

The success of a business plan is based on the organizations ability to support and fund a new start-up (Hornsby, 1990). One significant factor in the entrepreneurial process is the organization and the intrapreneur’s skill to overcome barriers. These barriers could vary from time issues such as long-term planning to management structures (Naffziger et al., 1993). The interaction between the mentioned factor results in the implementation of an intrapreneurial idea. The intrapreneur need to create a feasibility analysis, gather resources and overcome barriers to implement an idea and initiate the innovation.

2.2 New product development process

A sub-process of corporate venturing is the product development. This process of developing and commercializing a product is one that transcends the boundaries of the company. Companies undertake that in view of their customer's demands and needs in different markets, to create long-term businesses and reduce economical risk (Ansary and Mamaghani, 2011)

Effectively implemented product development means a roll-out of the respective structures across the whole supply chain. The anchoring of these concepts throughout the entire process is necessary for business success and value creation. Furthermore, by gaining knowledge from other parties in the supply chain, the organization can expand its information resources and enhance the development efficiency (Rogers et al., 2004).

Different Types of Development Projects:

Product development project can be divided into the following groups (Ulrich and Eppinger, 2004):

- New product platforms - involves a huge development effort to create a family of products with the same new platform as a basis. This product family targets familiar markets and product categories.
- Derivatives of existing product platforms – To better address familiar markets, existing product platforms are extended with one or more new products.
- Incremental improvements to existing products – The project include modifying or adding certain features of existing products to keep up the competitiveness of current product lines.
- Fundamentally new products – Projects with radically different products and production technologies that might help to address new or unfamiliar markets.

Transforming promising ideas to successful products and in this way achieve financial returns, has become a key management challenge nowadays (Gans and Stern, 2003). This is strengthened by Hilletofth and Eriksson (2011) who highlight the importance of new product development and a short time to market as critical success factors. That means that beside the actual development, also the commercialization of a product requires effective planning and execution (Rogers et al., 2004) and integrates both customers and suppliers (Kärkkäinen et al. 2001) in the process. But as industries differ from each other, there is no unique effective commercialization strategy across all sectors (Baldwin and Clark, 1997).

We created our model based on theories about the product development front-end, approaches from two product development models of Rogers et al. (2004) and Cooper and Edgett (2006) and further theories about factors within the development process.

Before all of these models can be applied the “Idea generation” or “Opportunity Recognition” has to be concluded. Despite traditional idea generation methods like brainstorming (Osborn, 1957), prevailing innovation models stress the importance for companies to open up the process (Parjanen et al., 2012). Including external actors and sources in the process helps organization to achieve innovation (Laursen & Salter, 2006). Companies have to give room for a wide range of external knowledge, also from parties that might not seem relevant from the beginning (Chesbrough, 2003). Users get better educated in terms of technological opportunities and therefore their expertise is an important instrument in the innovation process (Breznitz et al., 2009). Even though the diversity of external knowledge brings expertise and problem-solving approaches that might create innovation if combined in a new way (Nooteboom & Gilsing, 2005). It may also lead to miscommunication and contrasting goals on the other hand (Muhr, 2009). The identification and exploitation opportunities have become a more and more vital source for competitive advantage (Hitt et al., 2001). Baron argues (2006) that opportunity recognition is a cognitive process of individuals who connect trends, events and technology, to come up with new product or service ideas. Many scholars agree with this when stating that the distribution of information have a critical function for the identification of opportunities (Shane, 2000).

Front-End Model theory (Khurana and Rosenthal, 1998) (Appendix 2)

The period of ending the idea generating and evaluating process and starting with a new product development process, is called “Fuzzy-Front-End”(Khurana and Rosenthal, 1998). Here the organization formulates a concept of the product that has to be developed and decides whether to invest resources in the further development of an idea or not. After a first consideration of an opportunity, this process takes place and ends with a judgment regarding if the idea is ready to enter the structured development process (Kim and Wilemon, 2002)

All activities from the search for new opportunities through the transforming of an idea to the development of a precise concept are included in this process. It ends as soon as the organization approves and starts with a formal development of the concept.

Even though the Fuzzy Front End is not the most expensive part of product development, it can take up to 50% of the development time (Smith and Reinertsen, 1998) and as major commitments are typically made regarding resources, the course for the entire project and final product is mainly set

here. Consequently, instead of an informal process that happens before the official development, this process should be considered as an essential part of development.

Koen et al. (2001) identified five different elements within front-end:

1. Opportunity Identification
2. Opportunity Analysis
3. Idea Genesis
4. Idea Selection
5. Concept and Technology Development

In the first element, the opportunity identification, potential businesses and ideas for opportunities are identified in a more or less structured way. Some guidelines are established here that might lead to a more structured New Product Development strategy. Individuals might also link the corporate-level and their individual knowledge to new information around them within this stage (Reid and Brentani, 2004).

During the opportunity analysis, which is the next phase, the identified opportunities are translated into implications for the actual business context the company is in. Market research and technical trials are done and furthermore efforts are made to align ideas to potential target customer groups.

The idea genesis can be described as an iterative and evolutionary process beginning with the birth and ends with maturation of the opportunity into a tangible idea. This process can be performed exclusively internal or with inputs from outside the organization, e.g. a supplier or customer.

The fourth element is named here as idea selection and has the purpose to analyze the potential business value of an idea to determine whether to pursue with it or not.

The last element in this process is the concept and technology development. During this phase of the front-end, estimates of available markets, customer needs, investment requirement and competition help to develop the business case. In some organization this is considered to be the first formal step of the New Product Development process (Koen et al., 2001).

Until now there is no universally accepted definition for Fuzzy Front End or a dominant framework (Husig and Kohn, 2003). According to a glossary of PDMA (PDMA glossary) strategic planning, concept generating, and pre-technical evaluation are the three general tasks of the Fuzzy Front End.

Earlier literature detected that companies need capabilities in idea refinement and idea screening (Griffiths-Hemans and Gover, 2006). Supporting poor ideas, generating too few ideas or a poor

screening in general, are deficiencies that can result in costly problems later in the process (Cooper, 1988).

The screening has two basic domains, the business analysis and feasibility analysis. While the business domain screens the idea regarding its value for the market and the business viability, the feasibility analysis detects if the development of the idea can be supported in terms of resources (Murphy and Kumar, 1997).

Another issue is the preliminary technology assessment. With a detailed consideration of the technology, uncertainty is reduced and the technical viability of the product gets highlighted. This assessment is meant to address the questions regarding the possibility to develop the product, due to technical and monetary factors (Verworn, 2006). One-sided attention focused on technical details may lead to a product concept, which resembles the actual offering of a company slightly, instead of a radical innovation (Börjesson et al., 2006).

A cross-functional review committee is assumed to strengthen the performance in the front-end screening process, because the cross-functional competencies not only enhance the effectiveness when creating a product, but also during the evaluation of product ideas (Khurana and Rosenthal, 1997).

A well-defined product definition, including a product concept that defines the development goal (Montoya-Weiss and O'Driscoll, 2000) (Seidel, 2007) is extremely important in the front-end stage (Kahn et al., 2012). Proficiency in creating product definitions is a highly important success factor, as it deeply impacts the Go/ No-Go decision, before the product enters the formal development process (Cooper, 1988).

The encouragement of visionaries and product champions is a crucial factor that increases the success in the front-end (Griffiths-Hemans and Gover, 2006). The individuals have the ability and motivation to overcome internal barriers, change the status quo and furthermore facilitate the interpretation of upcoming product concepts (Heller, 2000).

The front-end includes formulation and communication of the product strategy, opportunity identification, idea generation, product definition, project planning and executive reviews (Bowen et al., 1994) (Khurana and Rosenthal, 1997). One crucial success factor is to find right balance between creativity and discipline when building competence in the new product development (Dougherty and Heller, 1994) (Rosenthal, 1992).

Business cases are often evaluated based on estimates of market potential, market needs and the resource requirements. The core group is brought together in phase zero with the responsibility to identify: customer needs, market segments, competitive situations, technology solutions, product

requirements, proof of concept, resource specification, and risks/challenges (Khurana and Rosenthal, 1998).

Stage-Gate System by R.G. Cooper (Cooper and Edgett, 2006) (Appendix 3)

An often applied and focused model in New Product Development (NPD) is Cooper's "Stage-Gate System". After launching the model in 1990 several revisions have been published. We based our examination of the model on a revised model, published from Cooper and Edgett in 2006.

Stage-gate systems describe product innovation as a process which can be changed. They make use of process management methodologies and apply them to the innovation process. Stage-Gate systems put the new product project into identifiable stages. Each of these stages is designed to collect new information to bring the project forward to the next checkpoint or gate. All stages require multi- or cross-functional work tasks as different activities need to be concluded in every stage. (Cooper and Edgett, 2006)

The entrance to each stage is built up by a gate that controls the process and is characterized by a set of inputs, criteria and an output. Effective management of the gates is essential for a fast-paced and successful new product process. (Cooper and Edgett, 2006)

Inputs: They can be described as the deliverables to a gate review, which the project team and – leader deliver to the meeting. The inputs result from actions undertaken in previous stages.

Criteria: These are the metrics which the project is judged on, in order to make Go-/ No-Go decision. Criteria can be both quantitative and qualitative and are divided into mandatory (must-meet) and desirable (should-meet) criteria.

Outputs: These are the decisions based on results of a gate review. Beside resource commitments and action plans, these are also deliverables for the next gates.

The gates function as quality-control checkpoints, where the execution's quality is the focus. They are occupied by the senior managers, who function as so called "gatekeepers". These multidisciplinary and multifunctional groups of gatekeepers have the authority to approve resources needed by the project. (Cooper and Edgett, 2006)

A fundamental prerequisite for the implementation of a stage-gate systems is the approach to organize and manage new product development projects in teams. Stage-gate system can lead the project team and provide it with a road map. It gives the often multifunctional team a clearer idea and united view of the project status and future. This system also equips the project leader with the

set of objectives and it can work as a blueprint for managing new processes. The predefined deliverables become the objective for each new stage (Cooper and Edgett, 2006).

The model shown in Appendix 2 (Cooper and Edgett, 2006) is rather generic but it can be the basis for a more customized system.

Gate 1 – Idea Screen

Stage 1 – Preliminary Investigation

The main objective in this stage is an investigation and scoping of the project to determine the technical abilities and marketplace merits of the project. This may involve activities like contacts with key users and other focus groups and even a quick concept test. The goal is to determine the market size, potential and acceptance as accurate as possible. At the same time also a technical assessment is conducted, to assess the development and manufacturing feasibility in terms of potential costs and time for the execution.

Gate 2 – Second Screen

Stage 2 – Detailed Investigation / Building Business Case

Detailed homework leads to the design of a business case in this stage. It forms the final step before the product enters the formal development process. The activities in this stage should be undertaken by a core team of marketing, technical- and manufacturing experts. Market researches are carried out in terms of customer needs, wants and preferences to be able to clearly define the project. A more detailed technical assessment focuses on the do-ability of the project in this stage. In particular that means, if the customer needs, wants and preferences are possible to be translated into economically and technically feasible solutions. Some preliminary design and laboratory work might be done already here. The financial analysis will be further detailed and extended with a discounted cash flow approach.

Gate 3 – Go to Development

Stage 3 – Development

This stage contains the actual development of the product and initial rough testing. Marketing and operations plans are established. If there are legal issues like patents or copyright, they have to be solved in this stage.

Gate 4 – Go to Testing

Stage 4 – Testing and Validation

The entire project is tested in terms of its viability. This includes the product, the production, customer acceptance and the economics of the project. Several activities are carried out as in-house product test, field trials, pilot production or market tests.

Gate 5 – Go to Launch

Stage 5 – Market Launch

Operation and marketing launch plans are fully implemented in this stage. This stage-gate system puts discipline in a process which is often dominated by individual and ad-hoc decisions and processes. The system discloses what is required in each stage of a new product development process and is thereby relatively simple to understand. It defines activities and provides something similar to a road map for the project leader. These basic and evident benefits of the stage-gate system shall result in better decisions, more focus, fewer failures and faster developments

The Operational Product Development and Commercialization Process (Rogers et al., 2004) (Appendix 4)

Define New Products and Assess Fit

Newly generated product ideas have to be defined and screened to assess the some form of fit. Consultation of key customers and suppliers as well as market assessment has to be concluded in this process step. Interfaces with customer- and supplier relationship management need to be managed.

Establish Cross-functional Product Development Team

Using the earlier developed guidelines, a cross-functional team has to be established for the time of the product development and commercialization process. Also external parties like suppliers and customers whose input is crucial, need to be involved as early as possible.

Formalize New Product Development Project

Every new product idea needs to undertake an examination regarding its strategic fit to the organizations current product portfolio. Formal requirements like time-to-market expectation, product profitability goals and budget requirement are resolved in this stage. Three out of four commercial new product development failures are based on poor formation of budget and resource needs (Griffin and Page, 2003).

Design, Build and Test Prototypes

The project team handles the work to design, build and test prototypes. This process should be performed in close communication with suppliers and customers to perform a constant value analysis.

Evaluate Make/Buy Decision

After evaluating the prototype, the team and its managers need to decide if the manufacturing process should be kept in-house or if it is more beneficial to source it out and purchase it from suppliers. As this decision has a strategic implication it should be formulated also from a strategic perspective and involve senior management (Humphreys et al., 2002).

Determine Channels

In this sub-process the team tries to determine distribution channels, with the help of the business development and sales management teams. The output is a developed market plan and that an initial inventory planning can be performed (Rogers et al., 2004).

Rollout Product

Material sourcing, positioning and manufacturing products are parts of this process. A successful rollout improves the new product's impact in the market place. It is also vital to have the right amount of products on the market at the right time.

Measure Process Performance

The final process step consists of metrics developed on the strategic level and communicated to the appropriate individual to measure performance. The customer- and supplier relationship management teams coordinate the communication throughout the supply chain.

2.3 Key Factors

The search for critical success factors for new product, has been a popular topic among researchers in the last decade (Cooper and Kleinschmidt, 2007). Many researchers focus on key factors which are crucial for successful new product development processes (Cooper et al. 2005). Exploring and understanding the interaction between new product development and the key factors and the performance outcomes is essential for the corporate product strategy (Mamaghani, 2012). The company has to make sure that the product innovation efforts are in line with the long-term product portfolio strategy. Environmental factors such as heterogeneity, dynamism and hostility are mentioned earlier as influencing factors (Zahra, 1991) for a company or an individual to act entrepreneurially.

Naffziger et al. (1994) created a dynamic model, which explains that the motivational process that drives entrepreneurial behavior is defined by certain factors. The decision to support an idea and act entrepreneurially is the result from the interplay of several factors. After the recognition of an opportunity, the individual's tendency to act is based on the interaction between the personal characteristics, the personal goals, the personal environment and the business or organizational environment (Reuber and Fischer, 1999). Menzel et al. (2007) argue that entrepreneurial employees do not have to be designated or appointed to be leaders, instead any employee who works and behaves in an entrepreneurial way within the organization, can be an intrapreneur.

During the whole process of New Product Development, key factors and characteristics are necessary from all individuals involved as well as from the organization. Naffziger et al. (1993) specified the factors more in detail and divided them into organizational- and individual factors. Key organizational factors are described as: Management Support, Work Discretion, Rewards, Time Availability, Organizational Boundaries and Resource Availability. In the individual level the key elements are: Ability to overcome barriers, Risk-taking propensity, internal locus of control, need for achievement and Goal orientation. These factors also come along with what Kuratko et al. (2011) mention as important characteristics for successful corporate entrepreneurship.

Recent findings by Axtell et al., (2000) and Birdi, (2007) have shown that certain factors have a different level of influence during the stages of the process. While the early steps like idea generation are more influenced by individual factors, the organizational factors have a higher effect on the later steps. Before an individual acts entrepreneurially, different considerations are taken into account. The main role here play the person's own perception of the potential outcomes also based on earlier experiences. After that the individual considers what it takes to reach the goal in terms of resources and supports to garner and challenges to overcome. (Kuratko et al., 2011).

The importance of characteristic or traits which are essential for individuals, were examined by numerous researchers. Schumpeter already pointed out (1934) that not the inventor, but the function who transforms the idea to an actual venture plays the key role for economic growth. The resource-based theory has defined another role of the so called champion, who generates identification, acquisition and deployment of resources and therewith provides a starting point for the development of a theory (Greene et al. 1999). These championing individuals must have a broad knowledge and perspective of their own role to be able to contribute in the generation and promotion of new ideas. The ability to adopt multiple perspectives and work in collaboration with others is also vital (Mumford et al., 2002). Tushman & Nadler (1986) argues that champions need the ability to act beyond their normal work task since they often emerge informally. These individuals are good at recognizes a new technology or market opportunity as having significant potential and then commits personally to the project and make sure to adopt it as his/her own. They are good at generating support from other people in the organization and often have a large informal network inside the company. Typical characteristics for an intrapreneurial employee are persuasiveness and passion, which contributes to this work (Markham and Aiman-Smith, 2001).

2.4 Own model

Based on the earlier explained models and theories about corporate venturing, product development and key factors we created an own model, which gave us the chance to explain process steps and activities, which are crucial for a successful management of new product innovations.

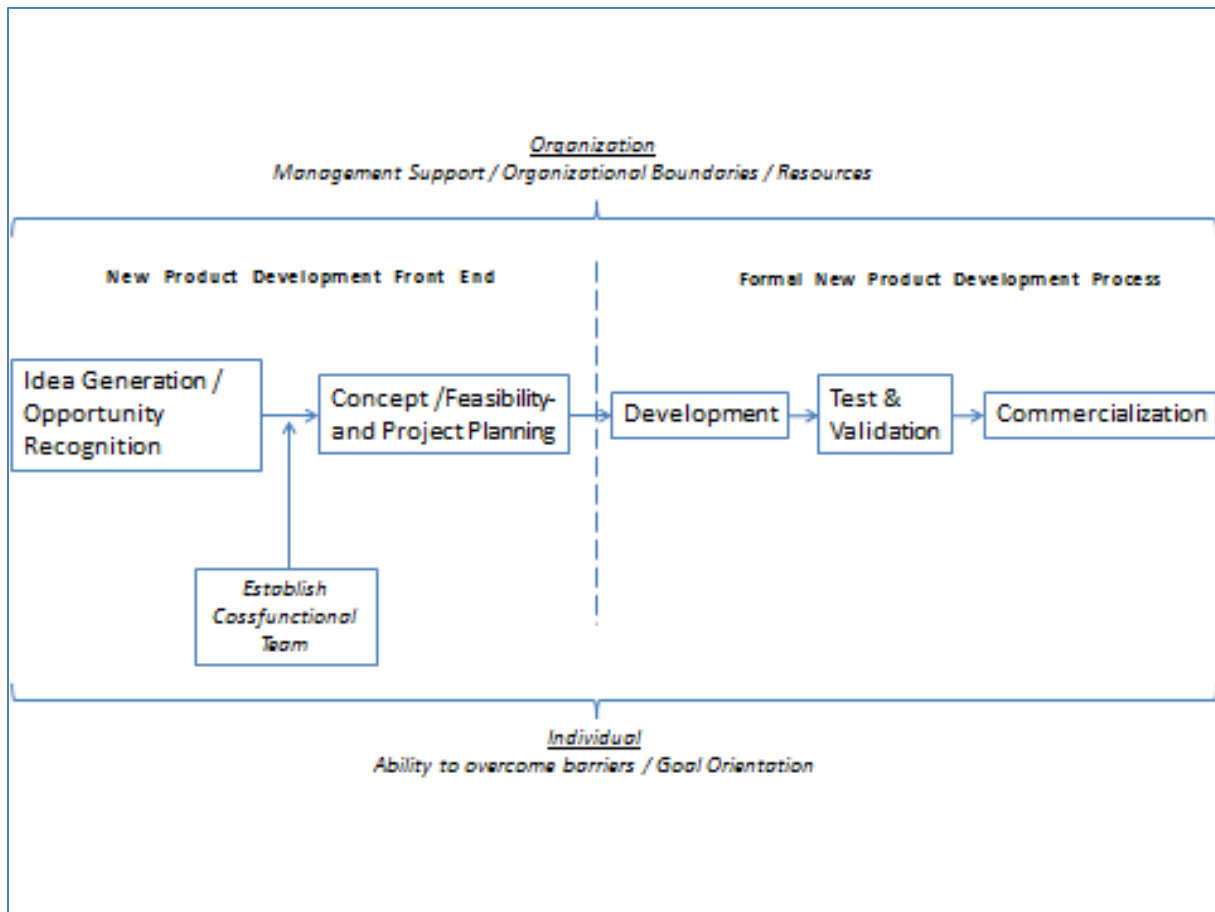


Figure 1 - Own Model for the development of new product innovations

Our model is divided into the “New Product Development Front End” and the “Formal New Product Development Process”. The first part of these two consists of the steps “Idea Generation/Opportunity Recognition” and “Concept/ Feasibility and Project Planning” and the establishment of a cross functional team in between. The second part of our model is divided into the three single stages “Development”, “Test & Validation” and “Commercialization”.

We selected a set of influencing factors based on characteristics or traits that are frequently mentioned in literature. This set is not meant to be entirely complete, but in our view includes the most important factors. The organizational factors for a successful development process are: Management Support, Organizational Boundaries and Resources. Management support is a factor which is presumed to be critical for new corporate ventures success among many researchers. Organizational boundaries is an interesting factors for us in particular, because the situation in

“Company A” with its new business department is worth to investigate in detail due to its uniqueness. The adequate availability of resources in terms of development time and money is an essential factor for every project (Cooper and Kleinschmidt, 2007) and therefore included in our model. Beside these factors we included the two individual characteristics “Ability to overcome barriers” and “Goal orientation” for members of the project team or otherwise involved individuals. The ability to overcome barriers includes several characteristics of a successful intrapreneur. Beside the motivation for achievement an individual needs to be persistent and confident to solve problems and challenges. Furthermore a qualitative analysis as we undertake with our case studies is adequate for these two factors. Other individual factors like “Risk-taking propensity” and “Locus of control” which are proposed in some models (Naffziger et al., 1993) can be better investigated by quantitative research methods what is not applicable in our case.

We illustrated in our model that these characteristics are crucial for the success of a product innovation, but do not focus on specific stages of the process. Characteristics like the ability to overcome barriers are inevitable not only during the idea generation, but also during the formal development process. The project leader and its team have to proof the attractiveness and validity of the business case continuously throughout the entire process. Without the necessary management support and availability of resources, the process will stumble even in the later phases. However Birdi (2007) showed that the organizational factors like management support have an even greater influence on later process phases that are more related to the implementation of ideas.

As every new product development process starts with the idea, we took “Idea Generation/Opportunity Recognition” as the first step in our model. Idea generation means, that an individual or a group of people is assigned to create ideas in response to a problem or need, which can be externally or internally (Magadley & Birdi, 2012) and is a critical prerequisite for innovation (Scott, 1995).

Beside the project leader and senior management, the core team plays an important role in the process. These cross-functional teams need to be established as early as possible. Therefore we decided to include this step before the planning process.

“Concept / Feasibility and Project Planning” describe the stage where according to Cooper (2006) as well as Khurana and Rosenthal (1998) activities need to be undertaken that precede the design and development of the product. Many projects fail because they move through this stage into the development with only little up-front homework (Cooper and Edgett, 2006).

Our “Development” step is influenced mainly by Cooper’s stage-gate model (2006) as well as from Rogers et al. (2004). The team needs to design and build the prototype of the new product and test it

roughly as early as possible. External partners can be included here to get a constant value analysis. Marketing and operations plans need to be developed for the next process steps. The financial analysis can be more detailed, as the product requirements are more transparent now. If the product faces any legal issues like patenting or copyright, they need to be resolved before marketing and launch activities enter the next stage. The project team establishes plans on how the prototype has to be tested and validated in the further process.

The formulation “Test & Validation” is also taken from the Cooper model (2006). In this step the viability of the product itself is tested. Activities that have to be undertaken are: In-house product tests, field trials, pilot production and test markets. These activities help to evaluate the production process, customer acceptance and the economics of the project.

As Rogers et al. (2004) focus on the commercialization and distribution, we included several activities from this 8-step model here. In close cooperation with the business development and sales forces, the team needs to determine the distribution channels first. The marketing and operations plan from the upstream step are implemented now, which includes also material sourcing, material positioning and product manufacturing. As a successful roll-out can influence the products impact in the market place, it is vital to launch the product in the right quantity at the right time.

Our holistic model, describes the developed from the idea generation to the product launch. Furthermore we included organizational factors and characteristics to our model and will investigate these with the help of our case studies.

3. Methodology

3.1 Overall research design and process

This study investigates the corporate venturing process and challenges connected to it using relevant literature combined with a case study a “Company A”. For about 4 months we got the chance to get deep insight from this particular organization and to exploit this opportunity, the case study design was chosen (Saunders, 2007). Within this study we try to analyze the process from a vision to an actual product invention and the challenges of transforming it to a venture. Through an extensive literature review we identified relevant papers within corporate entrepreneurship research and from the areas of corporate venturing and product development. After getting an overview of earlier status quo in research about corporate entrepreneurship, -venturing (Antoncic and Hisrich, 2003) and the influencing factors we examined certain approaches to create an own model, which was applied to the process of our case examples. The gained project insights were related to relevant theories from literature again to ensure accuracy and comprehensiveness. Moreover to support our findings we drew conclusions based on empirical data from earlier research. The most vital element when certifying the reliability of theoretical findings is the selection which we did by using purposive sampling (Saunders, 2007). Although a large part of the literature in this area uses samples from US-companies, corporate venturing is a worldwide phenomenon (Narayanan, Yang and Zahra, 2009). We therefore came up with a more general and reliable result by including papers which also examines European companies and ventures. As the awareness for corporate entrepreneurship started to grow between 1980-1990 (Miller and Friesen, 1982)(Guth & Ginsberg (1990) we, beside the actual research, also included literature from that period in our study.

With our study we generated deeper insights in the new product development process and its relation to corporate venturing (Greene, Brush and Hart, 1999). Our focus was on the factors that influence the work to overcome challenges. Analyzing models and theories from research literature together with our case examples have created a better understanding of this relationship and the influencing factors. This theoretical analysis also made it possible for us to get a better understanding of “Company A” and enabled us to find potential research questions. The result from our study can guide companies, located in a similar environment, to improve the process of transforming an invention into a venture.

3.2 Data collection

Data collection has been done with thoughtful in-depth field investigations to get a deeper insight and enable for us to understand the phenomenon of corporate venturing (Bryman and Bell, 2011). The authors describe that in qualitative research, theory is generated from the study. Emphasis is also on how people perceive the environment in which they occur. Our goal with the study is to get an understanding of the corporate venturing process for this “Company A” and a qualitative data collection tools have been used (Saunders, 2007). Eisenhardt (1989) explains that one way of collecting data is by comparing a pair of cases and then analyzing the differences and similarities between them. Due to this, we have used two cases from “Company A” which we first analyzed within and thereafter the relation between. Eneroth (2005) argue that a risk with doing qualitative research is to capture cases too similar to each other, which then will limit the findings. We are aware of this but base our study-approach on Eisenhardt (1989) who claim that case studies can be used to generate and test theory. Therefore to secure the scientific base and broaden our knowledge, we have gathered information through a multi-stage procedure. Including investigation of existing theory and cases, company specific material such as minutes of meetings and interviews with employees from “Company A’s” management, research, distribution and marketing department (Bryman and Bell, 2011).

Bryman and Bell (2011) describe that data collection in qualitative research can be done by in-depth interviews. We initially started with some exploratory interviews with employees at “Company A” to get an understanding of the subject and to be able to decide what direction to take. Information gained from these interviews in combination with related literature and our initial research question helped us construct follow up questions, find new sources of information and especially to develop an interview guide (Bryman and Bell, 2011). The questions within the interview guide were in this way more targeted towards issues developed during our work. Our study focus on what different factors and challenges present in a corporate venturing process and due to this, related questions were asked. We developed an own model and by doing this stating what parts in the corporate venturing process we focus on. Questions in our later interviews were therefore targeting these different phases within our model. The decision regarding what employees to interview was based on their involvement, knowledge and experiences regarding the two cases (Bryman and Bell, 2011). The two teams were small and consisted of a technical leader, commercial leader and one or two engineers. The two cases were both under the same manager and within the new business development department. That the teams were structured in the same way facilitated our selection process due to that our goal was to interview employees in similar position. Interviews were therefore held with the manager of both cases and all employees involved which we argue made it

easier for us to compare the similarities and differences between the two cases (Eisenhardt, 1989). To secure high reliability and validity we used qualitative semi-structured interviews in which we have relied on a set of questions connected to our topic and shown in our interview guide (Appendix 5). During the interviews we were more interested in the interviewee's opinion and therefore often used follow-up questions to permit nuisance and relevant answers. The data collected was in this way more varied and the process more flexible (Bryman and Bell, 2011). Before entering the role as interviewers we reflected over factors such as unbiased questioning, our knowledge in the area, appropriate location and ability to listen and ask relevant follow-up questions (Saunders, 2007). We believe that our interviews and the examination of the challenges the venture team faced, added value to the understanding of the product development process.

3.3 Method for data analysis

The first steps in our study (observations, interviews and literature) are classified by elements of induction while later steps (analysis, conclusion) take a more deductive approach (Saunders, 2007). This iterative process is part of the grounded theory, in which researchers repeatedly go back and forward between data, theory and analysis (Bryman and Bell, 2011). We have systematically collected our data and in a close relationship with existing theory built our own model with which we analyze the data. Locke (1996) argues that researchers sometimes use only parts of grounded theory and in line with this we started with a research question, continued to theoretical sampling and collection of data. We compared and explored relationships, which is an essential part of theory building (Eisenhardt, 1989). After this, we went back to rephrase the research question and started again with the process of collection more specific theory. This work process was done a few times before we started with the final analysis. Reason for this is due to that when building theory from cases, the work with analyzing the data is the central part, but also the most difficult (Eisenhardt, 1989).

We developed an own model by combining the most relevant parts of Naffziger et al. (1993), Rogers (2004), Cooper (2006) and Khurana and Rosenthal (1998) which we then used when analyzing "Product X and Y". Our goal was to lift forward the similarities and dissimilarities between the two cases as such but also when they are managed in a way that goes towards the guidelines in literature. In this way we try to highlight what, according to research, could have been managed differently. The times when literature strengthens our arguments were naturally brought forward as well. We tried to analyze what activities that are performed in the different phases of a product development process to determine which ones are vital for the success of a venture. Our study tries

to highlight if some activities are more important than others and if so, when in the different stages of the project they should be outlined.

3.4 Reflection of method choices

Compare and explore relationships, going back and forward in an iterative way and continually asking ourselves questions, we argue was a suitable work process. The qualitative approach, compared to the quantitative can deliver more diverse answers. We argue that the interviews were vital for our further analysis even though it required a lot of effort to create an interview guide, select persons to interview and transcribe/analyze the outcomes. The space and freedom we got through the semi-structured interviews lead to a more objective view, which makes the results more reliable (Bryman and Bell, 2011)

We are aware of the fact that results from case studies cannot be used for making generalizations (Bryman and Bell 2011). In our study we test theoretical models on “Company A” but the result is not naturally applicable for other organizations. We therefore believe this could be an area of follow-up studies, done with quantitative methods, to test our detected findings. According to Saunders (2007) a case study can challenge existing theories but will more likely lead to new research questions.

The findings from our study are according to a confidentiality agreement not allowed to be published. We therefore decided to leave out all names and descriptions that could give an indication of the company or the case study projects. Furthermore no names of interviewees will be mentioned. The company that gave us the chance to examine their product development process will be named “Company A” in the paper and the two projects we analyzed will be named “Product X” and “Product Y”.

4. Presentation of data

4.1 “Company A”

“Company A” is the global leader in the targeted market (“Company A” Annual Report, 2012). Their focus is on video related technologies featuring products and solutions, based on innovative and open technology platforms. The global trend towards higher security awareness is requesting technologically more advanced systems. With the broadest product portfolio on the market, global market presence, as well as efficient production and distribution channels, “Company A” is well positioned to take advantage of opportunities connected to market trends. Even though “Company A”’s customers can be found in many areas, the company focus on certain customer segments such as: transportation, retail, education, banks, city surveillance, healthcare, industry and critical infrastructure. The biggest market is the North-, Middle- and South American region. The two other geographical markets are Europe (38%) and Asia (12%). Sales today are done through a “two-tier” distribution model, in which the company uses distributors and system integrators/re-sellers to bring products to market.

“The indirect sales model is a cornerstone in our company’s corporate strategy.” –
Head of the new business department

This close collaboration with partners worldwide has led to a successful growth and global expansion during the recent years. The solid network of strategic partner allows a unique offering. This model guarantees scalability and proximity to the customers and at the same time maintains efficiency in the organization. The structure is built on loyalty while there is no exclusive agreement with any partner. “Company A”’s overall goal is to keep its position as global leader within their existing market, to secure the basis for achieving growth, profitability and financial stability in a long term. Since 2006, the company’s sales have increased by an average of over 20% per year and the goal is to withhold this. The company’s management team believes this will be possible as long as the actual technology shift in the target markets is still ongoing. To be prepared for times of a more and more saturated market, “Company A” have invested approximately 15% of the annual sales in research and development yearly (“Company A” Annual Report, 2012). As one part of this strategy, “Company A” a few years ago created a new business department. This department’s goal is to bring forward ideas entirely outside the company’s core business. They had promising ideas that did not fit in the company’s structure and to overcome this, among other, challenges and enable more innovative ideas, a new department was created. The cases that we describe in this chapter are both developed

from within this department. Main reason for using these two ventures was that the authors worked with a project in this department and therefore had access to the vital persons and information.

4.2 “Product X”

4.2.1. Idea generation/Opportunity recognition

The idea of “Product X” was initially to bring better sound quality to the market. The manager at the new business department was tired of low sound quality in public soundings and imagined this problem could be solved with more intelligent audio solutions. The sound could then be adjusted depending on the amount of people in a room. He also saw potential in making addressable speakers for diverse purpose and segments. Many of “Company A”'s existing customers are asking for better quality on the speakers connected to cameras today and therefore the idea about “Product X” was brought forward to improve the security standards. One of “Company A”'s visions is to create a safe environment and for that they use their existing product portfolio today. By delivering add-on products, “Company A” in the future plans to increase the value and make it possible to sell a safety-bundle. This bundle could not only be used to create a safer environment, in addition it could enable various new high-technological ways of marketing. The retail industry is today searching for new ways of improving the in-store shopping experience and for this “Product X” would suit perfectly.

The idea generation of “Product X” was eased by some organizational factors. The new business department as such had an impact as well as the fact that the idea was developed top-down. The head of the department put his trust in the project and pushed it forward. This manager knew that his department had resources and the one thing missing was just an idea. He got the feed-back needed from within the department and decided to invest the existing resources in the venture.

4.2.2. Concept/ feasibility- and project planning

The vision for “Product X” was brought forward by the manager at the new business department and developed within this unit. During the development process no meetings was held with external stakeholders (end-customers) and neither was the project put on test. The small team worked with the development on their own and due to the limited insight in the project, no one was able to question it.

“With the separate development, we eventually missed out insights from others that could have been useful.” Business Developer for “Product X”

The project leader describes that the process as un-supervised without a formal plan on how to commercialize the project, normally described in a business case. The project therewith had vague milestones and goals to achieve. He says that long periods passed without anyone asking about progress.

“Not all projects need a business case instead managers have to trust their gut feeling and vision to create a market.” – Head of the new business department

The new business department was created to allow a more ad-hoc way of working, but the project leader claims despite this, that “Product X” should have been more thought through with an initial understanding of what to achieve and when to be finished. The employees working on the project were more used to a goal oriented work approached and the fact that it was missing here, could according to the business developer, be one reason for the later challenge.

4.2.3. Development

The new business department’s manager vision of intelligent audio solutions was handed to one head engineer at the department, who got the task to bring forward a proof of concept. According to the project leader a proof of concept is not a finished product, but instead a model developed to demonstrate the feasibility and to hopefully verify the believed potential. The engineer and business developer worked individually and during long periods with limited reviews. That process worked due to that resources which were needed in the process of bringing “Product X” from initial vision to prototype was found inside “Company A”. That the engineer worked with “Product X” within his normal work task was also an enabler. The first period of 6 months was extended by 6 more and the time spent by the engineer on the project was the largest expense. The manager at the new business department had the responsibility and an overall budget in which “Product X” had to fit. Besides this rough estimation of cost, no budget for the project was set.

4.2.4. Test & Validation

The plan and actual result differed in “Product X” when the engineer who worked on the software and architecture, ended up with a well-functioning prototype instead of just the planned proof of concept. A mismatch then appeared due to that less marketing and operation plans were done by the responsible business developer. He and the engineer worked after different agendas and visualized different goals, which according to the project leader was one reason to the differentiated outcome.

“We probably concentrated too much on delivering a proper technical solution and put not enough effort in the commercial development” – Business Developer for “Product X”

One explanation for this could be that the project leader was manager more on a diplomatic level than micromanaging the project. The vision with “Product X” was vague and because no product proposal (steering document made up by product manager) was created, the engineer and business developer did not know what to deliver. As a result the development process took longer time than needed and with a different outcome than planned. He continues by saying that the management’s trust in the project team was high but the priority lower and therefore less meetings were held than in other projects. One manager at another business development department describes that “Company A” in cases before have developed products and not until later stages tried to sell it in to customers. He argues that this could explain the work method within “Product X”.

The first obstacle to overcome in the process of bringing “Product X” to the market was connected to the lack of a more formal business cases. Focus was put on the technology side and as a result of this, problems occurred when the view was shifted over to the work of finding a commercialization strategy. All interviewees describe the challenge with regulation EN54. This regulation states that speakers used for emergency messages in the EU countries have to fulfill certain criteria’s to get certified for the CE mark.

“We believe it will take 5-7 years before this regulation is changed, so alternative solutions have to be found around this problem.” – Engineer working on “Product X”

The new business manager says that due to that “Product X” couldn’t work as a security speaker, “Company A” would not have the right channels. Due to this fact and scarceness of resources at that time, the department did not try to find alternative ways. The result from a non-existing business case was a lack of trust in existing markets. One manager at Business Development Retail state that “Company A” is known for cameras and therefore will “Product X” create an issue regarding the brand image. A manager from business development related to transportation argues against this when claiming that offering products beyond cameras would not be strange for an organization like “Company A”. Despite this, the new business department delivered a well functioned speaker prototype that nobody wanted. The project board did not see any potential markets and after a final steering group meeting “Product X” was put on hold.

4.2.5. Commercialization

The commercialization stage in our model includes the channel decision and roll-out of a product. The work of examining different channels to the market was limited to the security segment and when regulations made this market impossible, the project was put on hold. Due to this no roll-out was done for “Product X”. The project leader says that the lack of ability to overcome barriers among the employees, a low priority from management and his own less structured work methods was reasons for putting the project on hold.

The project has not been cancelled, instead “Company A” keep it in their portfolio and search for the right time and way of bringing the product forward to market. There is still a strong believe in the product and all internal interviewees believe it’s a question about time before the process will be finished and the product can enter the market.

4.3 “Product Y”

4.3.1. Idea generation/Opportunity recognition

The second project was also brought into the new business department and developed there. Before this technology were only existing in military use. After the gulf war, and the increasing volume of the respective sensor production, the prices dropped and it was possible to produce this type of cameras for public use. The first companies who used it were from building and construction companies and used it for maintenance and fault detection reasons. The founder of the company saw the opportunity to produce these cameras also for the private market. Even though there was no existing private market, he believed in the opportunity to sell this technology. It was a defined goal to launch an affordable camera for the private security use.

4.3.2. Concept/ feasibility- and project planning

Two students wrote a master thesis about the technical feasibility for the camera. Technically it was not totally clear at that stage, where the final product would lead to. At the same time a business developer made a commercial study for the product and analyzed potential markets, customers, competitors, legal restrictions and other challenges.

The new business department was established at the time the project was developed. This unit was placed directly under the CEO with a direct report line, which led to less bureaucracy and a faster

way to generate management support. The head of the new business department was similar to what literature call a project sponsor. He planned the budget and was responsible if the costs exceeded the budget. The project got a technical project leader, who had to be replaced by an external consultant as he went on paternity leave. The initial business developer on the other hand became commercial project leader.

“The department at that point was consisting only of us - the head of the department, one project manager and me as an engineer. We were three people and all involved in this project.” Engineer for “Product Y”

The resources initially planned for the project, turned out to be insufficient. Due to that the development time had to be extended. The organizational structure of the department allowed the team to work discrete. The extension of resources did not have to be legitimated by an external review board. These circumstances made it possible to concentrate on the development instead of convincing a committee of the attractiveness of the product.

4.3.3. Development

The development of this new type of camera was a natural step for “Company A” due to that nearly all technology and knowledge could be found in-house. Two students got the task to develop different sensors connected to this product, but in the end “Company A” bought one from an external provider. The plan was therefore also in this case changed, but no mismatch like in the case of “Product X” was present. Prototypes were created with the new sensor and planned to be tested on a small project. Compared to other product innovations the engineer in this project said that to call it a new business project is somewhat incorrect, as it is related to the core technology of the company. The project was financed fluently and without complications during the development time. The budget for a project like this consists mainly of manpower and employees were available in the department anyway. The challenge was more about resource disposition then allocation. This new camera was built also by combining components from existing cameras and therefore the project team made use of resources from other departments inside “Company A”.

In this work they defied several internal regulations and procedures, like communication guidelines, to bring the project forward. Many challenges such as the misuse of military materials, questions about actual markets and the price were hurdles to overcome. The support from the company’s founder and the head of the new business department helped in this regard, although it would have been possible to overcome these obstacles also in another way. In this way the founder of the company functioned as a gatekeeper.

“Even without sponsoring from someone like him, it is possible to successfully develop a product within this department.” – Business developer for “Product Y”

4.3.4. Test & Validation

After the product prototypes were created the company faced problems with the commercialization. The price was higher than on “Company A”'s other cameras and the extra value added hard to explain. The product also had to be accepted by ISP (Inspektionen för Strategiska Produkter) before allowed to be sold. The commercial project leader found an opportunity to present the product and get a real business case at the city security system in a municipality in the “Company A”'s region. By installing a few prototypes of the product on schools in this area, “Company A” could easy show the value with this new product. By showing the actual use of the product, many concerns were sorted out.

4.3.5. Commercialization

When investigating channel decisions regarding the developed product, the existing distribution model was first examined and found out to be valid. This new camera is similar to “Company A”'s other products which is one reason for this positive match. The idea was to first launch and roll-out the product in the U.S. because the office there has a good business development organization. They are more used to new product launches and the fact that the U.S. market is more homogenous than the European regarding languages and restrictions is also an enabler. “Company A” has a high market penetration and significant market share in many of their U.S. markets and therefore it is critical for them to create new business areas here.

A business developer undertook an extensive survey regarding the distribution and examined if existing distribution channels are suitable to launch this product and if there is an interest on the distribution side. “Company A”'s apprehension was in the beginning that the relatively high price would scare distributors to take the product in their stock (products that costs more than 300 \$, distributors did not want to store). The distributors although made sure that there are a big potential demand and that it will be their own responsibility. Due to that the price for this type of sensors dropped, the pricing of the product was relatively easy.

“Company A” managed to bring the product to the U.S. market and sell it to half the price of competitors.

“The largest seller of this type of cameras (60 % market share) at that time had one week later lowered their price by 1000\$ but was still more expensive than our product.” – Business developer for “Product Y”

Today “Company A” has taken a significant market share on this type of cameras in the security segment. The final product which was launched to the market therewith reached its goal to be an affordable product which trumps the existing technology and opens a bigger market.

5. Analysis and discussion

Starting with the framework from an interactive model of corporate venturing, we analyzed our gathered data. The process of internal corporate venturing is according to Daft and Lengel (1986) characterized through ambiguity and uncertainty what goes along with the findings from our case study. We connect this information about the actual processes within each case with the theoretical step model we created in chapter two.

5.1. Idea Generation / Opportunity Recognition

The triggering event that initiated the process can be described as opportunity recognition in both cases. In the case of “Product X” it was the perception of low quality of the sound in many public environments that lead to the idea of improving this situation. After the need for a higher sound quality was identified, a group of people discussed the issue in an informal setting and tried to create a connection to the technological capabilities that the company had. The initial team made no use of external partners during the idea generation, what could have helped to get more innovative ideas (Laursen and Salter, 2006). The management support and technological capabilities seemed sufficient for a development of the idea. The team discovered more differentiated applications and therewith also more potential customer segments. As “Company A” is active in the security business, they decided to create a product which would widen the product portfolio offered to the existing customers.

For “Product Y” the opportunity was the fast reduction of prices for sensors, which are the heart of this type of cameras. “Company A” saw the opportunity, as there was no company producing affordable cameras of this kind for the private or security use. They considered the opportunity as promising and decided to transfer the existing knowledge into a new product field. This goes along with Baron’s (2006) view on opportunity recognition, who points out exactly the process of connecting different events and trends to create innovation. The initial idea was closely connected to the goal, which was the launch of affordable cameras of this kind. It was already economically specified and not only focused on the technological development of an invention. This orientation was a guideline during the entire process of development also when the task was to find the right distribution channels and launch plan.

The described activity of connecting existing knowledge and technology to environmental changes like the drop in prices for sensors are critical for a successful start of a new product development process (Parjanen et al., 2012). In the case of “Product X” the need was obvious and for the “Product Y” the opportunity was closely related to the already existing product portfolio and technology. This

could have been the enabler to that the process of generating ideas could be kept relatively short. Nevertheless open-innovation approaches (Chesbrough, 2003) were used in terms of students who worked on the projects within the scope of their master thesis. These groups brought in external knowledge and were involved in later phases of the process. We think that although “Company A” in both cases acted on right grounds when starting the development process for these two new ventures, there was still a difference in support and planning.

5.2 Concept /Feasibility- and Project Planning

Griffin and Page (2003) argue that in the project planning stage the product needs to be clearly defined and a detailed plan has to be outlined. Product profitability goals and budget requirements have to be solved, as most of the commercialization of new product developments fails because of poor formation of budget and resource needed. A technical assessment was conducted for “Product X”, to assess the development and manufacturing feasibility, also with regards to potential costs and time for the execution (Cooper and Edgett, 2006). With such an evaluation the product requirements, but also potential risks and challenges can be identified. A more detailed financial analysis has to be undertaken here, as the project enters a heavier spending stage from that point on. (Griffin and Page, 2003)

We argue that this type of plans was something that was not undertaken sufficiently in the case of “Product X” and in some ways also in “Product Y”. The “Product X” project was even more hands-on due to that it was managed without milestones and that the final goal was vaguer. The development time was extended as the initial estimation turned out to be too short. The proof of concept which was planned to be created for “Product X” was classed more as a prototype and the market research was therefore not done in the same speed as the technology was developed. The research was also mostly done for the security business as this is the largest channel “Company A” uses. The “Product X” project did not have routine steering group meetings and was therefore not analyzed properly until the commercialization step. The management support for “Product X” was strong during the early stages of the product development in this case, what might have been the reason for a less critical view and less questioning. The organizational discretion of the new business department supports that development without ongoing reviews, what could lead to a one-sided result as in this project.

As Khurana and Rosenthal (1998) state the early phase of a product innovation process is crucial for the future success and with “Product Y” the technical work process was more in line also with the business side. Formal milestones were set and a kick-off was held. The head of the new business

department planned the budget and was responsible if the costs would exceed the budget. Rogers (2004) stress that beside the project leader, the core team and external actors play an important role. During the work process with “Product Y”, the project was questioned ongoing also with external partners involved.

Bruno et al. (1987) claim that a well-developed business plan will increase the new venture’s chances to succeed. “Product Y” had a more formal plan and was project directed more on a micro-level. One explanation to this could be that the idea was more similar to “Company A”’s existing products than “Product X” what made the project planning easier, due to that a company standard work processes could be used. The new business department’s manager claimed that not all projects need a business case, instead managers have to trust their gut feeling and vision to create a market, what might be valid for some product ideas. The flexibility and possibility to create a market could still occur, even when working after a business plan. Now instead two negative effects of working without a business plan were the struggle of having a finished product without a business case and that the different actors involved in the project delivered diverse results.

5.3. Establishment of Project Team

Radical innovations are developed because of the effort and ability of the projects team to expand the organizational borders and the corporate strategy (Hodgkinson and Wright, 2002). For this reason we examined also the characteristics of the team and individuals, who were involved in the development of our case project.

Both products were developed in the new business department. After being introduced to the department a project team was established, consisting of a technical project manager, a commercial project manager and an engineer who did the actual development and programming work. It was also very important for the outcome of the projects that both frontline managers and middle managers were involved. Frontline managers are usually closely involved in the identification and definition of business ideas, whereas middle managers are crucial for activities that secure the organizational support for the project (Ren and Guo, 2011). The new business department was therefore established with a direct report line to the CEO, to make it easier for an idea generator to create management attention and therewith support. Also the level of control was higher as it would be in a team without management attendance.

The team was built up early in the process before the actual project definition started, as we earlier proposed it in our model. Thereby it was possible to clarify the responsibilities and roles of technical and commercial project manager early in the process. In both cases the composition of the team at

this stage cannot be described as cross-functional, as it was consisting only of members from the new business department with an engineering background. In the case of “Product Y” the department was about to be established and was consisting of three members, who were all involved in the development project. The estimation of resources was not sufficient, but the team managed to generate support from other internal departments and bring the product development forward. The team identified potential customer segments and needs, what goes along with the necessary activities described by Khurana and Rosenthal (1998). There was no involvement of external partners in the project team, what Rogers et al. (2004) point out to be crucial. The team is responsible for all key activities that have to be conducted during the front-end phase. Cooper (2006) specifies that this might include getting in contact with key users and other focus groups. For “Product Y” these activities were mainly concluded by the project team and in particular the commercial project manager as he was highly motivated to get the product onto the market with help also of external partners. In the case of “Product X” the team got input from external parties first when the prototype was already developed.

5.4. Development

Griffin and Page (2003) claims that new product ideas need to be evaluated regarding its strategic fit to the organizations existing products. The technology and resources used in “Product X” could be found mostly inside “Company A”, but the planned product was totally outside the company’s core business. Goals and budget requirement are resolved in this stage and for “Product X” the economics was managed fluently. Rogers et al. (2004) claim that project teams need to be designed as early as possible for the building of prototypes which was done for the case of “Product X”. The engineer and business developer worked individually and during long periods with limited reviews, which could be seen as a limitation.

The development of “Product Y” was a natural step for “Company A” due to that nearly all resources, technology and knowledge could be found in-house. A well-defined product definition, including a product concept that defines the development goal is according to Seidel (2007) vital. For “Product Y” prototypes were created by a small team of engineers and business developers and project managed on a micro-level. The resources and budget needed was mainly manpower and employees were available in the department anyway. Cooper (2006) describes the function of a gatekeeper, what in our case was performed by the founder of “Company A” in “Product Y”. He with this work helped the team to bring the project forward and to overcome several internal regulations and procedures, like creating communication guidelines. Many challenges such as the misuse of military

materials, underestimation in terms of resources, questions about actual markets and the price were also hurdles to overcome. Dougherty and Heller (1994) argue that one crucial success factor is to find right balance between creativity and discipline when building competence in the new product development teams. A well-functioning network within the organization and the needed managerial ability we believe made it possible to allocate the necessary resources and push “Product Y” forward. Ansary and Mamaghani (2011) say that companies should try to create long-term businesses and reduce economical risk. In “Product Y” the risk was relatively low, as the company did not face any cannibalism threat and during the development stage in the new business department no major investments were needed.

Prototypes for “Product Y” and “Product X” were created by small teams of engineers. In the “Product X” project a mismatch between plan and outcome occurred due to lack of project managing. In both cases the design and creation of the prototype was the longest process step. For “Product Y” own sensors were developed, but in the end “Company A” bought external ones and implemented them. This could be seen as a waste of resources, but we argue that since the internal development on this product was mainly done by students, no larger loss occurred. It’s also a sign that “Company A” trusted the industry and was aware of that they were not experts in all fields. Marketing and operation plans need also to be developed for the coming process steps what was missing in the “Product X” project. External partners should according to Rogers et al. (2004) be involved in the development process, what was not done in none of the projects. The business developer at the new business department who worked with “Product X” had other projects on his agenda and this could be one reason for why not external shareholder meetings were carried out. We also consider the secrecy concerning the two projects as one reason for keeping them totally inside the company.

Kuratko et al. (2011) highlight organizational factors that are vital in a venturing process and Naffziger et al., (1993) say that organizations should avoid having standard procedures and job descriptions. During the two development processes in “Company A” the projects needed less support activities in terms of gatekeeping or resource allocation. This is related to the structure of the department. The team had the resources, which were needed for the development activities they were supposed to undertake and had a high level of work discretion. That means there are less people to convince of the viability for a product during the development process. Naffziger et al., (1993) describe the work with gathering resources and regarding “Resource Availability” the challenge in the two cases was more the right disposition between different projects in “Company A”. For “Product X” this became an issue, when the team stumbled to find new business cases after the first idea was impossible to proceed on. More promising ideas were in the pipeline and the

management team decided to reallocate resources to other projects. Both product ideas were developed within the new business department, what we argue makes the factors “Rewards” and “Time Availability” less critical. The development of new ideas is the actual job of the employees in this department and therefore no spare time is needed neither would rewards boost the intrapreneurial behavior in this particular team. This finding is not valid for ideas that are developed outside a specific new business department.

5.5. Test & Validation

The next phase after the development process is to test the viability of the product itself. Activities performed here help to evaluate the production process, customer acceptance and the economics of the project (Cooper, 1990). Rogers et al. (2004) argue that project teams should establish plans on how the prototype would be tested and validated in the later steps. This work was limited in “Product X” and the product was only tested in-house. The “Product X” project did not lack the acceptance from customers instead the opposite was more correct. Including external actors and sources in the process helps organization to achieve innovation (Laursen & Salter, 2006). “Product X” lacked the shareholder trust and when regulations limited the use a validation was hard to conduct. The shareholders did not see, based on the limited market research that had been performed, enough markets to target. The management could not support the project further and the costs, although low and mostly employee related, could not be defended, what was later one of the reasons to put the project on hold.

Rogers et al. (2004) claim that test should be done as early as possible. For “Product Y” this was undertaken and project tests were done continuously. The product was installed in a field trial at a school building in a close municipality. This opportunity for the product appeared by chance and was one reason for the success. Before this, “Product Y” had suffered from problems with commercialization due to the relatively high price, what now was solved due to the price drop. Kärkkäinen et al. (2001) argues that the commercialization of a product should integrate both customers and suppliers and with the trial on the “Product Y, “Company A” got the chance to test the product in real environment and in this way they created a customer acceptance. “Company A” then saw that there was a market demand despite the higher price.

We believe that if also “Product X” had got the chance to be tested outside the company, the higher value brought by this system could have been perceived. By doing this “Company A” could have created a customer demand which might have convinced shareholders. For “Product Y” the initial

validation was delayed due to question about price. Cooper and Edgett (2006) describe that gatekeepers have the authority to approve resources needed for a project. The team around “Product Y” did not give up, but found new potential customers and applications and worked as a gatekeeper. Even if one member of the development team saw no way to move on and overcome this challenge, the whole team was able to find a solution.

5.6. Commercialization

Cooper and Edgett (2006) describes the commercialization phase with operation and marketing launch plans which are fully implemented in this stage. As “Company A”’s model is based on the distribution model, the channel decision has to be taking into consideration earlier to determine the products success. Rogers et al. (2004) argues that a successful roll-out can influence how the product impacts on the market, and therefore it is vital to launch the product in the right quantity at the right time. “Company A” uses an indirect sales model and regarding this we believe the channel decision has to be considered in an early stage. Reason for that is for example if the best way of selling the product is directly to end-customers, “Company A” will probably not develop it further. Bruno et al. (1987) argue that a well-developed business plan including channels to market will increase the new ventures chances despite this the planning in “Product X” was done in an ad-hoc way. Trust was put in existing channels and when it became clear that “Company A” did not have the right channels, the roll-out of “Product X” was canceled and the project put on hold.

Rogers et al. (2004) continues by saying that the business development team and sales forces in close cooperation, first need to determine the distribution channels. This planning was done properly for “Product Y” and a solid work was done continuously and as planned, with the focus on trying to use existing channels. “Product Y” is an incremental innovation, which can be one reason to the successful use of existing channels and partners. After a small test-project in the company’s home country the roll-out was done in the U.S.. The similarity in the market and a less restrictive climate were reasons for this. The roll-out went smooth and obstacles such as regulations regarding military materials were according to us solved by the fact that “Product Y” got the chance to be tested outside the company. This is in line with Cooper and Edgett (2006) whom describe that the phase test & validation should include external test markets.

If the work with determining the right channels and segments to target had been done earlier for “Product X”, perhaps it could have been launched now. In the stage when “Company A” found out that new channels were needed, resources had to be put on other projects. That the team working with “Product X” lacked the ability to defend and gather resources gets in this way visible. The missing communication and limited market research in combination with the shareholders view of

that the company missed the right channels, lead to the draw-back. "Product Y" similarities to "Company A"'s existing products and the more planned strategy enabled a smooth roll-out.

6. Conclusion and implications

6.1 Review of the research question and the own model

"What influencing factors are needed to overcome challenges in the corporate venturing process?"

Based on the earlier explained models and theories about corporate venturing, product development and critical success factors, we created an own holistic new product development model which we used when analyzing data from case X and Y. The factors we included in our model were investigated regarding their influence and importance for the project's success. All included factors were deemed to be crucial for the outcome of the development project. Our cases delivered practical examples on how these factors influence the process and should be managed.

We early in our study found out that there are many variables which effect if a new venture would succeed or not. There is no unique or right way, but instead it depends on company and situation. We although argue that the organizational and individual factors highlighted in our model are vital in all stages and for all types of ventures. Innovative ideas that do not find early support from the management or do not have a diverse enough business development group are likely to fail. According to Birdi (2007) the organizational factors affect the development process more in the later stages concerning implementation. For management support, we have shown that is not totally right. An innovative idea that does not find early support from the management is more likely to fail.

The project team in our cases was built up early in the process to clarify the responsibilities, but lacked people from business or marketing departments who have a close relation to existing customers. External partners should according to literature be involved in early stages and this was not done in any of the projects. The opportunity to test a product in a real environment, we argue is a factor that could help convince shareholders and other internal doubters.

The process of bringing an idea to an innovation, we divided in different phases. This approach could be argued as too structured, which could strangle the creativity. However we believe that a company who wants to sell a product through its existing channels must plan the project so it fits into the corporate structure. Business planning, market research and the technological development of a project have to be done in parallel. The need for a champion have for long times been argued as necessary for the ventures survival, but our study showed that it's more the activities and structures which matters. Activities that often are done by the champion of a venture such as guiding, pushing

and protecting are now handled by for example a whole department. The factor “ability to overcome barriers” which is implied with a champion can be generated by a team or even a whole department, as in our case. The role of champion by itself, is therewith less crucial compared to the function that has to be performed.

An outcome which was not planned by the creation of our model is the importance of the detailed up-front analysis in the project planning stage. We knew from earlier literature that new projects often move too fast through this stage with little up-front homework (Cooper and Edgett, 2006). Our cases supported this earlier finding, as the project planning especially in terms of potential market and customer analysis was not concluded optimal.

6.2 Implications for research

According to Rogers et al. (2004) the involvement of external partners is essential for a new product development project in general. We argue that this is not totally right. In the case of the “Product Y” customers or other external partners from the network video segment could have been included to evaluate ideas. But “Product X” is a totally new technology that external partners could not contribute to with their knowledge, before the developing company has spent a certain amount of time on the developing and created some kind of concept. Especially existing customers often tend to use new technologies to substitute the existing products. Their lack of technological capabilities might leave them blind of the innovative potential, as Steve Jobs (1985) stated “Customers often do not know what they want until you show it to them”. The implications of external ideas and input from customers on the development of new product ideas have to be investigated, especially with regards to the level of technological innovativeness of the product.

The fact that our two cases come from one department and one company limit the study and we believe that follow-up studies should be done with quantitative methods, to test our detected findings. The influence and significance of the single factors could be further investigated with a quantitative analysis or a survey across several companies and projects.

6.3 Practical implications

When individuals or groups generate new ideas, there is not always an obvious market with a need that is waiting to be satisfied. This is valid in particular, when companies generate ideas, which are outside their core business. Our case company sells products and services around a technology that had, when it was developed, no existing market. “Company A” then developed the market and the connected distribution, by convincing people about the added value of the product technology. We

therefore agree that team or organizations have to trust their gut feeling to some extent, when it comes to innovative ideas. We although argue that even though the “Product X” project is not within “Company A’s” core business, existing project development model could and should have been used, to make the process more effective.

We identified a different level of review activities undertaken during the two development processes. After the decision to develop the initial idea, “Product X” was reviewed less and in conclusion the developed prototype differed from the planned proof of concept. We believe that projects which are questioned continuously will be elaborated more properly and in this way the end result will turn out stronger and more precise. The lack of different functions within the team could have been a reason why the development turned out to be rather one-sided with a lack of different business cases. Therefore we believe it could have been useful to involve also members from business development or marketing departments who have a close relation to existing customers.

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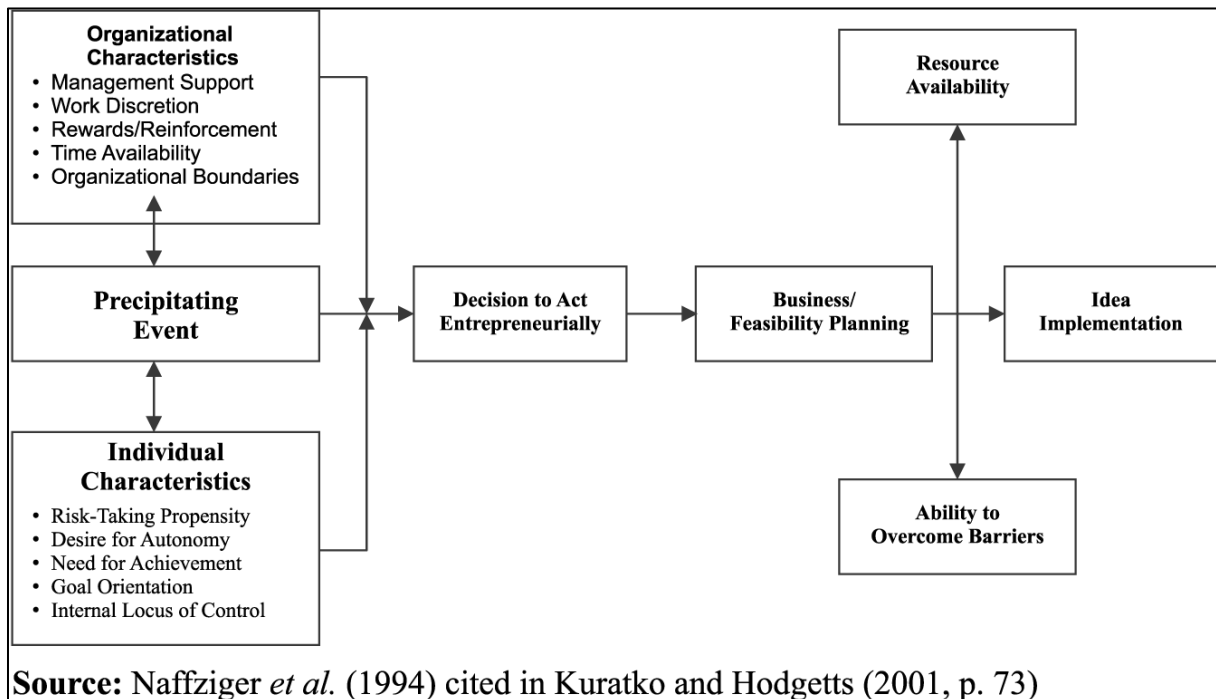
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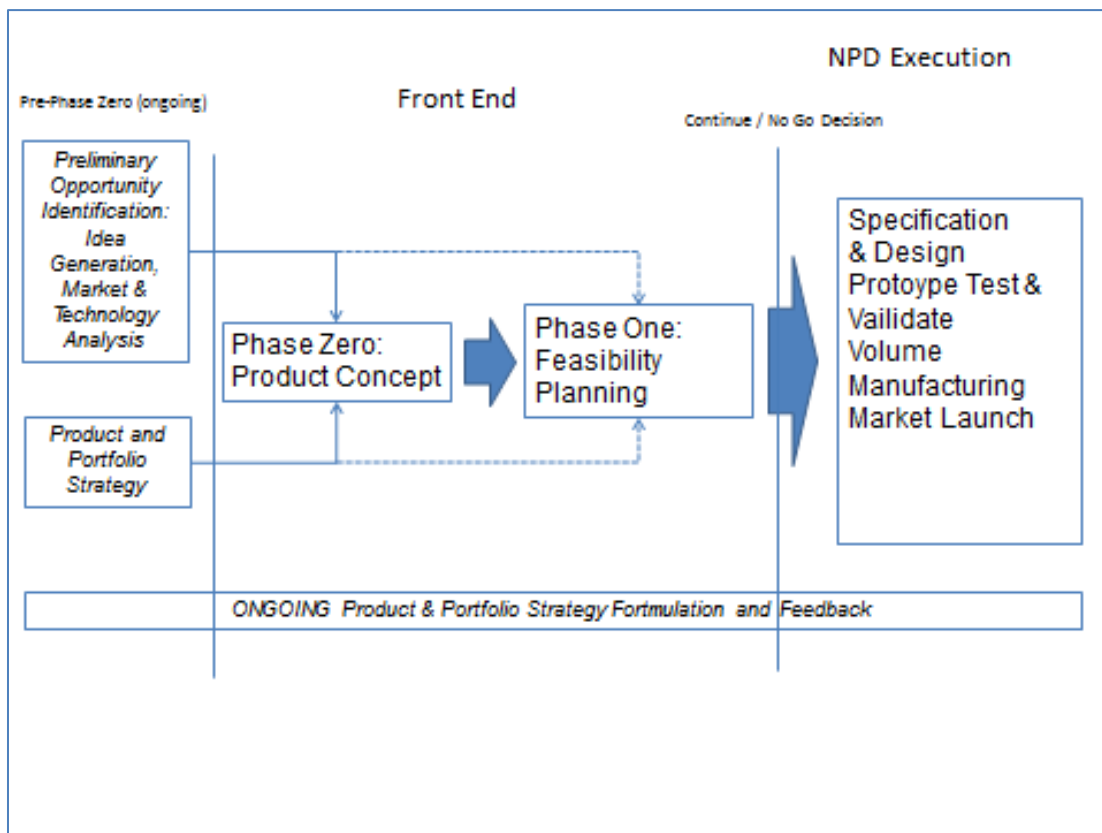
Appendix 1

Naffziger et al.'s interactive model of Corporate Entrepreneurship



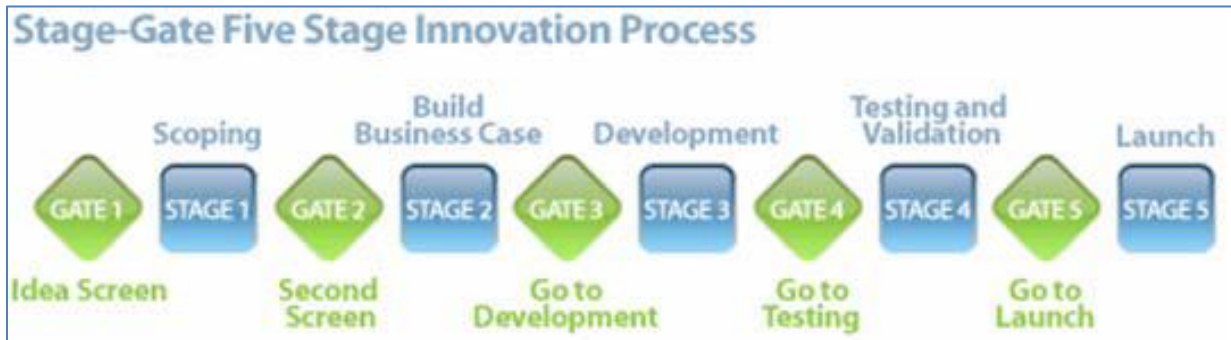
Appendix 2

Front-end model theory by Khurana and Rosenthal



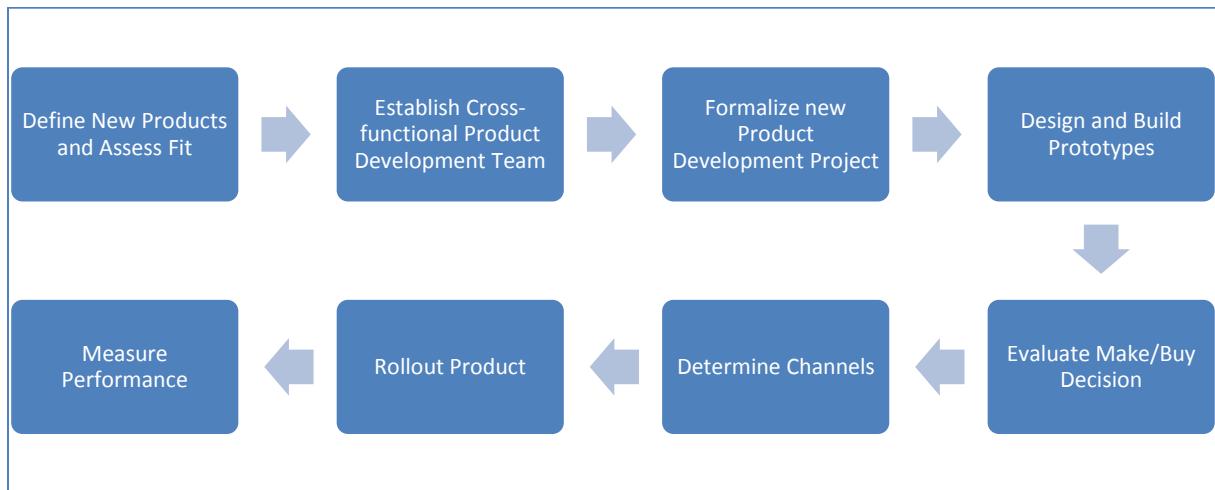
Appendix 3

Stage-gate system by R.G. Cooper



Appendix 4

The Operational Product Development and Commercialization Process by Rogers et al..



Appendix 5

Interview guide: The internal venturing process

Interview Guide:

Introduction

Initially we started with some exploratory interviews with employees at “Company A” to get an understanding of the subject and to be able to decide what direction to take. Information gained from these interviews in combination with related literature and our initial research question helped us construct follow up questions, find new sources of information and especially to develop this interview guide. The questions within the interview guide are in this way more targeted towards issues developed during our study. The goal with our questions was to get deeper knowledge about the two different corporate venturing processes. We interviewed developers as well as managers to get the whole picture and in many cases a second interview with the same person therefore was performed.

General Questions and Topics

Short introduction of the thesis and our work at “Company A”

Name:

Position:

Project:

Project Role:

Specific Questions

Can you tell us about your role in the internal venturing processes “Company A” went through when developing Product X and/or Y?

- *Did the person had to take any risks?*
- *Did the person worked autonomously?*
- *Did the person had a drive for achievement?*
- *Was there a goal to work towards?*
- *What was the initial aim, milestones and final goal with the project?*
- *Were there any barriers to overcome during the process?*

Can you tell us about the type of resources needed in the project?

- *How was it financed? Step by step (milestones) or a budget for the whole project?*
- *Other type of resources, who decided about that?*
- *Was there any lack of resource?*
- *Was there someone acting like a resource champion?*

What organizational features would you say characterize the work process with Ozzy?

- *Were there clear structures/ guidelines that the interviewee followed or more ad-hoc? (Organizational boundaries)*
- *Did a manager, team-leader or other employee championing the project? (Management support?)*
- *Was there a reward system in place during the process? (Reward system)*
- *Was there a time frame on the project? (Time availability)*
- *Did the interviewee work on the venture within your normal work tasks or as an outside project? (Work discretion)*

Can you describe one internal venture you have been part in?

- *What did the interviewee contribute with?*
- *What was needed?*
- *What could the person have done different today, if he looks back at the creation/innovation process?*