

The early stage of corporate venturing - activities and effectuation in a corporate context.

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Abstract

CHANGING CUSTOMER NEEDS, globalisation and new technical possibilities demand for internal change within corporations to remain competitive. Corporations need to innovate or die. Increased competition forces corporations to focus on efficiency in exploiting opportunities, leading to a focus on incremental innovation. On the other hand, entrepreneurs are disrupting industries through radical innovations in a fast pace. Corporate entrepreneurship (CE), aims on combining the agility and innovativeness of start-ups with the resources and knowledge of corporations. However, the way corporate entrepreneurs work as well as the activities they conduct, especially in the early stage has been neglected in CE research.

This study has the aim to bridge the knowledge from entrepreneurship towards the context of CE. The entrepreneurship field has progressed significantly, offering a comprehensive state of knowledge on the activities conducted and the way entrepreneurs work. A single case study with five sub-cases in a major European engineering company has been conducted to address the research gap from the corporate entrepreneur's view. There are three main contributions to the field of CE:

The first contribution is that corporate entrepreneurs and entrepreneurs conduct activities with the same aims in the categories funding, opportunity, planning, legitimacy building, business development and advice. While the categories remain the same, activities within the categories differ partly due to the context.

The second contribution is that corporate entrepreneurs work mainly following effectuation, focusing on their means and conducting activities in an iterative way. The need for structure of a corporation induces elements of a predictive logic. The means available to the corporate entrepreneur determine whether product championing takes place.

The third contribution is that a corporate support structure should complement the means of an corporate entrepreneur, either through methodical support or support in interdisciplinary team-building. For supporting radical innovations, it is recommended to offer facilitated customer- and user-involvement. The indirect-internal form of corporate venturing was found to be more suitable in the case company.

Table of Contents

ABSTRACT	i
TABLE OF CONTENTS	ii
1 INTRODUCTION	
1.1 Background	09
1.2 Research Gap, Problem and Research Questions	11
1.3 Definitions	14
1.3.1 Entrepreneurship	14
1.3.2 Corporate Entrepreneurship	15
1.3.3 The early stage	16
1.3.4 Support Structure	16
2 RESEARCH METHODOLOGY	
2.1 Theory-building case study	19
2.2 Data collection methods	23
2.2.1 Interviews	23
2.2.2 Document analysis	24
2.2.3 Design probes	24
2.2.4 Lego Serious Play	25
2.3 Reliability and Validity	28
2.4 Limitations	29
2.5 Research Construct	31
2.5.1 Towards a model of the early stage in ICV	31
2.5.1.1 Activities in Corporate Entrepreneurship and Entrepreneurship compared	31
2.5.1.2 Assumptions on the process from the Corporate Entrepreneur's perspective	37
2.5.1.3 Questions related to Effectuation and/or a predictive approach	38

3 LITERATURE REVIEW

3.1	The concept of Corporate Entrepreneurship	41
3.1.1	Entrepreneurship versus Corporate Entrepreneurship	41
3.1.2	Reasons for Corporate Entrepreneurship	42
3.1.3	Guth & Ginsberg's model of Corporate Entrepreneurship	45
3.1.4	The Forms of Corporate Entrepreneurship	47
3.1.4.1	Strategic Entrepreneurship	49
3.1.4.2	Corporate Venturing	51
3.1.4.3	Selection of the form of Corporate Venturing	54
3.1.5	Integrating Corporate Venturing into the Corporate Entrepreneurship Concept	57
3.2	The early stage of Corporate Venturing	60
3.2.1	Activities during the early stage of Entrepreneurship	60
3.2.2	The process from an Entrepreneurship perspective	66
3.2.2.1	Linear Process	66
3.2.2.2	Complex Process	67
3.2.3	Predictive Approach vs. Effectuation	69
3.2.3.1	Predictive Approach	71
3.2.3.2	Effectuation	72
3.2.4	The process from the Corporate Entrepreneurship perspective	74
3.2.4.1	General characteristics and overview	74
3.2.4.2	Burgelman's Process & Stage model	77
3.2.5	Activities in Corporate Entrepreneurship	81
3.2.5.1	Bootlegging	81
3.2.5.2	Double-Linking up process	83
3.2.5.3	Decision making	84
3.2.5.4	Buffering & bridging	85
3.2.5.5	Championing	86

4	CASE STUDY	
4.1	Case study introduction	89
4.2	The sub-cases	91
4.2.1	Case A	91
4.2.1.1	Findings	92
4.2.1.2	Analysis	93
4.2.2	Case B	95
4.2.2.1	Findings	95
4.2.2.2	Analysis	96
4.2.3	Case C	98
4.2.3.1	Findings	98
4.2.3.2	Analysis	99
4.2.4	Case D	101
4.2.4.1	Findings	101
4.2.4.2	Analysis	103
4.2.5	Case E	104
4.2.5.1	Findings	104
4.2.5.2	Analysis	105
4.3	Findings overall	107
4.3.1	General findings	108
4.3.2	Activities	110
4.3.3	Support structure and channels for innovation	116
4.3.4	Idea sources & role of the Corporate Entrepreneur	119
4.3.5	Effectuation and/or Predictive Approach	120
5	DISCUSSION	
5.1	Activities from Entrepreneurship in Corporate Entrepreneurship	128
5.2	The Burgelman (1980) Model and Effectuation and/or a Predictive Approach	132
5.3	Implications on a support structure for Corporate Venturing	138

5.3.1	Build on the means of Corporate Entrepreneurs	138
5.3.2	Customer- and user-involvement	140
5.3.3	Forms of Corporate Venturing	141
5.3.4	Summary of the Implications	142

6 CONCLUSION

6.1	Contributions	146
6.1.1	Activities from Entrepreneurship in Corporate Entrepreneurship	146
6.1.2	Elements of the Burgelman-Model of Corporate Entrepreneurship combined with elements of a predictive and effectuate logic	147
6.2	Managerial implications on a support structure for internal Corporate Venturing	149
6.2.1	Build on the means of Corporate Entrepreneurs	149
6.2.2	Customer- and user-involvement	150
6.2.3	Form of Corporate Venturing	151
6.3	Directions for future research	151

REFERENCES	cliv
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APPENDICES

Appendix 1: Design Probe	clxv
Appendix 2: Lego Serious Play Workshop	clxxii

LIST OF TABLES:

Table 1: Activities in Entrepreneurship and Corporate Entrepreneurship literature	32
Table 2: Questions to reveal a predictive and / or effectuative approach	38
Table 3: Summary of the Definitions of the Four Forms of Corporate Venturing	52
Table 4: Forms of Corporate Entrepreneurship in relationship to organisational objectives	56
Table 5: Activities in Entrepreneurship literature	61
Table 6: Activities in the Cases compared	110
Table 7: Needs of active and passive inventors and corporate entrepreneurs	118
Table 8: Elements of Prediction and Effectuation in the Cases	122

LIST OF FIGURES:

Figure 1: Burgelman (1980) Model and Effectuation and/or a Predictive Approach	36
Figure 2: Guth & Ginsberg's (1990) model of Corporate Entrepreneurship	46
Figure 3: Organization Designs for Corporate Entrepreneurship	55
Figure 4: Corporate Venturing in the Corporate Entrepreneurship Concept	58
Figure 5: Predictive and Creative Approach	70
Figure 6: Burgelman's (1980) stage model of internal corporate venturing	77
Figure 7: Burgelman's process model of internal corporate venturing	79
Figure 8: Double linking up process	83
Figure 9: Burgelman (1980) Model and Effectuation and/or a Predictive Approach	132

1. Introduction



1.1 BACKGROUND

THE COMPETITIVE ENVIRONMENT that corporations are embedded in is in flux. Changing customer needs, globalisation and new technical possibilities demand for internal change within corporations to remain competitive. Corporations need to renew themselves constantly to achieve business growth and gain a competitive edge. This study focuses on corporate venturing – the activities and the way corporate entrepreneurs work in order to position the corporation well for the challenges of the future. Radical innovation is a crucial topic in large corporations. Innovation is considered to be a challenge for the current business operations (Laaksonen 2007) and the development of radical business innovations is a demanding task for established companies (Burgelman & Sayles 1986). A major part of corporations is focused on the efficient exploitation of recognised market opportunities. The corporate environment, characterised by efficiency is likely to foster incremental innovation. Radical innovations imply major changes, disrupting the efficient workflow of an established company (Laaksonen 2007). Nevertheless, radical innovations are required to stay ahead of the competition.

Corporate entrepreneurship, or entrepreneurship within existing organisations (B. Antoncic & Hisrich 2003), is one of the strategic options that corporations have for developing radical innovations (Laaksonen 2007). The agility and innovativeness of start-up entrepreneurship is combined with the resources and knowledge of a corporation, helping entrepreneurs to scale their business quickly, while enjoying the security of being a corporate employee (Kuratko et al. 2011). “Large firms must innovate or die” (Pinchot 1985 p.xii). Corporations need to overcome inertia rooted in bureaucracy and establish a “start-up kind of mentality” (Thornberry 2001) to revitalize themselves (Guth & Ginsberg 1990).

Through using the innovativeness of start-ups, corporations can gain a competitive edge (Kuratko et al. 2011) while enhancing their attractiveness for top talents (Shulman et al. 2011; Ireland et al. 2001). Besides the direct effects of corporate entrepreneurship, the concept helps to build important capabilities within corporations (Molina & Callahan 2009; Keil et al. 2009). Corporate entrepreneurship can be categorised in two forms: corporate venturing and strategic renewal (Guth & Ginsberg

1990). While strategic renewal targets the transformation of the complete corporation towards an entrepreneurial orientation, internal corporate venturing aims to create new businesses for the corporation (Day 1994; Ansoff 1957; Kuratko et al. 2011).

While the corporate entrepreneur has been continuously subject to research, the main research on the process and activities of corporate entrepreneurship has been conducted by Robert Burgelman in the 1980's (Burgelman 1980 and subsequent publications). Recent studies building on his model confirmed the appropriateness of the process and activities in a contemporary context (Laaksonen 2007; Ranta 2005).

However, a large stream of research focusing on activities as well as process characteristics has been conducted in the field of entrepreneurship. The concept of effectuation, taking the entrepreneur's means as starting point for subsequent actions rather than a predictive approach has been identified by Sarasvathy (2001). Although the transferability of research findings from entrepreneurship into a corporate context are disputed (Stützer 2007), this study builds on Kuratko et al. (2011), who state that corporate entrepreneurship is entrepreneurship within a different context and therefore concepts may be transferable.

This study is conducted as a single case study at a structure of corporate entrepreneurship within a major European engineering corporation. The corporation offers high-tech investment goods and focuses on the business-to-business market. It has over 50.000 employees, located worldwide. The industry the company is situated in, is despite a prolonging growth about to overcome major changes implied by resource scarcity. The support structure's task is "clearly [to foster] the disruptive and long-term things that wouldn't happen without the special attention from our side" (Internal Document, 2010). Through engaging in corporate venturing, the support structure aims to improve the capability of the corporation to develop radical innovations.

In this study, the stage and process model of Burgelman (1980) will be researched from the corporate entrepreneur's point of view in terms of activities and process characteristics concerning effectuation and prediction from the field of entrepreneurship within the case of the support structure for corporate entrepreneurship of a major European engineering corporation.

1.2 RESEARCH GAP, PROBLEM AND RESEARCH QUESTIONS

ANTONCIC & HISRICH (2003) identified in their extensive literature review three focal areas of corporate entrepreneurship research: the individual entrepreneur and his/her characteristics, the formation of new ventures and their fit towards the parent organisation and the enabling corporate environment as well as the types of ventures and the entrepreneurial organisation, with emphasis on characteristics of such an organisation. Process and activities in corporate venturing are part of the second research stream. Extensive research has been carried out by Robert Burgelman (Burgelman 1980; Burgelman 1983b; Burgelman 1983a; Burgelman 1984b; Burgelman 1984a; Burgelman 1985). His process model of internal corporate venturing has become the core of corporate venturing research (Laaksonen 2007). Although the model has been developed over 30 years ago, it has been used also in recent studies (e.g. Ranta 2005; Laaksonen 2007). However, the model has been criticised as being too linear (Van de Ven 1986) and overemphasizing autonomous behaviour of corporate entrepreneurs (Lovas & Ghoshal 2000). By using the term autonomous behaviour, Burgelman (1980) describes that corporate entrepreneurs engage in ideas that are not triggered by the corporation, but by the corporate entrepreneur him-/herself.

A recent stream in entrepreneurship literature has its focus on the concept of effectuation as opposed to a predictive logic (Sarasvathy 2001), which has been extended towards a predictive and creative approach (Noyes & Brush 2012). While effectuation is described to start with a given set of means that are utilised to reach a vision, the predictive logic starts with a given goal, followed by a plan how to achieve it (Sarasvathy 2001). Their relevance in entrepreneurship literature has been confirmed (Sarasvathy 2001; Noyes & Brush 2012), and recent attempts have been undertaken to bridge the concept to the context of corporate R&D projects (Brettel et al. 2012; Küpper 2010). Brettel et al. (2012) suggest the suitability of effectuation particularly in the fuzzy front-end of R&D projects. Although the existence of effectuation in R&D projects has been proven, the concept of effectuation has not been expanded towards corporate venturing. The way of working following a predictive approach is substantially different to the concept of effectuation. As a support structure of corporate venturing aims to support the corporate entrepreneur, it is necessary to identify their way of working. Corporate entrepreneurship research has focused mainly on later stages of corpo-

rate venturing, e.g. on the performance of the parent organisation (B. Antoncic & Hisrich 2001; Zahra 1991) and firm growth (J. A. Antoncic & B. Antoncic 2011). Another stream of research has focused on organisational antecedents as enablers for corporate venturing (e.g. Van Wyk & Adonisi 2012). Burgelman (1980) and other studies building on his research (2007) have focused on the complete process of corporate venturing, from the early stage towards implementation, taking the corporate entrepreneur, a support structure (called Corporate Development Group) and corporate management into account. As pointed out above, it seems to be crucial to understand the activities and process characteristics to be able to actively support the activities of corporate entrepreneurs. Such a study, gaining qualitative insights from the corporate entrepreneur's point of view and drawing implications from his/her activities and way of working for a support structure has not been conducted before.

Activities performed by entrepreneurs in the start-up context have been subject to current research (e.g. Carter et al. 1996; Katz & Gartner 1988; Gelderen et al. 2006; Liao & Welsch 2008; Alsos & Kolvereid 1998; Gordon 2012). However, the relevance of these activities in a corporate context has not been examined. Further, the concept of effectuation has not been sufficiently researched in the early stage of internal corporate venturing as stated above. Hence, there is a knowledge gap of the early stage of internal corporate venturing in respect of the activities performed and elements of effectuation.

Market pressure and competition are forcing organisations to streamline their operations towards a focus on efficiency. This focus on efficiency compromises the ability to create radical innovations (Laaksonen 2007), if no structure to foster radical innovation is built. To engage in internal corporate venturing and build a support structure to foster entrepreneurial innovation is one strategy for corporations to foster radical innovation. However, the limited knowledge of how corporate entrepreneurs work in respect of the process, activities and the underlying logic makes it challenging to build a working support structure. Further, corporate entrepreneurship research has been largely neglecting the activities and process, while entrepreneurship literature has examined these topics in depth.

To sum up, the state of knowledge on the early stage of corporate venturing is currently based on Burgelman's (1980) findings. However, detailed insights into activities and process characteristics of the way corporate entrepreneurs work are currently lacking. Therefore, this study proposes to examine knowledge from the field of entrepreneur-

ship towards its fit in a corporate entrepreneurship context.

In order to solve these problems and fill the research gap, the following research questions are proposed:

1. Are activities from entrepreneurship applicable in corporate entrepreneurship?
2. Can the Burgelman (1980) model be expanded towards elements of effectuation and/or a predictive logic?
3. Which managerial implications can be drawn from the insights into activities and process characteristics?

To answer these questions, an initial theoretical model is created through the literature review. This model has been the starting point for the research. All initial assumptions for the research are stated in the research methodology section.

1.3 DEFINITIONS

1.3.1 ENTREPRENEURSHIP

FOR THIS WORK, the definition of Sharma & Chrisman (1999, p.91) will be used: *Entrepreneurship encompasses acts of organizational creation, renewal or innovation that occur within or outside an existing organization.*

Entrepreneurs are individuals or groups of individuals acting independently or as part of a corporate system, who create new organizations, or instigate renewal or innovation within an existing organization.

Maidique (1980, p.60) states that “the significance of the role of the entrepreneur has been recognized for at least two centuries.” A large body of literature exists about entrepreneurship, resulting in a multitude of definitions available (Gartner 1990; Sharma & Chrisman 1999). For grasping the meaning of entrepreneurship, Sharma & Chrisman (1999) point towards a study of Gartner (1990), who identified two separate approaches for a definition: focusing on the characteristics of entrepreneurship or on the outcomes.

Schumpeter (1934) defines an entrepreneur as a person who carries out new combinations. Subsequently, Entrepreneurship is the process of carrying out new combinations. Kuratko et al. (2011) identify that entrepreneurship involves a process – implying that it is manageable and can be applied in various contexts, as well as that it combines resources in a unique and novel way. Ireland et al. (2001, p.52) add the dimension of “identifying market opportunities”, which can be exploited through “creating a set of resources”. Sharma & Chrisman (1999, p.92) treat “innovation as an entrepreneurial act rather than as the only act that makes the occurrence of entrepreneurship possible”. On the contrary, Stopford & Baden-Fuller (1994, p.522) point out that “most authors accept that all types of entrepreneurship are based on innovations.”

Another dimension add Kuratko et al. (2011) stating that entrepreneurship can occur regardless of the location of the entrepreneur – in a new or existing company.

The relation of corporate entrepreneurship and entrepreneurship will be further examined in Chapter 3.1.1.

1.3.2 CORPORATE ENTREPRENEURSHIP

Combining the definitions of Sharma & Chrisman (1999) and McFadzean et al. (2005), corporate entrepreneurship is defined in this thesis as the following:

Corporate Entrepreneurship is the process of opportunity recognition, assessment and exploitation by an individual or group of individuals, in association with an existing organization to instigate renewal or innovation within that organization.

Several terms have been used in literature to describe the phenomena of corporate entrepreneurship (used by Kuratko et al. 2011; Guth & Ginsberg 1990; Van Wyk & Adonisi 2012; Ireland et al. 2009; McFadzean et al. 2005; Shaw et al. 2005 among others), such as intrapreneuring (Pinchot 1985), intrapreneurship (S. C. Parker 2011; Monnavarian & Ashena 2009; Duncan et al. 1988; Carrier 1994; B. Antoncic & Hisrich 2001; B. Antoncic 2007; Merrifield 1993; Nielsen et al. 1985 among others) and internal corporate entrepreneurship (Jones & Butler 1992 among others).

Pinchot (1985 p.XII) created the term intrapreneur, a merger of two words: “intra-corporate entrepreneur”. This combination reveals the essence: corporate entrepreneurship (which can be used interchangeably with intrapreneurship, McFadzean et al. 2005) describes entrepreneurship within existing organisations (B. Antoncic & Hisrich 2003). This paper follows the argumentation of Kuratko et al. (2011), who claim that the term intrapreneurship indicates to be a new phenomena, while corporate entrepreneurship indicates that only the context, not the fundamentals of entrepreneurship change. Therefore, the term corporate entrepreneurship will be used.

Ling et al. (2008) take into account Zahra’s (1996) attempt to synthesize the research in corporate entrepreneurship and define corporate entrepreneurship as the sum of a company’s innovation, renewal and venturing efforts. This definition, however, appears too broad. McFadzean et al. (2005, p.352) define corporate entrepreneurship as “the effort of promoting innovation from an internal organisational perspective, through the assessment of potential new opportunities, alignment of resources, exploitation and commercialisation of said opportunities”.

A comprehensive definition is offered by Sharma and Chrisman (1999, p.92), who describe corporate entrepreneurship as “the process whereby an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization”. This understanding, supported by B. Antoncic & Hisrich (2003) and J. A. Antoncic & B. Antoncic (2011),

includes the elements of entrepreneurial traits (personal characteristics of entrepreneurs), new venture creation, the renewal of organisations as well as a link towards innovation in products, services and processes within an organisation.

Combined with the understanding of McFadzean et al. (2005), that corporate entrepreneurship involves opportunity identification and exploitation in novel ways, a coherent picture emerges. Therefore, following Sharma & Chrisman (1999) and McFadzean et al. (2005), corporate entrepreneurship is defined in this thesis as the process of opportunity recognition, assessment and exploitation by an individual or group of individuals, in association with an existing organization to instigate renewal or innovation within that organization.

1.3.3 THE EARLY STAGE

This research focuses on the early stage of corporate entrepreneurship. The early stage of corporate entrepreneurship is defined for this research as comprising the conceptualization sub-stage and pre-venture sub-stage of Burgelman's (1980) model. Using the terminology of this thesis, internal corporate venturing comprises three stages: idea stage (equals the conceptualisation sub-stage), concept stage (equals the pre-venture sub-stage) and project stage (equals the development stage). Thus, the early stage comprises the idea and concept stage.

1.3.4 SUPPORT STRUCTURE

When talking about the support structure, this thesis refers to an organisational entity that is responsible for internal corporate venturing within the case company. In Burgelman's (1980) research, this was called "corporate development group".

2. Research Methodology



2.1 THEORY-BUILDING CASE STUDY

JÄRVINEN (2004) DISTINGUISHES between theory-creating and theory-testing. Theory-testing uses a theory, model, framework which is either selected from literature or developed for that study. Theory-creating approaches are aiming to create new theories. Järvinen (2004) counts case study to the theory-creating approaches, which is in line with Eisenhardt (1989).

By referring to Eierman et al. (1995), Dubi (1969), Kaplan (1964) and Weick (1984), Järvinen (2004) states that a theory should include

1. A description of the boundary of the domain of interest;
2. Key constructs within that domain;
3. The relationships among key constructs and the values those constructs can take on.

Weick (1995) emphasizes that the outcomes of the theorizing process seldom emerge as complete theories, but rather consist of approximations. Referring to Merton (1967), theory-creating studies are suitable for exploratory investigations (Järvinen 2004). This study will deploy a theory-creating research approach, using qualitative methodology. Although very suitable for theory-creating research, qualitative methodology faces criticism due to the ability to generalise findings and their validity in different contexts.

In order to mitigate these concerns, Hall & Rist (1999) suggested to use triangulation. They use the metaphor of a stool: a one-legged stool is unable to stand by itself, however by adding more legs, the stool gets more stable and reliable – the same accounts for qualitative research. It's strength lies in the concurrent use of multiple tools (Hall & Rist 1999). Jack & Raturi (2006) state that complementary methods are used in triangulation under the assumption that the weaknesses of one approach will be counterbalanced with the strengths in another. The interactive and simultaneous use of methods is unique to qualitative research (Hall & Rist 1999). For Hall & Rist (1999), the three fundamental methods required for triangulation are interviewing, observation and document analysis. However, for this research, other methods will be added, which will be described in Chapter 2.2.

Hall & Rist (1999) present Denzin's (1978) four types of triangulation: data triangulation, investigator triangulation, theory triangulation and methodological triangulation. Data triangulation takes gathering data from different sources at different points in time into account. Investigator triangulation refers to multiple researchers, while theory triangulation states that the research subject should be approached from different theoretical points of origin. Methodological triangulation refers to the use of multiple methods to gain a comprehensive set of data describing the research subject (Hall & Rist 1999). Jack & Raturi (2006) identify three rationales for triangulation:

The first rationale is completeness, which refers to the fact that any single research method chosen will have flaws and a combination of methods can mitigate the weaknesses of the single methods (Mcgrath 1982).

The second rationale is contingency which is driven by the need for insights (Jack & Raturi 2006). The third rationale is confirmation which improves the ability of the researcher to draw conclusions from their studies. This makes the theory derived from the study robust and generalisable (Knafl and Breitmayer 1989 in Jack & Raturi 2006).

This study takes data triangulation into account, as data is collected from different sources as well as at different points in time. However, as the research period is limited, the time aspect is not very strong. In addition, multiple methods are used to gather insights, therefore methodological triangulation is deployed. Moreover, one theory from Corporate Entrepreneurship perspective (Burgelman 1980) and Entrepreneurship perspective (Saravathy 2001) will be taken into account, therefore theory triangulation is used.

The study will be conducted as a case study. Yin (1994, p.23) defines a case study as "an empirical inquiry that: 1) investigates a contemporary phenomenon within its real-life context when 2) the boundaries between phenomenon and context are not clearly evident and in which 3) multiple sources of evidence are used". Although Yin (1994) is good for case study design, this work agrees with Järvinen (2004) to follow Eisenhardt's (1989) eight steps model how to build theories from case research.

1. Getting started: An initial definition of the research question has been created in Chapter 1.2, in order to focus the efforts during data collection to avoid being overwhelmed by the data (Eisenhardt 1989).

2. Selecting cases: The case company as well as the sub-cases have been selected due to theoretical sampling. The choice of the cases is further elaborated in Chapter 4.1.

3. *Crafting instruments and protocols:* A rich variety of data collection methods have been deployed: interviews, document analysis, co-creation and design probes. This is aligned to Eisenhardt's (1989) observation that theory-building case research typically combines different data collection methods. Although the most common methods are interviews, observations and document analysis, the researcher is not limited to those (Eisenhardt 1989). Thus, triangulation has been deployed, leading towards stronger substantiation of constructs and hypotheses (Eisenhardt 1989).

4. *Entering the field:* During the data collection period, also data analysis has been conducted. A research diary and field notes will be kept. In the field notes, also impressions of the researcher will be documented. Questions like "What am I learning?" has been asked constantly, and the path of the research has been influenced by the preliminary analysis and impressions from the research conducted (Eisenhardt 1989).

5. *Analyzing the data:* Analyzing the data is according to Eisenhardt (1989) the most difficult and least codified part of the process. As a large volume of data is collected, it is suggested to do detailed case-study write ups, first within the case. As a bias in analysis is likely to occur (Eisenhardt 1989), the data has been analysed in different ways, for example by listing similarities and differences between the sub-cases. First, in-depth findings and an initial analysis of the single sub-cases is conducted. Second, the findings of the cases are compared to each other. By doing both in-case and cross-case analysis, the researcher tries to go beyond initial impressions for theory creating and thus create a theory with a close fit to the data (Eisenhardt 1989).

6. *Shaping hypotheses:* From the initial analysis in step 5), tentative concepts emerge. In this step, the emergent theory is compared systematically to the data collected for each case, ensuring a close fit to the data (Eisenhardt 1989). Iteration between theory and data is necessary and will be conducted. The definition of the construct needs to be stated more precisely and evidence must be built to measure the construct. To collect evidence from multiple data sources and converge them on a single, well-defined construct is the aim of this step (Eisenhardt 1989). In order to show the evidence and communicate it to the reader, many researchers rely on tables that summarize and tabulate the evidence underlying the construct (for examples see Eisenhardt 1989).

7. *Enfolding literature:* The theoretical construct derived from the data needs to be examined with literature, both confirming the concept and challenging it. Challenging literature needs to be assessed to avoid that readers get the impression that the theory is incorrect or case specific. Confirming literature helps to strengthen confi-

dence in the findings (Eisenhardt 1989).

8) *Reaching closure*: The amount of cases is limited in this research due to the specific setting at the case company as well as the resources and means for data collection available. Reaching closure in terms of stopping the iteration between theory and data is determined by theoretical saturation (Eisenhardt 1989).

The research follows Eisenhardt's 8-step model in general, but deviates in one important precondition. Eisenhardt suggests that theory-building research should be "begun as close as possible to the ideal of no theory under consideration and no hypothesis to test" (Eisenhardt 1989, p.536) in order to avoid biases which might limit the findings. However, this statement already indicates that reality deviates from this approach. This research goes one step further and deploys what Dubois & Gadde (2002) call systematic combining: an iterative process between theory and empiric data, with a preliminary construct as a starting point.

Systematic combining is grounded in an abductive logic. Deductive approaches are aiming at developing propositions from current theory and make them testable. Inductive approaches are aiming at developing theory from data. Systematic combining is closer to an inductive than a deductive approach, but starts with a preliminary framework and thus is more aiming at theory development than theory generation (Dubois & Gadde 2002). Systematic combining is described by Dubois & Gadde (2002, p.556) as "nonlinear, path-dependent process of combining efforts with the ultimate objective of matching theory and reality".

As the case utilised by Dubois & Gadde (2002), this study is a single case with embedded sub-cases and thus the sub-cases are situated in a shared context. The analysis is aiming on the variation among the cases. There is the threat that if starting with a too tight theoretical construct, the research might be biased, while a too loose framework might lead to a staggering amount of data (Dubois & Gadde 2002). For systematic combining, Dubois & Gadde suggest a tight and evolving framework – the tightness indicates a certain set of preconceptions developed by the researcher, while evolving emphasizes the changing nature of the theoretical construct during the case study (Dubois & Gadde 2002). Thus, the eight steps of Eisenhardt's (1989) model will be enriched with systematic combining (Dubois & Gadde 2002).

2.2 DATA COLLECTION METHODS

2.2.1 INTERVIEWS

CASE RESEARCH TYPICALLY employs face-to-face interviews to collect qualitative data (Bhattacharjee 2012). In face-to-face interviews, the researcher works directly with the respondents. In this research, contextual interviews are conducted, interviewing research subjects in their natural environment. Following Aaker et al. (1995) individual in-depth interviews are conducted, where the subject matter is explored in detail face-to-face. In addition, telephone interviews are conducted with subjects working off-site.

By conducting individual interviews, the potential problem of group conformity is avoided and special attention can be paid to body language, reactions and contextual factors (Hall & Rist 1999).

The interviews have been conducted starting in an explorative way, asking the interviewee to tell the story of his/her innovation, using the stages of idea, concept and project as a structure. After this exploratory part, the interviewees were asked to use the activities presented in 2.5.1.1 and place them within the three stages. The activities were either printed on cards (when the interview was conducted at the interviewee's office) or available on a PowerPoint slide (when conducting the interview via telephone). In both cases, the interviewee indicated whether an activity has been used or is expected to be used within the three stages. Further, elements of effectuation and prediction were asked, using a list of questions derived from several authors (Sarasvathy 2001; Noyes & Brush 2012; Dew et al. 2009). After this, success factors and obstacles were asked, and the expectations of the corporate entrepreneur towards a support structure for corporate venturing.

During the interviews, notes were taken. Out of these notes, a documentation for each interview was created, noting the time, circumstances, person, key insights, detailed notes and areas for further exploration.

2.2.2 DOCUMENT ANALYSIS

Document analysis or archival research is one of the three data collection methods mentioned by Hall & Rist (1999). The research is conducted using data that was created without the influence of the researcher (McBurney & White 2007). The majority of archival data is collected for non-scientific research (McBurney & White 2007). Document analysis “aims to take information stored [...] and abstract from it key themes, strategies, values, messages, and the like” (Hall & Rist 1999, p.302). The materials used in this study are contemporary records, like minutes of meetings, business papers, presentations and similar files (Hall & Rist 1999). Those are often written close to the actual happening of the event and written by participants to keep track of important issues (Hall & Rist 1999). As these documents are often distributed among participants and other stakeholders, the content is often reviewed for accuracy (Hall & Rist 1999).

2.2.3 DESIGN PROBES

Tuuli Mattelmäki (2006, p.39) describes design probes as “an approach of human-centred design for understanding human phenomena and exploring design opportunities”. Three aspects are emphasized:

First, active participation of the user through recording the material and thus user participation through self-documentation (Mattelmäki 2006). Probes are a collection of small tasks and assignments through which users can express their thoughts and ideas and record their experiences (Mattelmäki 2006).

Second, probes are situated in the user’s context and takes his or her perceptions into account (Mattelmäki 2006). The user’s feelings, attitudes, cultural environment, and needs are recorded based on the assignments stated above (Mattelmäki 2006).

Third, probes have an exploratory character and explore new opportunities rather than to solve problems that are already known (Mattelmäki 2006).

By recording a certain amount of time of the research subject, design probes collect data from various situations, providing stronger evidence than single situation observations (DeLongis et al. 1992).

It also minimizes observer bias, although bias through the assignments is still possible. As the probes usually record situations when they occur, the bias of retrospec-

tive is minimized (further reference in Mattelmäki 2006). The probes have been given to users in the form of probe kits, including tasks, and various physical objects to document the experiences, like single use cameras (Mattelmäki 2006). In this research, design probes have been used to explore the everyday life of a corporate entrepreneur. The probe book is intended to document one week in his/ her life and consists of four parts:

1. *Idea Journey*: the corporate entrepreneur is asked to draw the journey of his/ her idea towards an innovation, indicating success factors and obstacles by using colour-coded stickers.
2. *The corporate entrepreneur's week*: the corporate entrepreneur is asked to indicate, when he/she is working on his/her idea by gluing colour-coded stickers on a schedule.
3. *Daily Sheets*: The corporate entrepreneur is asked to name five remarkable things of every of the seven days probe period. Further, the corporate entrepreneur was asked to answer how his/her immediate environment both in professional and private life reacts to the innovative behaviour.
4. *Open question*: Space to openly address things that has not been covered by the questions.

The probe book can be found in the Appendix 1.

2.2.4 LEGO SERIOUS PLAY

LEGO Serious Play (LSP) is a method used for co-creative problem solving in complex environments. By the systematic use of LEGO bricks, tacit assumptions of workshop participants are revealed and novel insights generated.

The LEGO group offers LSP as an open source method. In their description of LSP, they present a four step process of learning with LSP (LEGO Group 2010):

1. The first step is to make participants familiar with the topic to explore and understand the context of the subject they are going to explore;
2. In the second step, participants create a product connected to the targets of the exploration, involving own knowledge and reflections and creative skills;
3. In the third step, participants reflect on the product created look deeper into

their own reflections in order to gain more insights;

4. The fourth step is to connect the newly gained knowledge to new explorations they would want to pursue (LEGO Group 2010).

LSP is best suited for team building, working out a solution for a shared problem, strategy development, where all individuals get the chance to contribute their vision of the challenges and aims, creating a shared mindset about something, unleashing creative thinking and having effective and constructive discussions (LEGO Group 2010).

It is generally accepted that the impact of the neutral spoken word is less than the contextual and supporting factors (Kristiansen et al. 2009). LSP helps to tapping into unconscious knowledge and to communicate this knowledge in narratives (Kristiansen et al. 2009). In practice, LSP is a facilitated workshop where participants are asked questions that are answered by participants by building symbolical and metaphorical models of their insights using LEGO bricks and present these to each other (Kristiansen et al. 2009). The process has four central elements: to construct, give meaning, make the story and reflect (Kristiansen et al. 2009).

Participants are asked to build an individual model and give it a meaning it should symbolize. In the next step, a story grounded in the participant's own experience is created. In the reflection phase, the story is shared with other participants. The workshop can gradually shift from individual exercises towards group exercises, resulting in a common shared model of the workshop. In the sharing phase, other participants ask details about the meaning the builder attached to it (Kristiansen et al. 2009).

There have been three co-creation workshops conducted using the LEGO Serious Play method. The workshops were similarly structured using the LEGO Serious Play principles (LEGO Group 2010) (see Appendix 2) but with varying participants. Before the first workshop was conducted, a pilot-workshop with students was held to test and iterate the tasks and improve the procedure.

The first workshop has been with innovation experts from the support structure. The second workshop comprised two corporate entrepreneurs and one member of the support structure. The third workshop consisted of four corporate entrepreneurs and the member of the support structure actively involved in case E. The workshop was designed to reveal the tacit understanding of the participants towards the process, core activities, success factors, obstacles and stakeholders in the innovation process as well as to find implications towards the support structure. All corporate entrepre-

neurs contributing to this study were present (except one missing due to illness) as well as additional corporate entrepreneurs and members of the support structure. Vivid discussions and the design of the workshop lead to strong triangulation of the findings. The multitude of findings are reported in a condensed format, focusing on findings that were not revealed during the case analysis.

The workshop has been documented using a separate person besides the facilitator to take notes and photographs. After each workshop, a long and detailed debriefing session was conducted to distil the key insights out of the multitude of findings.

2.3 RELIABILITY AND VALIDITY

RELIABILITY OF THE study addresses the degree to which the measure of a construct leads to consistent results (Bhattacharjee 2012). This has been taken into account in various parts of the study. The research subjects have been chosen based on their individual experience with corporate venturing inside the case company. The researcher's subjectivity has been limited through grounding the assumptions underlying the research in a thorough literature review, incorporating different angles of the phenomena. Triangulation has been used to verify the reliability of results. A multitude of methods have been used to collect the data.

Validity "regards the extent to which an observation measures what it purports to measure" (Järvinen 2004, p.157). For this study, Järvinen's (2004) categories of validity have been taken into account:

Internal validity has been ensured through an ongoing analysis during the data collection as suggested by Eisenhardt (1989). A research diary has been kept, and both an in-depth case-internal analysis as well as analysis comparing all cases have been taken into account. Therefore, a close fit to the data is given.

Content validity has been ensured through an extensive literature review, building on substantial theories in the respective field that have been discussed and tested in literature.

Construct validity has been ensured through deriving the construct from literature and qualitatively testing the construct using multiple data collection methods, theoretical sampling and triangulation.

External validity refers to the challenge of generalisability (Eisenhardt 1989) of a theory grounded in case research. Within the case company, the construct has been thoroughly examined. The use of theories that have been created in different contexts leads to the expectation, that the theoretical construct derived from these theories may also be applicable in different contexts. However, as this research focuses on theory-building research, it is suggested that the generalisability will be tested in different contexts in future research.

2.4 LIMITATIONS

THE RESEARCH IS subject to limitations concerning the scope and research methodology. In terms of the scope on the early stage of corporate entrepreneurship, other important questions that warrant further research will not be considered. The success of a venture is frequently discussed. Elements that constitute the success of a venture are also part of the discussion – suggesting that a successful corporate venture may not necessarily be commercially viable, but created important capabilities for the parent company (Keil et al. 2009; Guth & Ginsberg 1990). The integration of the venture into the operating system of the parent organisation (Birkinshaw & Hill 2005) and the relation between the venture and its parent organisation (Backholm 1999; Shulman et al. 2011; Sathe 2003) are important questions demanding for further research.

The personality of the (corporate) entrepreneur is frequently target of research and needs to be further examined (Davis 1999; Guth & Ginsberg 1990) as well as the challenge of finding the right people (Thornberry 2001). However, in this research, the emphasis will be on the activities corporate entrepreneurs undertake and characteristics of the process.

The research methodology used for this study is subject to limitations. A qualitative, theory-creating approach of systematic combining (Dubois & Gadde 2002) is used. Although findings will be further explored and validated through triangulation (Jack & Raturi 2006; Hall & Rist 1999), the findings will not be tested quantitatively. The findings should be tested in subsequent studies, using a deductive approach.

The research is conducted as a case study. The generalisability of the findings towards another corporate context may be a limitation. The research builds on recognised theories from both entrepreneurship such as effectuation (Sarasvathy 2001) and the process and activities of corporate entrepreneurship (Burgelman 1980). As these theories have been created in different contexts, generalisability of the findings may be expected. However, as suggested above, the findings should be verified in further research covering a wide industrial context.

As suggested by Eisenhardt (1989), the case and sub-cases were chosen for theoretical sampling to reach the aim of building a theory rather than representative sampling. Within the case company, sub-cases were chosen to address the research from the cor-

porate entrepreneur's perspective. Some sub cases require the corporate entrepreneur to recall the story of the innovation, and therefore a retrospective narrative will be used. However, this potentially biased approach will be mitigated through research subjects currently in the process and data collection methods aiming at capturing the process from their perspective and avoiding a recall-bias such as design probes (Mattelmäki 2006). Lastly, it would be beneficial to approach the research question in a longitudinal study, but due time limitations, this cannot be fulfilled. Instead, sub-cases were chosen of corporate entrepreneurs being in various stages of the process in order to overcome this weakness.

The Burgelman (1980) model describes extensively the interaction of different actors within corporate venturing as well as the implications towards the strategic and structural context. This study concentrates on elements of Burgelman's (1980) stage and process model, merging them into a model of the early stage of corporate venturing and enriching them with activities and process characteristics from the field of entrepreneurship.

As a research decision, the case company will remain confidential. Therefore, all data related to the content of the innovations as well as a specific description of the case company is not part of this research. However, as the focus is on activities of corporate entrepreneurs and process characteristics, the research decision does not negatively affect the depth of the insights drawn from this study.

2.5 RESEARCH CONSTRUCT

2.5.1 TOWARDS A MODEL OF THE EARLY STAGE IN ICV

IN THIS SUBCHAPTER, corporate entrepreneurship and entrepreneurship will be compared and hypotheses established, which set the ground for the empirical research. Stützer (2007, p.3) states “intrapreneurial efforts may be totally different from original entrepreneurial efforts”. Other authors argue that corporate entrepreneurship is entrepreneurship in a different context (Kuratko et al. 2011), a definition which this study follows. Bouchikhi (1993) claims that neither the entrepreneur nor the environment alone determine the outcome of the business start-up process, but a complex interaction between the entrepreneur and environment. Liao and Welsch expected in their study of tech-based entrepreneurial ventures and non-tech based entrepreneurial ventures that the gestation process is different (Liao & Welsch 2008). However, their results showed that tech-based and non-tech-based entrepreneurial ventures have a common set of core activities, and even the sequencing pattern showed crucial similarities (Liao & Welsch 2008). This suggests that there may be a set of core activities in business creation shared among different types of ventures and different environments (Liao & Welsch 2008). Based on this assumption, arguments concerning similar activities in corporate entrepreneurship and entrepreneurship will be discussed.

2.5.1.1 Activities in Corporate Entrepreneurship and Entrepreneurship compared

The description of activities during the early stage of entrepreneurship (Chapter 3.2.1) will serve as a basis for the comparison of activities.

One major difference between the studies in entrepreneurship literature and corporate entrepreneurship needs to be stated: most entrepreneurship literature talking about the venture gestation process and activities discussed above does not take business success as criterion for a positive or negative influence of a factor on the gestation process.

Success in the gestation process means: the venture has been successfully started, which can be through establishing a legal entity or most often, first sales of products and services.

Table 1: Activities in Entrepreneurship and Corporate Entrepreneurship literature

KATZ& GARTNER 1988	CATEGORY	ACTIVITY IN ENTREPRENEURSHIP	ACTIVITY IN CORPORATE ENTERENEURSHIP	BASIS FOR THE RESEARCH
Resources	Funding	private funding/ bank funding/ government funding		company funding
		invested own money		investing own money
		saved own money to invest		
			Bootlegging resources Burgelman 1980; Laaksonen 2007	bootlegging resources
Intentionality	Opportunity	opportunity recognition	Burgelman 1980; Laaksonen 2007	opportunity recognition
		Spent time thinking about business idea	Burgelman 1980; Laaksonen 2007	thinking business idea
		search where opportunities come from and why, when and how those can be exploited		search opportunities think how to exploit opportunities
		definition of the market opportunity		define opportunity
			Burgelman 1980; Laaksonen 2007	fit to fabric of corporation
Intentionality	Planning	business plan	Burgelman 1980; Laaksonen 2207	write business plan
Boundary	Legitimacy	establishing legal entity		establish legal entity
		developing trust among stakeholders	Laaksonen 2007; Burgelman 1980	develop trust among stake holders
		looked for / bought facilities & equipment		got facilities and equipment
			Decision making Laaksonen 2007	decision making
			Customer market bridging/ market development Laaksonen 2007	customer/ marketdevelopment
			application for patent	

KATZ& GARTNER 1988	CATEGORY	ACTIVITY IN ENTREPRENEURSHIP	ACTIVITY IN CORPORATE ENTERENEURSHIP	BASIS FOR THE RESEARCH
Exchange/ Resources	Business Development	developing models & procedures	Burgelman 1980; Laaksonen 2007 routines from corporation may inhibit innovation	developing procedures
		organised startup team	Burgelman 1980	organizing startup team
		risk management		risk management
		sales & promotion	Burgelman 1980 market development	market development
		devoted full time to business		full time work
		developing prototype	Burgelman 1980 technical linking	developing prototype technical & need linking
		recombination of resources		recombination resources
		assessment difficulties		assessment difficulties
		acquiring know- how expertise		acquiring know-how
		product/ service development		product/ service development
		sales		sales
		marketing		marketing
		promotion		
		customer discussions		customer discussions
		distribution		
	Advice/ CE activities	seeking advice from mentors & advisors	Burgelman 1980 Organisational championing	seeking advice
			Burgelman 1980; Laaksonen 2007	buffering
			Burgelman 1980; Laaksonen 2007	bridging
			Burgelman 1980; Laaksonen 2007	establishing networks
			Burgelman 1980; Laaksonen 2007	product champioing

On the contrary, corporate entrepreneurship literature describing the process (especially the studies of Burgelman (1980) and Laaksonen (2007) which formed the base for the discussion of activities and process in corporate entrepreneurship) are heavily based on the nature of the ICV (radical innovations) and their success, rather than the formation of a legal entity.

Given this difference, the author found many corresponding activities in both entrepreneurship and corporate entrepreneurship. Katz & Gartner's (1988) categories of resources, intentionality, boundary and exchange have been found in both entrepreneurship contexts. However, the activities within these categories differ. The following discussion follows the categories introduced in the discussion of entrepreneurship activities (Chapter 3.2.1).

Funding

Funding as category has been found important in both contexts, however, the nature of funding possibilities differs. While in entrepreneurship private/bank /government funding and investment of own money has been found influential, bootlegging resources was found important in the early stage of corporate entrepreneurship (Burgelman 1980; Laaksonen 2007).

Opportunity

In the opportunity category, both opportunity recognition and spending time thinking about the business idea were activities conducted in corporate entrepreneurship and entrepreneurship (Alsos & Kolvereid 1998; Rotefoss & Kolvereid 2005; Burgelman 1980; Laaksonen 2007).

Planning

The controversial discussion of business planning in entrepreneurship literature can be also found in corporate entrepreneurship literature, as Laaksonen (2007, p.12) notes that it is "almost impossible to develop innovation by concentrating merely on definition or action" and that concepts communicated in plans or documents do not become "implemented reality unless they are brought into action" (Laaksonen 2007, p.12).

This supports the findings of Carter et al. (1996) that planning as a "springboard for action" is a useful activity (opposed to planning as a form of procrastination). In addition, the structured context of ICV emphasizes the importance to communicate the business potential of the venture towards key stakeholders (Stützer 2007), a partic-

ularly important step in ICV to move the venture in gestation towards venture status.

Legitimacy building

The literature review points out that legitimacy building was also a very important activity in ICV. However, the activities through which legitimacy is achieved differ. While establishing a legal entity and looking for / buying facilities and equipment were important in an entrepreneurship context, these activities were not mentioned in an ICV context. Nevertheless, both Burgelman (1980) and subsequently Laaksonen (2007) referred to activities aimed at legitimacy building. Developing trust among stakeholders was emphasized through product championing (Burgelman 1980; Laaksonen 2007) and organisational championing (Burgelman 1980). Legitimacy building can be also observed in decision making. Although decision making is not the most important activity for ICV development, reaching the venture status gives credibility (Laaksonen 2007). Developing an ICV takes a certain amount of time. By bridging towards customer markets, the ICV builds credibility (Laaksonen 2007). Market development and working with the customer are thus important arguments for the legitimacy of the ICV project and can provide major impetus to the ICV project (Laaksonen 2007).

Business Development

Entrepreneurship literature suggests that the lack of routines in an entrepreneurial venture may be disadvantageous for the development (Aldrich & Ruef 2006), and it may be concluded that ICV might be more structured and therefore has an advantage. However, this issue is discussed controversially in corporate entrepreneurship literature. Burgelman (1980) argues that the radical nature of ICV projects demands specific organisational structures for each ICV project. The question whether this has a positive or negative influence is not solved yet, as in opposition to Aldrich & Ruef (2006) Laaksonen argues, that copying the routines from corporations may be harmful for radical innovation in start-ups, and this might be also the case for ICV (Laaksonen 2007).

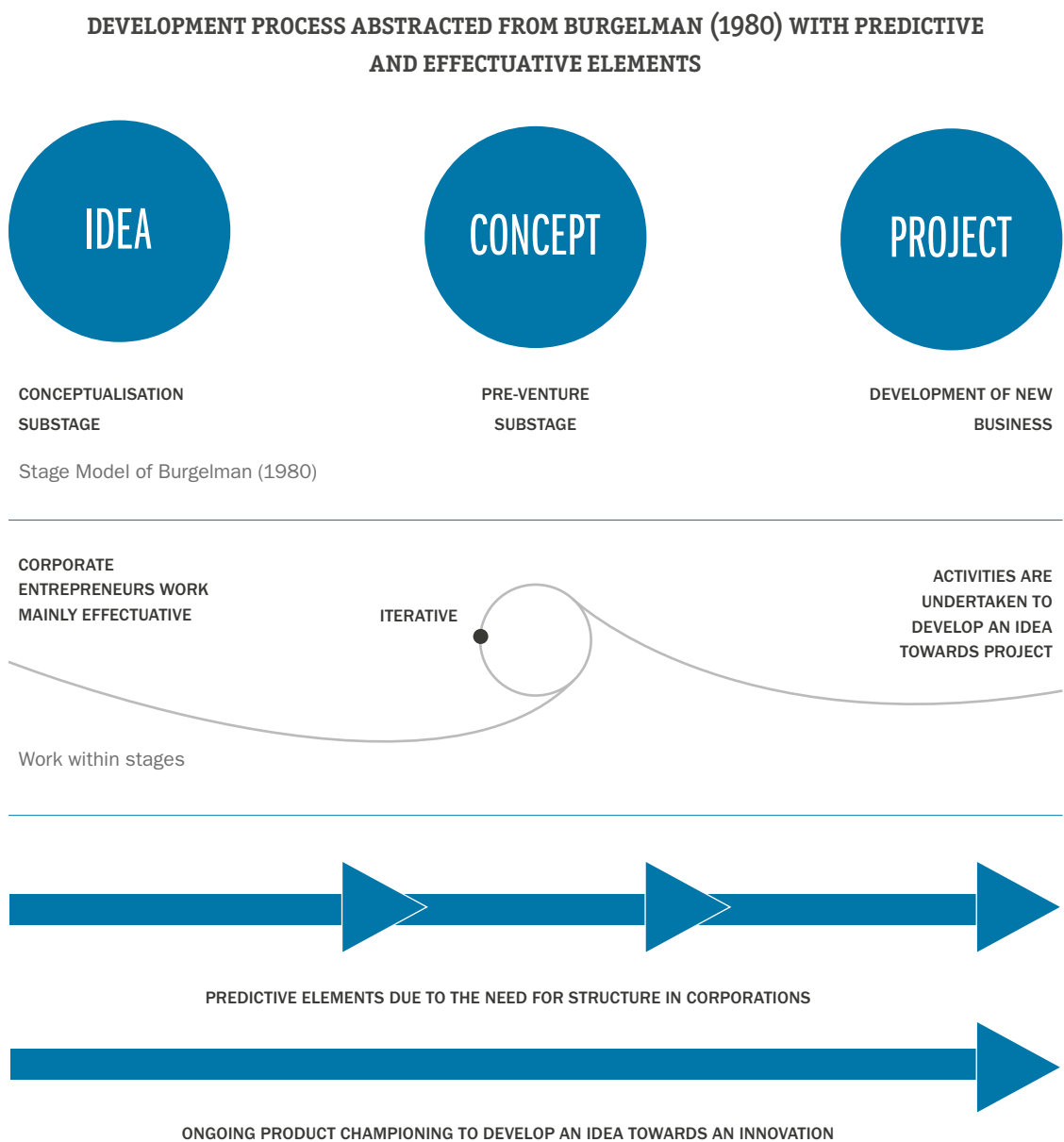
Despite this issue, many of the business development activities found in entrepreneurship literature are also mentioned in corporate entrepreneurship, such as organizing a start-up team (Burgelman 1980), sales and promotion (Burgelman 1980 market development) and developing a prototype (Burgelman 1980 technical development), whereas other activities such as risk management and devoting full time to business

can be assumed to be part of the activities during the venture gestation process of an ICV.

Advice

Seeking advice is an activity mentioned by Carter et al. (1996) in entrepreneurship and Burgelman (1980) in ICV. Other activities like buffering, bridging, establishing networks and product championing have been found relevant in ICV (Burgelman 1980).

Figure 1: Burgelman (1980) Model and Effectuation and/or a Predictive Approach



2.5.1.2 Assumptions on the process from the Corporate Entrepreneur's perspective

The research is conducted from the perspective of the corporate entrepreneur. Insights gained into the activities conducted to develop an idea into an innovation are used to draw implications towards a support structure. Burgelman (1980) takes in his process model of corporate venturing the perspectives of the corporate entrepreneur, the support structure and the corporate management as well as core processes and overlaying processes into account. The core processes are related to developing the idea towards an innovation, while the overlaying processes are related to the strategic and structural context. For this research, Burgelman's (1980) process model is simplified to the corporate entrepreneurs perspective on core processes and applied to the stage model. There are two main phases described by Burgelman (1980) within the core processes:

1. Definition Phase
2. Impetus Phase

These phases can be translated into the stage model as the definition and development stage. The definition stage includes the conceptualisation sub-stage (in this research called "Idea") and the pre-venture sub-stage (in this research called "Concept"). The impetus phase relates to the development stage (in this research called "Project") and is not subject of this research. The early stage of corporate venturing comprises the idea and concept stage.

Within the stages, it is expected that corporate entrepreneurs are conducting activities in an effectuate way (Sarasvathy 2001; Noyes & Brush 2012), developing the idea through own means and go through various iterative cycles. It is expected that the way of working resembles a complex, time-based pacing process (Lichtenstein et al. 2006; Liao et al. 2005). Nevertheless, elements of a predictive logic are expected to be imposed by the need of structure of a corporation.

Product championing is seen by Burgelman (1980) as link between the definition and development phase. Laaksonen (2007) and Carter et al. (1996) emphasize the central role of action. Thus, product championing is expected to be a central activity to transform an idea into an innovation.

The support structure is expected to support the corporate entrepreneur (e.g. with networking and advice), but also is expected to guide the corporate entrepreneur towards a more structured approach for gaining broad acceptance within the

company. Thus, it is expected that the more the idea matures, the more structured it will become.

2.5.1.3 Questions related to Effectuation and /or a predictive approach

Table 2: Questions to reveal a predictive and/or effectuative approach

WAS YOUR STARTING POINT A VISION, WHICH YOU WANTED TO ACHIEVE THROUGH OWN SKILLS OR A CONCRETE GOAL?
HOW DID YOU CONDUCT ACTIVITIES?
LINEAR OR ITERATIVE
BASED ON YOUR OWN MEANS?
THROUGH SMALL EXPERIMENTS BASED ON AFFORDABLE LOSS? (OPPOSED TO EXPECTED RETURNS)
HOW DID YOU DEAL WITH UNEXPECTED SITUATIONS? DID YOU USE UNCERTAINTY AS A SOURCE OF OPPORTUNITY OR DID YOU TRY TO AVOID IT AND QUICKLY OVERCOME THE SITUATION?
DID YOU CREATE A PLAN? WHEN? WHAT WAS THE REASON FOR IT?
DID YOU ASK YOURSELF WHAT I CAN DO? WHO DO I KNOW, WHICH RESOURCES I CAN GET?
DID PEOPLE ENTER THE PROJECT SELF-SELECTED?
DID THE OUTCOMES OF THE PROJECT RESHAPE?
DID YOU SEEK PARTNERSHIPS?

The questions are building on research from Sarasvathy (2001), Noyes & Brush (2012) and Dew et al. (2009) to research effectuation in the corporate context.

3. Literature Review



3.1 THE CONCEPT OF CORPORATE ENTREPRENEURSHIP

3.1.1 ENTREPRENEURSHIP VERSUS CORPORATE ENTREPRENEURSHIP

ENTREPRENEURSHIP AND CORPORATE entrepreneurship are related to each other. Pinchot's (1985) definition of an entrepreneur as "someone who fills the role of an intrapreneur outside the organization" demonstrates this, supported by other authors such as Thornberry (2001) and Kuratko et al. (2011). Many scholars see corporate entrepreneurship as a research sub-field of entrepreneurship (B. Antoncic & Hisrich 2003; Felício et al. 2012). Stopford & Baden-Fuller (1994) identified common characteristics of all types of entrepreneurship: proactiveness, aspirations beyond current capability, team-orientation and the ability to resolve dilemmas.

Nevertheless, the challenges for entrepreneurs vary according to the context (Kuratko et al. 2011). A corporate entrepreneur has to operate in a different environment than independent entrepreneurs. Therefore, the need to differentiate among the settings in which entrepreneurship takes place is necessary (Sharma & Chrisman 1999). Differences are expected in terms of risk, reward, resource availability, and autonomy of the corporate entrepreneur (Hisrich 1990; Morris & Sexton 1996; Pinchot 1985; Moriano et al. 2011; Kuratko et al. 2011).

Kuratko et al. (2011) specify the following differences:

Risk/Reward: Entrepreneurs have the prospect of unlimited reward, however also financial, professional and personal risk. Corporate entrepreneurs have mostly job-related risks, while other risks are assumed by the company (B. Antoncic & Hisrich 2001; Luchsinger & Bagby 1987). Subsequently, the possibility of reward is limited. The corporate entrepreneur has "much more of a safety net should things go wrong." (Kuratko et al. 2011, p.39)

Resource availability: Entrepreneurs are mostly working under severe resource constraints, which is an important source of innovation. The environment the corporate entrepreneur is situated in usually provides resources, although those are often not under control of the corporate entrepreneur. This provides the corporate entrepreneur with the ability to scale quickly.

Ownership/autonomy: Entrepreneurs own their ideas, concepts, products and services. They identify with them, and are proud of success. On the contrary, ideas and concepts the corporate entrepreneur developed belong to the organization. Kuratko et al. (2011, p.39) state that “there can still be a sense of pride, but the employee must be prepared for the ways in which the company will modify the concept, the extent to which it will support the concept, and the people who will take credit for the success of the concept.” Besides legal ownership, psychological ownership is of importance.

Unique characteristics: Corporate entrepreneurs face unique challenges, such as the ability to win approval from various managers, deal with processes and bureaucracy as well as to be politically savvy to gain support from other departments as well as senior management. Furthermore, one difference Kuratko et al. (2011, p.41) highlight is to have “people to talk with”, an internal network of expertise helping in development.

The contextual differences of corporate entrepreneurs and entrepreneurs indicate that corporate entrepreneurs are strongly driven by intrinsic motivation to create something successful rather than monetary rewards. The job-related risk corporate entrepreneurs face can be less obvious: “Few companies fire people because they try something entrepreneurial and fail. It is far more likely that they try something entrepreneurial, get frustrated because of the resistance and obstacles within the company, and leave on their own.” (Kuratko et al. 2011, p.43). In the light of this, one may ask, why are entrepreneurs operating in a corporate environment?

Kuratko et al. (2011, p.44) name three main reasons:

“The resource base that I can tap into; the potential to operate on a fairly significant scope and scale fairly quickly; the security I enjoy when operating in an existing company.”

3.1.2 REASONS FOR CORPORATE ENTREPRENEURSHIP

The main reasons for corporate entrepreneurship can be categorised as market environment, innovation, revitalization of corporations, business growth & corporate performance, achieving or sustaining a competitive advantage, organizational learning and other reasons. Schindehutte et al. (2000) present an extensive list of 40 triggering events, distinguishing internal / external source, opportunity- or threat-driven, technology push or market pull, top-down or bottom up, systematic or deliberate search, chance or opportunism.

Market environment

The market environment is changing. Several authors emphasize that the global, fast changing competitive environment demands novel answers from corporations to survive (see for example Moriano et al. 2011; Kuratko et al. 2011; Morris et al. 2008; Ireland et al. 2009). Kuratko et al. (2011) argue that changes in external environment determine internal changes. Morris et al. (2008 p.iii) state that “dramatic and ongoing change forces executives to regularly re-examine the basic purpose of their organizations, and to become much more flexible”. This flexibility and organisational renewal can be achieved through corporate entrepreneurship (Covin & Slevin 1991; Lumpkin & Dess 1996; Morris et al. 2008; McGrath & MacMillan 2000).

Innovation

Corporate Entrepreneurship as facilitator for innovation received much attention. Pinchot (1985 p.xii) states that “large firms must innovate or die”. He further claims that corporate entrepreneurs “are the integrators who combine the talents of both the technologists and the marketers by establishing new products, processes and services”. Guth & Ginsberg (1990) argue that technological innovation opportunities and corporate entrepreneurship are linked.

Therefore, corporate entrepreneurship helps to exploit opportunities others have not identified as well as satisfy unrecognized and unmet public and personal needs by novel ways to combine the firm’s resources and moving into new markets (Sathe 2003; Ireland et al. 2001). Burgelman (1985) mentions that some authors (Arrow 1982; Mintzberg 1979) have doubts about the innovative capabilities of large, diversified firms. While this view can be seen critical, the importance of innovation for corporations remains undoubted (see among others Hornsby et al. 2002; Hornsby et al. 1993; Ireland et al. 2001; Kuratko et al. 1993; Zahra 1995; McFadzean et al. 2005; Laaksonen 2007; Ranta 2005).

Following the definition of corporate entrepreneurship established in Chapter 1.3.2, innovation is a major component of the corporate entrepreneurship concept, and corporate entrepreneurship can be seen as a powerful antidote to large company staleness, lack of innovation, and inertia (Thornberry 2001). Big companies are interested in the concept to achieve innovativeness (Thornberry 2001). The importance of the contribution of corporate entrepreneurship towards innovativeness is emphasized by several authors (Maidique 1980; Van Wyk & Adonisi 2012; Moriano et

al. 2011; B. Antoncic 2007; Ernst & Young 2010).

One important aspect of innovativeness in corporations is bureaucracy. Corporate entrepreneurship seeks to overcome the inertia caused by bureaucracy within corporations and establish a “start-up kind of mentality” to get the “spark, innovation, speed and risk taking they once had” (Thornberry 2001, p.526).

Revitalization of corporations, business growth & corporate performance

Revitalization of corporations aims towards improving the innovativeness of the corporation as well as the ability of the corporation to predict market changes. According to Guth & Ginsberg (1990), entrepreneurial activities should be emphasized in order to achieve corporate revitalization. Revitalization of corporations has been identified as one of the core outcomes of corporate entrepreneurship (Guth & Ginsberg 1990) among others (Burgelman 1983a; Pinchot 1985; Rule & Irwin 1988). Zahra (1991) emphasizes a positive effect of corporate entrepreneurship on revitalization and firm performance.

Antoncic & Antoncic (2011) found a positive relationship of corporate entrepreneurship and firm growth, while other authors such as Keil et al. (2009, p.601) talk of a “much less clear picture” as their “ability to deliver significant new growth is typically quite low” (Campbell & Park 2004; Stevens & Burley 1997; in Keil et al. 2009). Felício et al. (2012) aim on clarifying this picture by the quantitative analysis of 217 medium-sized companies in the Portuguese context. A key finding of this study was that corporate entrepreneurship influences performance. Moreover, performance is strongly related to growth and improvement in terms of market share, sales and firm size. However, the authors claim that only some of the performance measures are influenced by corporate entrepreneurship. Antoncic’s findings (2007) are in line with these results, as corporations that have an entrepreneurial orientations have higher growth rates compared to those which do not have, however with unclear results in terms of profitability.

Sustaining competitive advantage

Gaining a competitive edge over the competition is one of the key aspects organisations focus on. Kuratko et al. (2011) argue that such sustainable competitive advantage is connected to five key capabilities: adaptability, flexibility, speed, aggressiveness and innovativeness – characteristics of entrepreneurship in their point of view.

Moriano et al. (2011) as well as Rauch et al. (2009) argue that companies embracing corporate entrepreneurship are more competitive than those which do not. For Felício et al. (2012) the search for competitive advantage has been the initiating point for

their study on corporate entrepreneurship and performance.

Organisational learning

Keil et al. (2009, p.601) found that “ventures are temporary conduits for capability development and play a primary role in launching the founding stage of new capability life cycles. The venture’s main contribution was often to transfer valuable capabilities to other ventures or the firm’s existing business units. The benefit from investing in ventures was therefore largely independent from their commercial success.” Molina & Callahan (2009) draw a connection between individual learning, organisational learning, corporate entrepreneurship and their collective impact on an organisation’s performance. These authors and others (Dougherty 1995; Ireland et al. 2009; Zahra et al. 1999) draw mainly on the individual characteristics of corporate entrepreneurs which foster individual and organisational learning and ultimately influence the organisation’s performance and innovativeness.

Other reasons

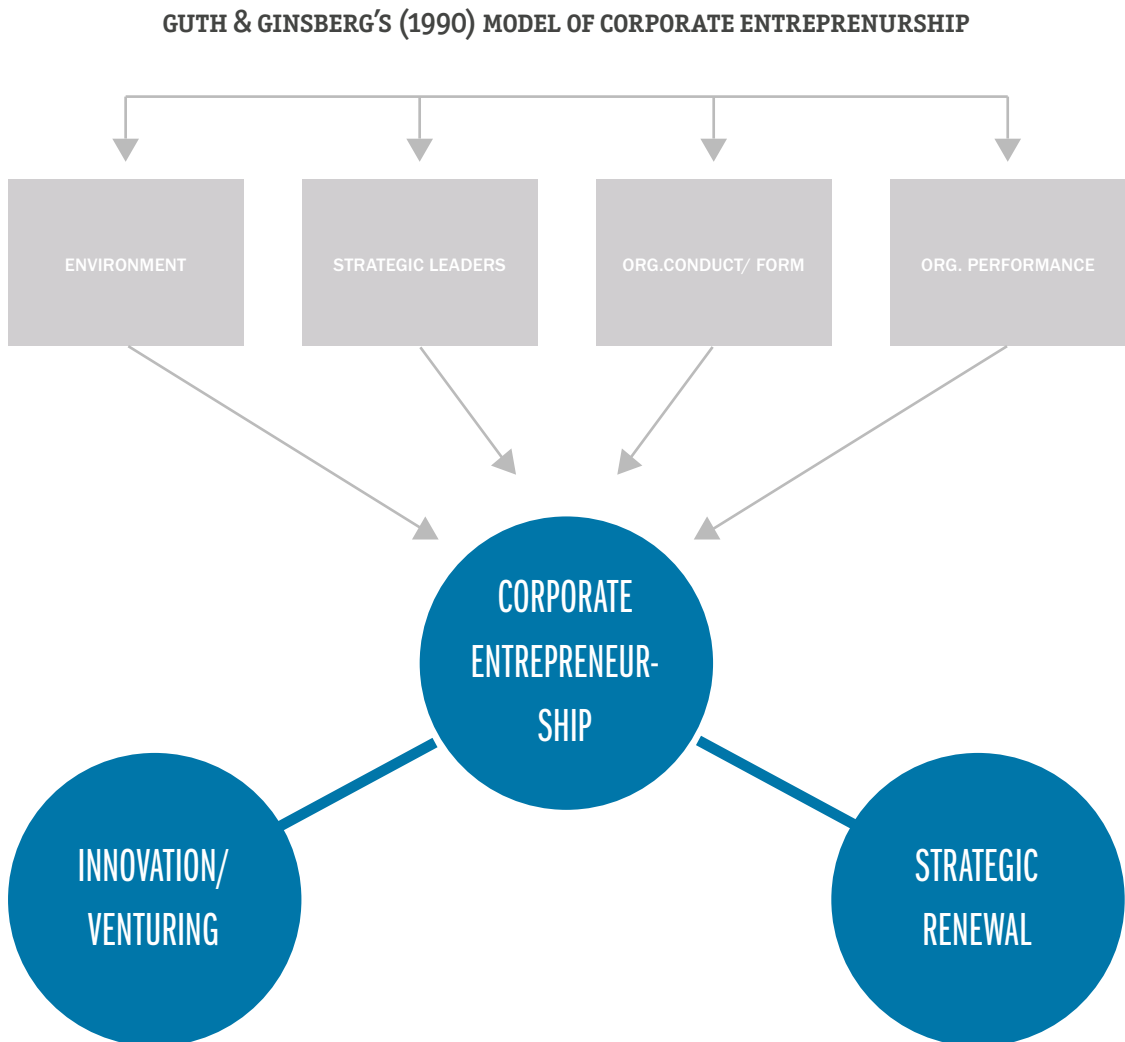
Another reason for corporate entrepreneurship is to attract and keep top talents inside the organisation who are committed to make decisions and take actions to increase the company’s performance (Shulman et al. 2011; Ireland et al. 2001). Steve Felice from Dell states in an interview, that one characteristic of entrepreneurship is to stay close to customers, iterate the offering and innovate based on market insights (in Ernst & Young 2010). This market orientation builds together with corporate entrepreneurship the fundament for a sustainable competitive advantage (Barrett & Weinstein 1998).

3.1.3 GUTH & GINSBERG’S MODEL OF CORPORATE ENTREPRENEURSHIP

There have been various models of corporate entrepreneurship such as the concept of entrepreneurial vision from Ireland et al. (2009) that impacts on different actors and the structure of corporate entrepreneurship. Another model from Kuratko et al. (2011) describes the steps towards an entrepreneurial organisation. Antoncic & Hisrich (2001) developed a model of the corporate entrepreneurship concept and its direct effects. Kuratko et al. (2004) built a model emphasizing the perceived outcomes of corporate entrepreneurship from the corporate entrepreneur’s point of view and the organisation’s point of view. Guth & Ginsberg’s (1990) model of corporate entrepreneurship is one of the first frameworks describing the concept of corporate entrepreneurship on a meta-level. The majority of definitions for corporate entrepreneurship

are built on this model (for example Sharma & Chrisman 1999; Felício et al. 2012).

Figure 2: Guth & Ginsberg's model of Corporate Entrepreneurship (Guth & Ginsberg 1990, p.7)



It identifies possible influential factors and effects of corporate entrepreneurship. Corporate entrepreneurship encompasses two types of phenomena: innovation / venturing within established corporations and strategic renewal of established corporations (Guth & Ginsberg 1990).

Entrepreneurial behaviour is described as "decisions are made and actions are taken that result in new combinations of resources being carried out (Ellsworth 1985). This carrying out of new combinations translates into changes in strategy that alter the

pattern of resource deployment in an existing firm versus changes in strategy that modify the magnitude of resource deployment (Ginsberg 1988)" (Guth & Ginsberg 1990, p.6). This follows the Schumpeterian definition established in Chapter 1.3.2. New combinations of resources transform the corporation into something new, reflecting entrepreneurial behaviour (Guth & Ginsberg 1990).

The four elements influencing corporate entrepreneurship are environment, strategic leaders, organization conduct / form and organization performance. The environmental impact on corporate entrepreneurship has been discussed in Chapter 3.1.2. It includes the tendency that the more the environment changes, the more firms will be entrepreneurial (D. Miller 1983).

Strategic leaders, such as top management, also influence corporate entrepreneurship (Guth & Ginsberg 1990). Further, the middle managers role needs to be taken into account (Guth & Ginsberg 1990), as those fill the framework given by top management with their own decisions.

Moreover, the organization conduct and form influences corporate entrepreneurship, such as bureaucratic structures and strategy (Guth & Ginsberg 1990).

Lastly, organization performance influences venture performance and vice versa.

Ireland et al. (2009) criticize that the model is very general and does not distinguish between causes and effects of the two entrepreneurial phenomena. Furthermore, they criticize that corporate entrepreneurship is portrayed as a "set of phenomena that exist separate from strategy" (Ireland et al. 2009, p.23). However, Guth & Ginsberg (1990) draw a link towards strategic management by arguing that their categories influencing corporate entrepreneurship are highly related to strategic management, as well as including strategy in their organization conduct/form category.

3.1.4 THE FORMS OF CORPORATE ENTREPRENEURSHIP

There have been different forms of corporate entrepreneurship identified in literature. The forms express how entrepreneurship is manifested in organisations (Kuratko et al. 2011).

Guth & Ginsberg (1990) identified two main forms: innovation/venturing within established corporations as well as strategic renewal of established corporations. Kuratko et al. (2011) follow this argumentation, but widen the domain of strategic renewal into

strategic entrepreneurship.

Another attempt to classify corporate entrepreneurship states that it takes place both at the organisational level in the form of entrepreneurial orientation with the dimensions risk taking, innovation and proactiveness (Covin & Slevin 1991) and individual level related to proactive initiatives from individual employees, networking behaviour, out of the box thinking, responsibility taking, idea championing and risk taking (Moriano et al. 2011).

Stopford & Baden-Fuller (1994) classify literature streams into three distinct forms of corporate entrepreneurship: the creation of new business within an existing organisation (corporate venturing), transformation or renewal of existing organisations and changing the rules of the competition. In a similar way, Antoncic & Hisrich (2003) identify three main foci of corporate entrepreneurship in literature: the individual entrepreneur, corporate venturing and the entrepreneurial organisation. Stopford & Baden-Fuller's classification mainly targets on the entrepreneurial organisation (B. Antoncic & Hisrich 2003).

Wolcott & Lippitz (2010) present a framework of the entrepreneurial orientation of a corporation dependent on the resource authority (ad hoc versus dedicated to corporate entrepreneurship) and organisational ownership (diffused versus focused). Within this framework, four distinct types of firms can be identified: enabler (company provides funding and management attention to prospective projects), opportunist (there is no deliberate approach to corporate entrepreneurship, funds are raised in an ad hoc manner from different budgets), advocate (company focuses on corporate entrepreneurship, but business units provide funding) and producer (company establishes and supports a separate entity with a mandate for corporate entrepreneurship) (Wolcott & Lippitz 2010). The producer and enabler type can be most closely linked to corporate venturing, while opportunist is focusing on individual entrepreneurial behaviour and advocate on entrepreneurial orientation of the firm.

Another attempt to define different forms of corporate entrepreneurship is made by Shulman et al. (2011) with the forms of intrapreneurship, defined as attempting to grow a new business within the big firm, different forms of corporate venturing (which will be explained in the corporate venturing section) and a strategic entrepreneurial unit. Shulman et al. (2011) thus focus solely on corporate venturing.

To sum up, most authors agree to distinguish between corporate venturing and a cor-

poration-wide approach towards entrepreneurship. Therefore, this thesis follows the definition of Kuratko et al. (2011) who extend Guth & Ginsberg's (Guth & Ginsberg 1990) model of corporate entrepreneurship.

Kuratko et al. define corporate venturing as the addition of new businesses to the corporation as well as strategic entrepreneurship as "large scale or otherwise highly consequential innovations that are adopted in the firm's pursuit of competitive advantage" (Kuratko et al. 2011, p.85). Stopford & Baden-Fuller (1994, p.521) state an important point: "We found that different types of entrepreneurship can exist in the same firm, that many attributes of entrepreneurship are common to all types, and that these attributes change their role and relative importance over time."

3.1.4.1 Strategic Entrepreneurship

The term strategic entrepreneurship used by Kuratko et al. (2011) indicates a wider range of entrepreneurial activities than adding new businesses. Covin and Miles (1999) identified four main categories of strategic entrepreneurship: sustained regeneration, organisational rejuvenation, strategic renewal and domain redefinition.

Sustained regeneration indicates that firms regularly and continuously enter new markets and introduce new products and services. Firms are tapping on underexploited market opportunities by utilising their innovative potential. Those firms tend to have cultures, structures, strategies and capabilities with a focus on innovation (Covin & Miles 1999), although the innovations might be most of the times incremental and only sometimes lead to new business creation (Kuratko et al. 2011, p.100).

When talking of organisational rejuvenation, the organisation is aiming towards a competitive advantage through changes in internal processes, structures and capabilities. In this case, "the focus and target of innovation is the organization per se" (Covin & Miles 1999, p.52). The objective of these efforts are to improve the organisation in respect of its capability to implement the strategy (Kuratko et al. 2011).

Strategic renewal is the term coined by Guth & Ginsberg (1990). Although using the same term, Covin & Miles (1999) indicate a difference of meaning. The term is used in their classification with a focus on the firm's interaction with the environment and therefore describes the change in an organisation's relationship with its markets and competitors by changing the way of competition (Covin & Miles 1999). The focus of the entrepreneurial initiative is the firm's strategy (Kuratko et al. 2011,). Guth & Ginsberg

(1990, p.5) describe strategic renewal as “the transformation of organizations through renewal of the key ideas on which they are built”. This, however, points more towards the concept of entrepreneurial orientation.

The last category is domain redefinition, where a corporation “proactively creates a new product-market arena that others have not recognized or actively sought to exploit” (Covin & Miles 1999, p.54). This phenomenon is described by Kim & Mauborgne (2005) as blue oceans of uncontested market space. The entrepreneurial activity takes place in unoccupied competitive space, and therefore the organisation seeks to exploit a first-mover advantage over competitors who might follow later (Kuratko et al. 2011). This necessarily results in new business creation (Kuratko et al. 2011).

Kuratko et al. (2011) introduce a fifth category: business model reconstruction, where entrepreneurial thinking is applied towards strategic choices of value creation, resource combination, differentiation and growth strategies (Kuratko et al. 2011).

All approaches towards strategic entrepreneurship outlined above (Guth & Ginsberg 1990; Kuratko et al. 2011; Covin & Miles 1999) have one thing in common: through the use of entrepreneurial principles, innovations are created which change the firm’s past strategies towards something new, either relative to itself or relative to industry conventions (Kuratko et al. 2011). These entrepreneurial principles can be called Entrepreneurial Orientation.

Miller (1983) identified three entrepreneurial principles: innovativeness, risk-taking and proactiveness. Lumpkin & Dess (1996) added two additional dimensions: autonomy and competitive aggressiveness. Dess & Lumpkin (2005, p.147) argue that “Firms that want to engage in successful corporate entrepreneurship need to have an entrepreneurial orientation”. The entrepreneurial orientation describes how strategy-making is addressed (Lumpkin & Dess 1996). Lumpkin & Dess hereby focus on strategies towards corporate venturing (Lumpkin & Dess 1996; Dess & Lumpkin 2005), although strategic change of the whole corporation (as proposed by Guth & Ginsberg 1990) based on entrepreneurial principles can be seen as an outcome of entrepreneurial orientation. Wiklund & Shepherd (2005, p.72) conclude that “EO involves a willingness to innovate to rejuvenate market offerings, take risks to try out new and uncertain products, services and markets”.

Strategic Entrepreneurship can thus be seen as the deployment of the principles of entrepreneurial orientation on firm’s strategic decisions. To engage in corporate ven-

turing can be seen as one strategic decision towards gaining a competitive advantage.

3.1.4.2 Corporate Venturing

Kuratko et al. (2011) define corporate venturing as various methods for adding, creating or investing in new businesses. "A firm's total venturing activity is equal to the sum of the ventures exacted through internal, cooperative and external modes" (Kuratko et al. 2011, p.86). According to Ansoff (1957), four categories for corporate growth can be pursued: market penetration (company seeks to better exploit current markets with current products), market development (establish new markets for current products), product development (new products for current markets) and diversification that aims on a "simultaneous departure from the present product line and the present market structure" (Ansoff 1957, p.114). When applying a strict definition of new business, only the diversification strategy meets this criterion (Kuratko et al. 2011).

Day (1994, p.149) argues that companies engage in (internal) corporate venturing to seek innovativeness, while she defines innovativeness as "the degree to which the venture is the first to create a new market, relative to other firms, through the commercialization of a product based on new technology". While this is focused on a new market relative to other firms and products, Kuratko et al. (2011) recognises that a market can be new to the firm, the industry or to the world and extend Ansoff's model outlined above by intermediate steps. Following Day (1994), Ansoff (1957) and Kuratko et al. (2011), new business contains innovativeness in the product or service, or in the market dimension, relative to other firms or to itself.

Kuratko et al. differ between internal, cooperative and external corporate venturing (Kuratko et al. 2011). Internal corporate venturing refers to the case when new businesses are created and owned by the corporation. The business usually resides within firms, either as a new organisational structure or within pre-existing entities.

Cooperative corporate venturing refers to corporate venturing with one or more outside partners and is usually located outside the firm's boundaries. External corporate venturing refers to acquisition and investment in external ventures (Kuratko et al. 2011). In practice, a combination of those venturing modes can be observed (Kuratko et al. 2011).

Miles & Covin (2002) use a refined classification of corporate venturing, which addresses four possibilities: direct-internal venturing, direct-external venturing, indirect-internal venturing, indirect-external venturing. Direct and indirect refer to the presence of investment intermediation, internal or external the corporation (Miles & Covin 2002).

Table 3: Summary of the Definitions of the Four Forms of Corporate Venturing
(Miles & Covin 2002, p.25)

FORM OF VENTURING	DEFINING CHARACTERISTICS
Direct-Internal	New ventures are funded without financial intermediation (directly through the operating or strategic budgets) and developed within the domain of the corporation by corporation employees.
Direct-External	The corporation, without using a dedicated new venture fund, acquires or takes an equity position in an external venture.
Indirect-Internal	The corporation invests in a venture capital fund designed to encourage corporate employees to develop internal ventures. The venture capital fund typically originates and operates within the corporation and is managed by corporate employees.
Indirect-External	The corporation invests in a venture capital fund that targets external ventures in specific industries or technology sectors. The venture capital fund may originate outside the corporation and be managed by persons who are not corporate employees, or the fund may originate within the corporation and be managed by corporate employees.

Direct internal venturing describes when employees with a business idea are encouraged to pursue and develop it within the corporate structure. Miles & Covin argue that this implies that “the idea was generated within the corporation and funded, developed, and commercialized utilizing internal resources” (Miles & Covin 2002, p.26).

A company engages in direct external venturing when it invests into companies directly without setting up a venture capital fund in order to acquire technology, resources and capabilities (Miles & Covin 2002).

In the case of indirect internal venturing, the corporation establishes a new venture fund, used to fund entrepreneurial ventures within the corporation. The difference

of this compared to direct internal venturing is the source of resources. While in the case of direct internal venturing, the funds are allocated from operating or strategic budgets, in the case of indirect internal venturing an investment intermediary is established, which is typically managed by corporate employees. The venture capital fund usually operates inside the corporate structure (Miles & Covin 2002).

Indirect external venturing refers to the case when a corporation invests into a venture capital fund, which may be outside the organisation (with management which is not connected to the organisation) or inside the organisation, managed by corporate employees. The target of this is the investment in external firms (Miles & Covin 2002).

Shulman et al. (2011) differentiate between five forms of entrepreneurship within the firm:

1. *Corporate intrapreneurship* – to grow a new business within the organisational boundaries;
2. *Corporate spinouts* – a way for the parent company to harvest new ventures without strategic value to the parent company;
3. *Corporate venturing* – to create a separate business unit with a high risk, high return perspective;
4. *Corporate venturing with a venture capitalist* – similar to corporate venturing, but including an external venture capitalist adding funds as well as outsider's perspective to the venture;
5. *Strategic entrepreneurial unit (SEU)* – a combination of other models, including an equity reward and operation control over the venture, while simultaneously utilizing the parent company's intellectual property and financing possibilities.

While corporate intrapreneurship can be compared to the direct-internal perspective of Miles & Covin (2002), corporate spinouts can be regarded as a managerial decision towards the initial investment. However, the corporate spinout category implies, that the venture has been in some form part of the organisation. The corporate venturing perspective can be applied to all the categories of Covin & Miles (2002), without the corporate venturing with venture capitalist appears to be a mixed form of direct and indirect venturing.

The strategic entrepreneurial unit requires aims to integrate the best parts of other forms. The SEU is set up as a separate business unit acting as an incubator for new

growth businesses. Shulman et al. (2011, p.35) describe that it “essentially attempts to replicate the situation of an entrepreneur leaving an organization, with the twist that the parent firm remains involved.”

The parent company’s strategic orientation, resources and access to capital are utilised in the SEU, but combined with an outside perspective by bringing in experienced facilitators to manage the deal selection, negotiations and financing relationships. However, unlike in the venture capital model, the facilitator can not influence the timing and type of the harvest. Entrepreneurs have an equity stake, and also need to bear entrepreneurial risk, although lower than in an entrepreneurial setting without involvement of a corporation (Shulman et al. 2011).

Therefore, the SEU model attempts to combine the advantages of “startup” entrepreneurship and corporate entrepreneurship.

3.1.4.3 Selection of the form of Corporate Venturing

The form of corporate venturing the organisation is engaged in is a strategic choice. Burgelman (1984b) offers an approach to assess internal entrepreneurial approaches by their degree of strategic importance for corporate development and their relatedness to the core capabilities of the corporation.

Assessment of strategic importance is described as a top-management task, however with the limitation that top management might not have the deep knowledge in new technologies and markets. Operational relatedness refers to the degree to which the entrepreneurial proposal requires capabilities new to the corporation (Burgelman 1984b).

Based on the assessment of these two dimensions, a design for corporate entrepreneurship needs to be chosen, which structures the relationship between the new business and the corporation (Burgelman 1984b). Burgelman focuses in his study on corporate ventures (Burgelman 1984b).

The assessment of the strategic importance of the new venture is connected to the degree of control corporate management would like to have, which is connected to the administrative linkages of the venture towards the organisation. With a high strategic importance, a close integration into the organisation is favoured with direct reporting relationships, a strategy tied to the organisation’s strategy and reward sys-

tems in favour of this strategy. On the flipside, corporate management should relax the structural context and give room for the venture to develop (Burgelman 1984b). With respect to the entrepreneurial orientation concept mentioned above, a way should be found to protect the autonomy of the newly created venture also in the case of high strategic importance. The “strategic entrepreneurial unit” approach introduced above aims to establish such a balance.

Figure 3: Organization Designs for Corporate Entrepreneurship (Burgelman 1984b, p.161)

OPERATIONAL RELATEDNESS	UNRELATED	3. SPECIAL BUSINESS UNITS	6. INDEPENDENT BUSINESS UNITS	9. COMPLETE SPIN OFF
	PARTLY RELATED	2. NEW PRODUCT/ BUSINESS DEPARTMENT	5. NEW VENTURE DIVISION	8. CONTRACTING
	STRONGLY RELATED	1. DIRECT INTEGRATION	4. MICRO NEW VENTURES DEPARTMENT	7. NURTURING AND CONTRACTING
		VERY IMPORTANT	UNCERTAIN	NOT IMPORTANT
		STRATEGIC IMPORTANCE		

When looking at the degree of operational relatedness, implications for the efficiency for both the new venture as well as the organisation can be found. This results in a variation of operational linkages between the venture and the organisation. If the relatedness is high, it is desirable that both the venture and the organisation collaborate tightly. Open communication, free flow of information and know-how should be fostered. Burgelman (1984b) argues that in unclear situations in respect of operational relatedness, loose coupling might be the best organisational design. This implies, that workflows should be separate, and steering committees should have the task to adjust processes mutually instead of operational level managers. Information flow should remain uninhibited (Burgelman 1984b).

When implementing design alternatives, Burgelman (1984b) stresses the importance

of three steps: first, corporate management and the entrepreneur should use the discussion about the form of the venture as clarification tool about understandings of the venture. Second, measurement and reward systems must be tailored to the chosen design. Third, the choice of the design might need to be adjusted as the development of the venture is a dynamic process, which might have implications on the strategic importance and operational relatedness.

Another framework for the choice of the form for corporate ventures is introduced by Miles and Covin (2002). This framework brings together the corporate management's needs & biases with objectives for corporate venturing.

Table 4: Forms of Corporate Entrepreneurship in relationship to organisational objectives (Miles & Covin 2002, p.34)

CORPORATE MANAGEMENT'S NEEDS & BIASES	ORGANISATIONAL DEVELOPMENT & CULTURAL CHANGE	STRATEGIC BENEFITS/ REAL OPTION DEVELOPMENT	QUICK FINANCIAL RETURNS
Need for Control of Venture			
High	D-I	D-I, D-E	D-E
Low	I-I	I-I, I-E	I-E
Ability & Willingness to Commit Resources to Venturing			
High	D-I, I-I	D-I, D-E, I-I, I-E	D-E, I-E
Low	I-I	I-I, I-E	I-E
Entrepreneurial Risk Accepting Propensity			
High	D-I, I-I	D-I, D-E, I-I, I-E	D-E, I-E
Low	None	I-I, I-E	I-E

D-I: Direct-Internal Venturing | D-E: Direct-External Venturing | I-I: Indirect-Internal Venturing
I-E: Indirect-External Venturing

The corporate management's needs are identified as need for control of the venture, ability and willingness to commit resources to venturing and entrepreneurial risk accepting propensity. The objectives are organisational development and cultural change towards an entrepreneurial culture, strategic benefits and creation of real options as well as quick financial returns (Miles & Covin 2002).

Corporations which engage in venturing for the reason to build an innovative or entrepreneurial capability in order to achieve a sustainable competitive advantage use corporate venturing as mechanism by which corporations hope to become more change accepting and change competent. These organisations are classified as having the organisational development & cultural change objective. Internal venturing, both direct and indirect are suitable options to reach this objective, as acquisition of external sources does not lead to the formation of an entrepreneurial culture and capabilities (Miles & Covin 2002).

The desire to exploit current organisational competencies or to strategically reinvent or stretch the corporation is labelled as strategic benefits / real option development. Ventures are used as means to explore business opportunities in which the corporation would like to be involved and better understand new contexts. Both internal and external focus are suitable for pursuing this objective, while a mixture of both forms is likely to be the most beneficial (Miles & Covin 2002).

3.1.5 INTEGRATING CORPORATE VENTURING INTO THE CORPORATE ENTREPRENEURSHIP CONCEPT

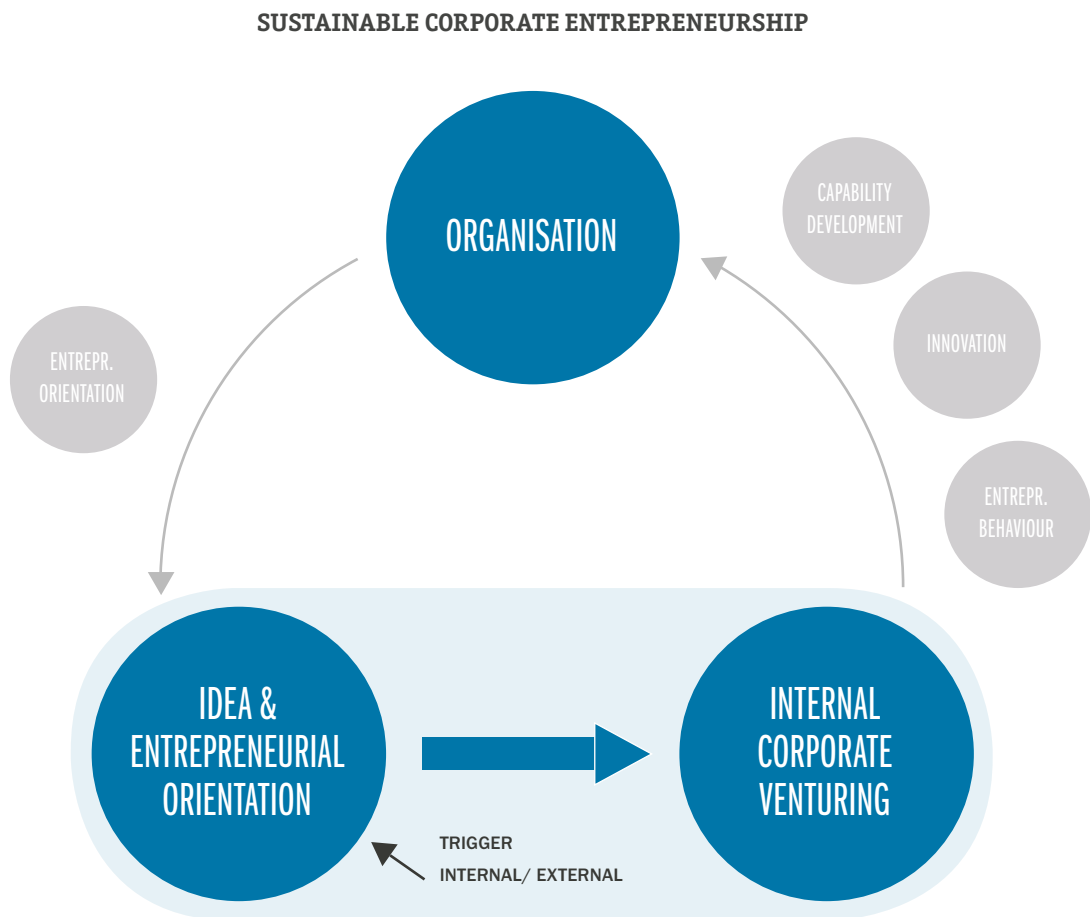
This sub-chapter aims to position internal corporate venturing in the corporate entrepreneurship concept.

Towards an integrated model situating the research of this study in a wider entrepreneurial context, the author follows Guth & Ginsberg (1990) with their categories Innovation / Venturing within established corporations and strategic renewal of established corporations. However, both categories are closely intertwined.

Strategic leaders, the corporation's culture and the entrepreneurial orientation within the corporation (Dess & Lumpkin 2005; Backholm 1999; wider Van de Ven 1993) influence the individual's decision to engage in entrepreneurial activities. Entrepreneurial orientation encompasses entrepreneurial principles: innovativeness, risk-taking and proactiveness (D. Miller 1983) and autonomy and competitive aggressiveness (Lumpkin & Dess 1996).

This framework shapes the individual's perception of the appropriateness of entrepreneurial behaviour. The entrepreneurial behaviour of individuals is triggered by an event, either internal within the corporation (Stopford & Baden Fuller 1994; Sathe 2003) or external (Kuratko et al. 2004; Ireland et al. 2009; Sathe 2003; Stopford

Figure 4: Corporate Venturing in the Corporate Entrepreneurship Concept



& Baden Fuller 1994; Schindehutte et al. 2000). A detailed model of the triggering process can be found in Schindehutte et al. (2000). The individual either recognises an opportunity due to the triggering event or decides to engage in the search for an opportunity (Bhave 1994) due to the possibility to become a corporate entrepreneur. By carrying out several activities that are the subject of this research, the individual develops an idea further towards internal corporate venturing.

Internal corporate venturing itself is a mean for strategic renewal (Guth & Ginsberg 1990) and a method to foster entrepreneurship in large corporations (Backholm 1999; Kanter et al. 1990). The outcomes of internal corporate venturing on the parent organisation are capability development (Block & MacMillan 1993; Keil et al. 2009; Backholm 1999; Dierickx & Cool 1989), radical innovation (Laaksonen 2007; Backholm 1999), the promotion of entrepreneurial behaviour (Backholm 1999), impact on the firm

performance (Zahra 1991; Felício et al. 2012), growth and profitability (while the latter was in Antoncic's comparative study of US and Slovenian corporations only proven to have an impact in Slovenia; B. Antoncic 2007) and employee satisfaction as a relevant factor for firm growth (J. A. Antoncic & B. Antoncic 2011).

These impacts on the parent organisation are likely to influence the entrepreneurial orientation within the firm as well as the attitude of strategic leaders and the culture inside the corporation (Dess & Lumpkin 2005), and therefore influence the individual's choice to engage in entrepreneurial behaviour. Thus, successful engagement in internal corporate venturing is likely to have an impact on the strategic renewal of the corporation, as more and more individuals are encouraged to engage in entrepreneurial behaviour.

3.2 THE EARLY STAGE OF CORPORATE VENTURING

THE SUBJECT OF this thesis is the early stage of corporate venturing. When looking at the models of corporate entrepreneurship presented above, Guth & Ginsberg (1990), Ireland et al. (2009), Antoncic & Hisrich (2001), Kuratko et al. (2011) focus on corporate entrepreneurship and the organisation, while Kuratko et al. (2004) present a model of the corporate entrepreneurial individual.

However, as useful those models are to form a holistic picture about corporate entrepreneurship, their contribution towards an understanding of the early stage of corporate venturing is limited. When reviewing the literature, Burgelman's contribution towards a process understanding of corporate venturing is valuable (1983a; 1980). Nevertheless, since these studies have been conducted, the field of process research has been neglected. Therefore, an update is perceived to be necessary.

In order to understand the early stage, both Burgelman's approach (1980; 1983a) as well as contemporary entrepreneurship literature is taken into account. The emphasis is on discovering activities in the early stage, as well as conceptions of the process from entrepreneurship and corporate entrepreneurship literature.

3.2.1 ACTIVITIES DURING THE EARLY STAGE OF ENTREPRENEURSHIP

As literature on corporate entrepreneurship, especially corporate venturing in gestation is sparse, activities during the early stage of entrepreneurship will be discussed as basis for the empirical research.

In their study about emerging organizations, Katz & Gartner (1988) identified four properties of a firm in gestation: intentionality, resources, boundary and exchange.

The nascent entrepreneur's information search is directed towards the creation of a new venture (intentionality). The resource category refers to what the authors call physical components: human and financial capital, property and credit. Boundary refers to activities directed to establish a new organisation, for example to establish a legal entity. Exchange refers to activities of the firm in gestation with its environment, such as sales (see Katz & Gartner 1988).

The activities in the gestation phase mentioned in literature can be roughly divided into funding, opportunity, planning, legitimacy-building, business development and advice. Most of the activities identified have been repeatedly mentioned in literature and are based on a list originally developed by Carter et al. (1996), which has been used and further developed by Alsos & Kolvereid (1998) and Rotefoss & Kolvereid (2005).

Table 5: Activities in Entrepreneurship literature

KATZ& GARTNER 1988	CATEGORY	ACTIVITY	POSITIVE INFLUENCE	NEGATIVE INFLUENCE
Resources	Funding	private funding/ bank funding/ government funding	Carter et al. 1996; Alsos & Kolvereid 1998	Gelderen et al. 2006
		invested own money	Liao et al. 2005; Carter et al. 1996; Alsos & Kolvereid 1998	
		saved own money to invest		Carter et al. 1996
Intentionality	Opportunity	opportunity recognition	Baron 2006; Liao et al. 2005	
		spent time thinking about business idea	Liao et al. 2005	
Intentionality	Planning	business plan	Delmar & Shane 2003; Shane & Delmar 2004; Gelderen et al. 2006; Kuratko & Hodgetts 2001; Carter et al. 1996	Newbert 2005; Parker & Belghitar 2006; Honig & Karlsson 2001; Gelderen et al. 2006; Liao et al. 2005; Carter et al. 1996
Boundary	Legitimacy	establishing legal entity	Carter et al. 1996	
		developing trust among stakeholders	Aldrich & Fiol 1994	
		looked for/bought facilities & equipment	Carter et al. 1996	
Exchange/ Resources	Business Development	developing models & procedures	Liao et al. 2005	
		organised startup team	Carter et al. 1996; Alsos & Kolvereid 1998	

KATZ& GARTNER 1988	CATEGORY	ACTIVITY	POSITIVE INFLUENCE	NEGATIVE INFLUENCE
		risk management	Gelderen et al. 2006	
		sales & promotion	Alsos & Kolvereid 1998; Liao et al. 2005	
		devoted full time to business	Carter et al. 1996; Gelderen et al. 2006; Kessler & Frank 2009	
		developing prototype	Carter et al. 1996	
	Advice	seeking advice from mentors & advisors	Kuratko & Hodgetts 2001	
Exchange & Boundary	Startup indicators	sales	Carter et al. 1996	
	Others	high intensity	Carter et al. 1996; Gordon 2012	Alsos & Kolvereid 2008
		pacing	Liao et al. 2005	
		market risk		Gelderen et al. 2006

Funding

Funding, referring to Katz & Gartner's (1988) resources category, includes all actions to obtain financial resources for the organisation from various sources, such as government funding (Alsos & Kolvereid 1998; Rotefoss & Kolvereid 2005), private funding (Rotefoss & Kolvereid 2005; Liao & Welsch 2008), bank funding (Alsos & Kolvereid 1998; Liao & Welsch 2008), own money (Alsos & Kolvereid 1998; Rotefoss & Kolvereid 2005; Liao & Welsch 2008; Carter et al. 1996; Gordon 2012) as well as credit with a supplier (Liao & Welsch 2008; Gordon 2012).

Within this category, positive and negative effects on the success of creating a venture (in distinction to the success of the venture itself) have been identified. Carter et al. (1996) found that people who succeeded to create a business undertook activities to make the business tangible to others, and this included that they applied for and received financial support (Alsos & Kolvereid 1998). Investing own money into the business was found to have a distinct positive effect on starting business operations (Liao et al. 2005; Carter et al. 1996; Alsos & Kolvereid 1998).

However, different types of start-ups have different resource requirements. Liao & Welsch (2008) argue in their study of start-up activities of technological and non-technological start-ups, that technological start-ups may need in general more resources (Liao & Welsch 2008) due to the activities they have to engage in, such as setting up production. Gelderen et al. (2006) argue that a large amount of intended start-up capital is a disadvantage. If less capital is required, it is easier to get started due to the notion that smaller capital may be obtained with a less formal procedure (Gelderen et al. 2006). Carter et al. (1996) argue that entrepreneurs who are still in the gestation process have a passive approach. One of the indicators is that these entrepreneurs focused during the first 6 months on saving money to invest in the business (Carter et al. 1996).

Opportunity

Opportunity refers to the identification and recognition of market opportunities – arguably one of the most important steps when it comes to business success (Baron 2006). Within Katz & Gartner's (1988) framework, opportunity recognition can be most associated with intentionality. Activities related to opportunity recognition have been identification and recognition of market opportunities (Liao & Welsch 2008; Baron 2006; Gordon 2012), information search (Shane & Venkataraman 2000), and where opportunities come from and why, when and how those can be exploited (Floyd & Woolridge 1999). Furthermore, spending time thinking about the business idea (Liao & Welsch 2008; Gordon 2012) and definition of the market opportunity (Liao & Welsch 2008) can be mentioned. These activities are argued to have a positive influence on venture creation (Baron 2006; Liao et al. 2005).

Planning

Like opportunity, also planning refers to Katz & Gartner's (1988) intentionality. Within planning, creating a business plan (Stützer 2007; Rotefoss & Kolvereid 2005; Alsos & Kolvereid 1998; Liao & Welsch 2008; Carter et al. 1996; Gordon 2012), developing projected financial statements (Liao & Welsch 2008; Gordon 2012) and conducting market research (Alsos & Kolvereid 1998; Rotefoss & Kolvereid 2005; Gartner 1985; Carter et al. 1996) have been mentioned.

When discussing positive and negative effects on business creation, there is a dispute about the activity of business planning in literature. Some authors argue, that business planning activities increase the probability for starting-up a venture (Shane

& Delmar 2004). A reason could be, that business planning forces the nascent entrepreneurs to think about different aspects of their business idea and to structure the venture creation process, reflecting all stages and necessary activities (Stützer 2007; Gelderen et al. 2006). Gelderen et al. (2006) found that early business planning supports nascent entrepreneurs with limited ambitions, while writing a business plan later is also beneficial for nascent entrepreneurs with high ambitions. Shane & Delmar (2004) argue, that creating a business plan is particularly useful in the early beginnings of the start-up phase to obtain legitimacy. The business plan may be useful in dealing with external stakeholders like banks and investors (Stützer 2007).

Liao et al. (2005) emphasize that writing a business plan is a good tool in training about the importance of systematic planning, but a linear progression of events and tasks cannot be determined in reality. As mentioned before, the entrepreneurs who have been still trying in the study of Carter et al. (1996) had a more passive approach. These nascent entrepreneurs also focused during the first 6 months on preparing a business plan. Carter et al. (1996) found that both successful and not successful nascent entrepreneurs use business planning but suggest they use it in different ways: successful nascent entrepreneurs may use planning as a “springboard for action”, compared to planning as a form of procrastination.

Legitimacy

Legitimacy building comprises a set of activities to overcome the liability of newness and liability of smallness of the venture in gestation (Liao & Welsch 2008). In Katz & Gartner’s (1988) framework, this refers to boundary definition.

Literature refers to activities such as establishing a legal entity, enrolment in official registers, business registration and listing in Dun & Bradstreet (business & credit information register) (Carter et al. 1996; Rotefoss & Kolvereid 2005; Liao & Welsch 2008; Gordon 2012). Moreover, opening a bank account exclusively for this business (Liao & Welsch 2008; Gordon 2012), listing the new business in the phone book (Liao & Welsch 2008), install a separate phone line (Liao & Welsch 2008), create a business website (Gordon 2012), make the business contactable (Gordon 2012) and register a business name (Gordon 2012) are activities mentioned.

Furthermore, application for license and patents is frequently mentioned (Alsos & Kolvereid 1998; Rotefoss & Kolvereid 2005; Liao & Welsch 2008; Carter et al. 1996; Gordon 2012). Looking for facilities and equipment and acquiring/renting/leasing

those is mentioned as well as purchasing of inventory and deciding the location for the business (Alsos & Kolvereid 1998; Rotefoss & Kolvereid 2005; Carter et al. 1996; Gordon 2012; Liao & Welsch 2008). Generally, these activities are positively related to creating a business, especially creating a legal entity and looking for / buying facilities & equipment (Carter et al. 1996) as well as purchasing raw materials, inventory and supplies (Liao et al. 2005). Following Aldrich & Fiol (1994), entrepreneurs seek to gain legitimacy by developing trust among the stakeholders of the start-up.

Legitimacy building encompasses activities intended to make the business tangible to others – and these activities increase the likelihood of success in starting the new venture (Carter et al. 1996).

Business Development

Business development refers most towards Katz & Gartner's (1988) exchange category, but also the resource category (especially human resources). It includes the recombination of resources (Liao & Welsch 2008), risk management (Gelderen et al. 2006), assessment of environmental difficulties such as capital requirements (Kessler & Frank 2009), acquiring know-how / expertise (Carter et al. 1996) and developing models and procedures, such as production routines (Liao & Welsch 2008; Stützer 2007). Product / service development (Stützer 2007; Alsos & Kolvereid 1998; Rotefoss & Kolvereid 2005; Gordon 2012), and developing prototypes (Gartner 1985; Liao & Welsch 2008; Carter et al. 1996) are other important activities.

Sales, marketing, promotion, customer discussions and distribution are frequently mentioned (Alsos & Kolvereid 1998; Rotefoss & Kolvereid 2005; Liao & Welsch 2008; Gordon 2012; Carter et al. 1996). Organizing a startup team (Alsos & Kolvereid 1998; Rotefoss & Kolvereid 2005; Liao & Welsch 2008; Carter et al. 1996) and devoting full-time to the business (Alsos & Kolvereid 1998; Rotefoss & Kolvereid 2005; Carter et al. 1996), which Liao & Welsch (Liao & Welsch 2008) defined as more than 35 hours per week, are other aspects of business development. Developing models was found to have a positive impact on business creation (Liao et al. 2005). Research on prototypes had an interesting aspect: people who gave up, compared to those still trying, were more likely to develop a prototype. One explanation may be that nascent entrepreneurs who gave up tested their ideas and found they would not work (Carter et al. 1996). Prototypes have been also built in service development (almost seven out of 14 samples of the study of Carter et al. 1996).

Sales & promotion activities are found to be positively related to business creation (Alsos & Kolvereid 1998; Liao et al. 2005). To devote full-time for the business was also a crucial step towards success (Carter et al. 1996; Kessler & Frank 2009) in order to make the business tangible to others (Carter et al. 1996). Pursuing the business part-time might be a disadvantage because of parallel activities carried out which are unrelated to the business (Gelderen et al. 2006). Kessler (2009) argues that full-time start-ups are prepared more professionally because of the need to provide financial security to the founder. Subsequently, they are planned and realized with more determination and inherit a higher degree of legitimacy (Gelderen et al. 2006). Moreover, Gelderen et al. (2006) argue that risk management is important, as the amount of market risk has an impact on the success of creating the venture, regardless whether the risk is real or perceived. The effective use of risk management will lead to lower perceived risk (Gelderen et al. 2006).

Another factor for venture creation success was to organize a team. Those entrepreneurs who were successful in organizing a team were more successful in starting a new venture (Carter et al. 1996; Alsos & Kolvereid 1998), while those who were still trying to establish a new venture were not (yet) successful in organizing a start-up team.

Advice

The advice category is not directly reflected in Katz & Gartner's (1988) framework. It includes seeking advice from mentors & advisors (Carter et al. 1996) as well as taking classes on starting a business (Liao & Welsch 2008). Kuratko et al. (2011) argue that professional advice increases the probability to start-up.

3.2.2 THE PROCESS FROM AN ENTREPRENEURSHIP PERSPECTIVE

It is often claimed that entrepreneurship is a process (Stützer 2007). Inside the process, a set of activities is carried out as identified before. Stützer (2007) raises the issue that the nature of the process might be a key to success: is it a linear process or a complex system? In the forthcoming paragraphs, both approaches will be introduced.

3.2.2.1 Linear Process

According to Liao et al. (2005), a linear model consists of an addition of activities or events which will lead to the start-up of a new firm.

One example is the model Delmar & Shane (Delmar & Shane 2003), who claim that there is an ideal sequence of start-up activities that increases the probability to start-up. Their findings imply that the success rate in the venture creation process (likelihood of achieving first sale) as well as later venture success (level of new venture sales) increases when following the proposed sequence (Delmar & Shane 2003). However, these findings are in contrast to Carter et al. (1996) and Gelderen et al. (2006) who discover the importance of certain activities, however not an ideal sequence. Furthermore, Delmar & Shane (2003) argue to start the gestation process by planning – an approach which is disputed, as shown in the discussion of the activities above. As result of their study, Liao et al. (2005) found that the gestation process may be a complex process.

Even the venture creation process is often described as linear, anecdotal reports from entrepreneurs are casting doubts (Liao et al. 2005). Liao et al. (2005) describe a linear process as beginning with opportunity recognition and ending with first sales and hires. In between, sequential steps are taken. However, besides the mentioned anecdotal reports, also the lack of a clear picture resulting from empirical studies (Liao et al. 2005) inspired researchers to take other perspectives into account. In the following chapter, a complex approach of the venture creation process will be discussed.

3.2.2.2 Complex Process

Scholars have argued that the reality of venture gestation is non-linear (for example Liao et al. 2005; Lichtenstein et al. 2007; Bhave 1994; Stützer 2007). Liao et al. (2005) state that the gestation process is a complex, nonlinear process which makes it difficult to identify any development stages. On the other hand, there are stage models that contain certain milestones or stages, but allow a non-linear process based on feedback such as Bhave (1994) who created a stage model which allows for iterative feedback.

This model characterises the process as non-linear, iterative and feedback-driven. Stützer (2007) gives an example: if a potential customer rejects the product, the product or whole business concept might have to be changed. In the same vain, Aldrich & Martinez (2001) note that improvisation is a key skill of nascent entrepreneurs in the gestation phase and trial and error a major characteristic of the process, which means to use feedback to improve the business concept.

Liao et al. (2005) point out that there is no distinct sequence towards the formation

of a new venture, but a number of possibilities consisting of various activities and sequences of activities. Those are driven by a choice (intention) to start a business and search opportunities to exploit until uncertainty is resolved (Liao et al. 2005). In existing organisations, Liao et al. (2005) refer to Browning et al. (1995) who state that uncertainty is resolved when a new business model, process or way to proceed is identified. For firms in gestation, the uncertainty is resolved when the first sales occur / the venture is created (Liao et al. 2005). The process involves a “high degree of groping in the dark” (Liao et al. 2005, p.17), following leads, testing hypotheses and trial and error (Liao et al. 2005). The findings from Reynolds & Miller (1992) indicate that the sequence of activities varies, as well as the number of activities carried out and the time between the events varies.

However, with an increase in the amount of activities, the probability to fail decreases (see also Lichtenstein et al. 2006). This is consistent with the findings of Carter et al. (1996), who found that more active nascent entrepreneurs are more successful in venture creation, while passive nascent entrepreneurs may not devote enough effort and are still trying for a long time (Carter et al. 1996). Carter et al. (1996) conclude that action rather than planning, and doing rather than thinking seems to distinguish the successful and failed entrepreneurs from the still trying.

Liao et al. (2005) commented on Reynolds & Miller’s (1992) findings that in the founding process all combinations of sequences and events are occurring. In their own research, Liao et al. (2005) obtain similar results: there is a lack of sets with multiple activities and therefore only little support for a stage-based theory. They also found that the process was a time-based pacing process (Liao et al. 2005). Pace is a concentration measure, indicating that most activities are performed in a certain period (Stützer 2007).

Lichtenstein et al. (2006) perceive venture creation as a complex system and are particularly interested in the pace or concentration of activities and when in the process the concentration occurs. Lichtenstein et al. (2006) point out, that the probability of starting-up increases with a higher concentration of activities as well as if the activities take place late in the gestation process. This approach of a concentrated process is somewhat contradictive to a linear process (Stützer 2007), but does not exclude an iterative stage-based model.

Ronstadt (1988) refers to a corridor principle: starting a venture enables entrepre-

neurs to see opportunities they could not foresee. During the venture creation process, windows of opportunities open as well as options emerge. McGrath et al. (1996) offer an options approach: by postpone investments until key uncertainties are solved, nascent entrepreneurs can improve the returns of their efforts.

Viewing venture gestation as a complex system implies a nonlinear, pacing-based trial & error process with an explorative nature (Liao et al. 2005).

However, contradictive to these results is a study of Liao & Welsch (2008) concerning gestation activities of technology and non-technology ventures, indicating that the two types of ventures share a common set of core activities and are similar in their sequencing patterns. These findings point towards the existence of a certain sequence. Delmar & Shane (2002) argue that the sequence cannot be similar for all entrepreneurs, as not all start-up activities are required for all entrepreneurs (for example the requirement of funding differs according to the nature of the venture, technology-based ventures typically involve higher funding (Liao & Welsch 2008)).

Furthermore, entrepreneurs have only limited cognitive capabilities, and therefore they cannot engage in all activities simultaneously (Delmar & Shane 2002). There must be a choice of sequence, although there might be no common pattern, how this choice is made. However, some activities require the prior completion of other activities.

This approach of seeing venture gestation as a complex process puts an emphasis on action and iterative market experimentation (Noyes & Brush 2012) rather than planning (Noyes & Brush 2012; Carter et al. 1996). Effectuation (Sarasvathy 2001) and bricolage (see for a literature review Corbett & Katz 2012) focus on the potential of an action- rather than planning-oriented approach.

3.2.3 PREDICTIVE APPROACH VS. EFFECTUATION

This chapter deals with what Sarasvathy (2001) calls causation and effectuation. Causation is linked to a logic of prediction, while effectuation focuses on resources that are under the control of the entrepreneur. Noyes & Brush (2012) extend Sarasvathy's (2001) causation and effectuation theory towards the predictive approach, including elements of causation, and creative approach, including elements of effectuation. In this thesis, the two concepts will be addressed as predictive approach and effectuation, including the extension of the concept from Noyes & Brush (2012).

Figure 5: Predictive and Creative Approach (Noyes & Brush 2012, p.258)

PREDICTIVE APPROACH			VS	CREATIVE APPROACH		
DIMENSIONS	ASSUMPTIONS	EXAMPLES	DIMENSIONS	ASSUMPTIONS	EXAMPLES	
identify & evaluate the opportunity	known inputs, opportunities can be discovered and evaluated	Kirzner (1973), Mintzberg (1978), Robinson (1979), Ansoff (1988), Kaish & Gilad (1991), Honig (2004)	self understanding	skills and capabilities of individuals; opportunities can be made or created	Alvarez & Barney (2005), Fiet & Patel (2006), Alvarez & Barney (2007)	
quantify the resources	steps identified, precision approach	Robinson 1979, Timmons & Spinelli (2009)	observation & reflection	means driven	Mintzberg (1994), Read et al. (2009), Neck & Greene (2011)	
create a plan	predictive	Ansoff (1979), Porter (1980), Porter (1985), Rich & Gumpert (1985), Morris (1998)	bring along stakeholders	interactive & social process	Sarasvathy (2001), Jack & Anderson (2002), Kloosterman (2010), Stone & Brush (1996)	
execute	end driven	Timmons & Spinelli (2009), Christensen & Bower (1996)	act and experiment	creative & iterative	Lindblom (1959), Quinn (1980), Levitt & March (1988), Bird (1988), Sarasvathy (2001), Dew et al. (2009)	
measure results	known outcomes	Schendel & Hofer (1979)	build on results	unknown outcomes	Mintzberg (1978), Reas et al. (2009)	
expected return	maximise returns in the future	Ansoff (1979), Porter (1980), Porter (1985)	affordable loss	maximise options in the present	Sarasvathy (2001)	

The predictive approach starts with a given goal and the entrepreneur chooses different means to achieve this goal. Effectuation, on the other hand, starts with the available resources and options the entrepreneurs has and the possibilities arising from these. Sarasvathy (2001) illustrates both approaches with an example of cooking a meal. The predictive approach starts with the selection of the meal to cook, and from

this starting point the chef chooses the ingredients, buys them and creates the meal. Effectuation focuses on available means: which ingredients are available currently, and what could be made out of them? The general goal “to create a meal” stays the same, although the result will differ. It is a choice between means to create a particular effect or many possible effects using one set of means (Sarasvathy 2001). Sarasvathy further points out, that the predictive approach is a many-to-one approach, while effectuation encompasses a one-to-many approach (Sarasvathy 2001). While the predictive approach is effect dependent, effectuation is dependent on the actor (Sarasvathy 2001).

In the same vein, it is argued that effectuation is especially suitable in situations with high ambiguity, as small experiments and iterative learning techniques help to reduce ambiguity (Sarasvathy 2001). The predictive approach is more suitable for a relatively predictable future, where systematic information gathering and information analysis is required (Sarasvathy 2001). Therefore, effectuation is suggested as an alternative or addition to the predictive approach, rather than superior approach (Sarasvathy 2001). Although Sarasvathy (2001) argues that firm gestation is a process with high ambiguity and uncertainty (and effectuation is especially suitable for this situation), Noyes & Brush (2012) note that probably a combination of both the predictive approach and effectuation is appropriate. They further point out that certain parts of the venture creation process, especially funding and contracting with customers and suppliers, require a predictive approach, regardless of the contexts (Honig 2004; Noyes & Brush 2012).

3.2.3.1 Predictive Approach

As indicated before, the predictive approach focuses more on planning: it involves opportunity identification and evaluation, assessing the resource requirements to pursue the opportunity and actions to exploit the opportunity (Neck & Greene 2011). Tested steps are taken towards the formation of the new venture (Noyes & Brush 2012). Entrepreneurs are working “backwards” (Noyes & Brush 2012) in the predictive logic, starting from fixed assumptions about the potential of the opportunity and action used to specify, execute and track the plan (Chandler et al. 2011). Noyes & Brush (2012) present a typical stepped approach for the predictive logic:

1. Objective characteristics of the opportunity, opportunity recognition

2. Needed resources are sought
3. Writing business plan, including steps to launch the business, resource requirements, execution plans
4. Assembly of an entrepreneurial team, venture stakeholders and execution of the plan.

The aim of this approach is to “specify the expected financial return for efforts and capital invested in a venture” (Noyes & Brush 2012, p.259). This takes a considerable amount of time and analytical effort and involves moving to specifics from a larger market (Sarasvathy 2001). A particular effect is taken as given from an existing set of means, and by planning, the desired state can be determined and reached.

3.2.3.2 Effectuation

Effectuation is means-driven instead of ends-driven (Noyes & Brush 2012). Entrepreneurs have three types of means: who they are, what they know, and whom they know (Sarasvathy 2001). In their literature review, Noyes & Brush (2012) draw parallels to bricolage, improvisation and design thinking. In their point of view, entrepreneurial actions are characterised by serendipity, trial and error and other creative approaches (Noyes & Brush 2012). Effectuation focuses on resources within reach as well as utilizing social connections and opportunities arising from these connections. Decision makers can use effectuation to diversify the firm in gestation as well as to change goals and make use of contingencies as they arise over time (Sarasvathy 2001). Sarasvathy (2001, p.247) describes the gestation process as a “wide variety of serendipitous events”.

Entrepreneurs experiment to clarify opportunities and discover new stakeholders (Burt 1992; Granovetter 1985; Jack & Anderson 2002 in Noyes & Brush 2012). Through these experiments, risk is managed and new options are created (Noyes & Brush 2012). Sarasvathy (2001) states there are four main characteristics of effectuation:

1. Affordable loss: small experiments on the base of how much loss is affordable, focus on experimenting with as many strategies as possible.
2. Strategic alliances: strategic alliances help the entrepreneur to reduce risks.
3. Exploitation of contingencies.

4. Controlling an unpredictable future rather than predicting an uncertain one. To the extent the future is controllable, it does not need to be predicted.

An important aspect of effectuation is that venture gestation is embedded into a social structure, which can create opportunities or provide access to opportunities inaccessible to others (Noyes & Brush 2012). The business is not started in a vacuum, but embedded into a social structure (Noyes & Brush 2012). According to Noyes & Brush (2012) literature review, the process is shaped as follows:

1. Start: who are the entrepreneurs, what do they know?
2. Embeddedness: what can they do today, next week, next month with the resources at hand or within reach? Who do I know, and what possibilities arise from there?
3. Bringing in new stakeholders reshapes the opportunity and perceptions of the environment. Often self-selected, based on passion, persons choose to contribute.
4. The outcomes are often unknowable beforehand, as they shape through interaction of stakeholders and experiments with available means.
5. Affordable loss (see above) leads to a diverse set of experiments. What actions can we afford to undertake, and what do we expect to gain? Small experiments make large bets unnecessary.

Noyes & Brush (2012) acknowledge, that success is most likely a combination of predictive approaches and effectuation. However, in the gestation process, under resource constraints and when creating innovative business models, they argue that effectuation is more suitable.

As discussed before when examining linear and complex processes, the gestation process is characterised by a large amount of ambiguity. The ventures in nascence lack systems of exchange, boundaries, and policies (Katz & Gartner 1988). Moreover organisations in gestation lack history and legitimacy (Gartner & Brush 2006). Without structure, a predictive approach might be hard to conduct, therefore small market experiments can be a suitable way to develop the venture (Noyes & Brush 2012). Still, the resource constraints also can unleash creative market experiments and foster contacts to stakeholders (as the entrepreneur is forced to collaborate) (Brown 2009).

3.2.4 THE PROCESS FROM THE CORPORATE ENTREPRENEURSHIP PERSPECTIVE

In this sub-chapter, the process will be presented from the perspective of corporate entrepreneurship. First, a general overview of process research and characteristics of the internal corporate venturing process will be presented with regard to the early stage. Second, a process and stage model of Burgelman (1980) will be introduced.

3.2.4.1 *General characteristics and overview*

When talking about the process from the corporate perspective, it is important to distinguish between the responsibility of senior and venture management (Burgelman 1984a), because organizing the system in which the venture is established is different to managing the venture itself.

Block & MacMillan offer a process model of the venturing process, including six stages (Block & MacMillan 1993). They distinguish in their process model between the different roles of senior management and venture management.

1. *Setting the stage*: decision to engage in corporate venturing by senior management, create conditions for the flow of venture ideas and frame for managing venturing activity.
2. *Choosing ventures*: venture champions (how Block & MacMillan (1993) call venture management in this stage to emphasize the role of championing) identify, evaluate and select opportunities and build a venture proposal for presentation to senior management; senior management selects the venture; compensation basis may be established.
3. *Planning, organizing and starting the venture*: venture management completes development of a business plan for approval of senior management, and after approval organizes and launches the venture. Senior management determines where each venture should be located within the organization and how it should interface with other units.
4. *Monitoring and Controlling the venture*
5. *Championing the venture*: as new entity is expanded, the venture needs to be integrated into the parent organisation. Venture managers need to champion the venture to manage the challenges of corporate politics.

6. Learning from experience: Collection of information on the venturing experience helps both venture management to learn how to manage ventures more effectively and senior management how to manage internal corporate venturing process more effectively (Block & MacMillan 1993).

The first three stages comprise the early stage of internal corporate venturing. Within stage three, the venture proceeds from early stage towards the project phase.

Van de Ven (1986) emphasizes that an invention or creative idea does not become an innovation until it is implemented. Laaksonen (2007) points out that further studies of the early stage of ICV are required and contributes to the field by researching radical innovation development through ICV in a major Finnish telecommunications company. Oden (1997) offers a managerial perspective on the process. However, the early stage of ICV consists in his approach only of the activity of product development. Despite the importance of product development for ICV, it may not be the sole activity performed during the early stage, as the process model of Block & MacMillan (1993) suggests. Moreover, product development as such might be very different in an entrepreneurial context than in the corporate context (for a detailed analysis see Pavia 1991).

Keil et al. (2009) describe in their study of capability creation and transformation in ICV the milestones of their case company with V0: recognised business idea, V1: pilot stage, V2: market/business commitment and V3: fully blown business. These milestones are connected to the resource allocation of the parent company towards the new venture.

Among the most important work regarding the process of ICV is the dissertation of Robert Burgelman (1980) with subsequent publications building on the research (Burgelman 1983a; Burgelman 1983b; Burgelman 1984b; Burgelman 1984a; Burgelman 1985). It has been chosen as basis for recent studies on internal corporate venturing (e.g. Ranta 2005; Laaksonen 2007). Laaksonen confirms the usefulness of Burgelman's process model (Laaksonen 2007) which became the core of internal corporate venturing research (Burgelman 1983a; Laaksonen 2007). He points out, that the Burgelman model is unique as it combines the behaviour of organisational actors at different managerial levels with organisational resources during different stages of the radical innovation process (Laaksonen 2007).

The process perspective not only explains, but explicates the process of internal corporate venturing and innovation, taking situations and choices into account

(Laaksonen 2007). Burgelman's study of ICV focused on managers' activities at different levels (venture management, mid-level management and senior management) in an established company (Burgelman 1980).

Characteristical for the process of managing the venture is its combination of an iterative trial- and error nature with action persistence. Action persistence refers to entrepreneurs who continue on a certain course of action despite experiencing negative outcomes (Ranta 2005). A number of studies have been conducted related to the relationship of ventures and their parent companies, such as Sorrentino and Williams (1995) who found out that the venture is likely to benefit from the know-how and resources of the parent company, such as sharing personnel, equipment and customers. Resource availability and collaboration are likely to affect the early stage of corporate venturing.

Burgelman (1980) emphasizes that development of radical innovation occurs in a bottom-up, autonomous strategic process in which middle managers have a central role in the pursuit of innovations, while incremental innovations follow traditional top-down planning. The non-linear, iterative, cyclical development of ICV has been emphasized by several authors (Laaksonen 2007; Ranta 2005; Chesbrough 2000). The development process is neither a natural selection nor an entirely rational selection (Laaksonen 2007), therefore both planning as well as actions are required.

Burgelman's model was criticised to be too linear (Van de Ven 1986) and overemphasizing autonomous activities (Lovas & Ghoshal 2000). Despite the criticism, Laaksonen (2007) notes that most of the authors agree that actors, time, attention and action are at interplay between strategy and structure. Further, it should be noted that the situation in which innovations are exploited highly influences the process (Laaksonen 2007).

In the next Chapter, Burgelman's process and stage model of ICV will be discussed.

3.2.4.2 Burgelman's Process & Stage model

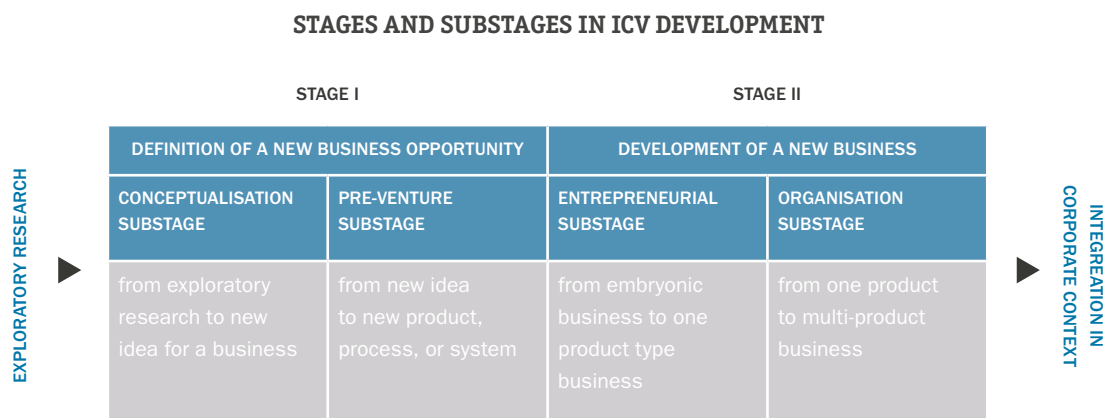
Burgelman developed two models related to internal corporate venturing: a stage model and a process model (Burgelman 1980). Laaksonen (2007) builds on Burgelman's conceptions. Therefore, in this paragraph both models will be presented, combined with Laaksonen's findings.

The Stage Model of Burgelman

The stage model captures the chronological development of ICV projects and offers a description and analysis of development problems in each substage. These problems are connected to the behaviour of key participants in each substage. Therefore, the stage model reflects a sequential development in time (Burgelman 1980). However, ICV projects, as shown above, involve complex iterative processes, which can occur simultaneously and sequentially. The stage model is helpful for the description and analysis of ICV development, but due to the non-linear nature of the activities and the organisational dimension of strategy-making, a process model is required (Burgelman 1980). The process model translates the concrete story of the stage model into a theoretical framework which includes concepts which are more distant from the direct experience (Burgelman 1980). Such a model allows the description and analysis of sequential as well as simultaneous activities, performed by different actors in the system who influence the development of an ICV project.

The stage model of ICV includes exploratory research as source for potential ICV projects prior to the stages, followed by Stage I: Definition of a new business opportunity with the sub-stages conceptualization and pre-venture. Stage II comprises the

Figure 6: Burgelman's stage model of internal corporate venturing (Burgelman 1980, p.103)



development of a new business with the entrepreneurial and organizational substage. The stage model ends with the integration of the venture into the corporate context (Burgelman 1980). As this thesis is primarily concerned with the early stage of internal corporate venturing, only Stage I will be discussed.

The conceptualization substage comprises activities leading towards the first identification of a new business opportunity and initial technical and market development (Burgelman 1980). The definition of concrete projects involves the transformation of an invention into an innovation. In the conceptualisation substage, the first steps are made: a double-linking up process and to fit the new opportunity into the fabric of the organisation (Burgelman 1980). With “fabric of the corporation”, Burgelman means the fit of an opportunity to a company – which projects would work in the company and which not. Therefore, the fabric of the corporation is primarily a cognitive framework that guides people in their efforts towards ICV (Burgelman 1980). Burgelman’s cases all were rooted in the parent company’s domain of knowledge (Burgelman 1980). The double linking up process deals with linking technological knowledge with market needs and will be further explained when pointing out specific activities.

The pre-venture substage includes team formation, combination of R&D and business people around preliminary business plans and objectives and leads to first commercialisation efforts with a new product, service, process or system (Burgelman 1980), ending with getting the “venture” status. In this stage, the project is not yet a venture with an own organisation and resources and fully articulated business plans, but is also no longer an exploratory project with technical and business people discussing many possible objectives. This stage focuses on forceful and focused development efforts (Burgelman 1980).

Burgelman argues that due to a high technology intensiveness of ICV projects, the sequence of the development process starts with technology development and prototyping with a tentative need analysis. With intensifying the need analysis (and therefore the business potential) and the demonstrated technical feasibility, a pre-venture team is established (Burgelman 1980). The team is responsible for market development and technical development guided by market development. With the success of both development activities, concrete business plans are created as well as preparations are made for technical scale-up. The administrative structure develops as new technical and business resources are added. The pre-venture substage ends with the transition

to the new venture status and full commercialisation (Burgelman 1980).

The key activities are in this sub-stage product championing leading to the creation of a vehicle (product, service, process, system) that an ICV project requires to demonstrate its feasibility (Burgelman 1980). For this activity, “bootlegging” resources is required. Championing, bootlegging, technology and market development are important activities discussed later in detail.

The Process Model of Burgelman

The process model of Burgelman (1980) consists of core processes and overlaying processes. The core processes are concerned with the definition of a radical innovation and the momentum of development (impetus) in the corporation (Burgelman 1983a). Although partly overlapping and not entirely sequential, the stages identified in the stage model can be integrated into the process model to gain a better understanding of their organisational implications (Burgelman 1980).

The Connection of the Stage- and Process-Model

The definition process therefore includes the first major stage in ICV development – the conceptualisation substage and pre-venture substage with setting up a team, development of technology and market into a new product, process, system or service

Figure 7: Burgelman’s process model of internal corporate venturing (Burgelman 1980, p.342)

KEY ACTIVITIES IN THE PHASES OF THE SUBPROCESSES

LEVELS	PHASES	CORE PROCESSES		OVERLAYING PROCESSES	
		DEFINITION	IMPETUS	STRATEGIC CONTEXT	STRUCTURAL CONTEXT
Corporate Management	Corporate	Monitoring	Authorising	Rationalising	Structuring
CDG Management	Integrating	Coaching Stewardship	Strategic Building	Delineating	Negotiating
Group leader/ venture manager	Initiating	Technical & Need Linking-up	Strategic Forcing	Gate Keeping Idea Generating Bootlegging	Questioning

(Burgelman 1980). This core process ends, complementary to the stage model, with reaching the “venture” status (Burgelman 1980). The main activities are carried out in the group leader level in corporate R&D, conducting the double-linking up process, evaluating the fit into the “fabric” of the corporation, which reflects the vague perception of the strategic context formulated in the overlaying process as well as bootleg projects if problems of credibility or fit towards the fabric occur (Burgelman 1980). Corporate management activity in the definition process remains rather unimportant (monitoring). The Corporate Development Group (CDG) management engages in coaching activities to facilitate the start of new projects and the emergence of championing activities and towards the collaboration of R&D and business people (Burgelman 1980).

The impetus process is more concerned with the second stage, the development of a new business and will therefore be only briefly explained (Burgelman 1980). The link between the definition and impetus process is established through championing activities of persons usually at group leader level. With reaching venturing status, the venture gains momentum towards scaling up – turning an embryonic business into a one product business.

The corporate management authorizes the transfer of the venture in gestation towards venture status. The CDG management’s task is to engage in strategic building, articulating a master strategy for the new business field in which the venture is acting and the identification of additional arenas which the venture can develop into. This is crucial to allow the CDG manager to engage in organisational championing, linking the ICV project towards the overlaying process of strategic context determination (Burgelman 1980).

The interactions in the process model indicate that ICV is a bottom-up process with lower level participants engaging in strategic behaviour by defining opportunities as well as starting new projects to develop these opportunities into an ICV. Corporate and CDG management has only little influence, and often allow group leaders to carry out their “non-programmed” bootleg projects (Burgelman 1980, p.343). Besides the group leader, a major actor in the impetus process is the manager the venture manager reports to (at the CDG level) who engages in organisational championing to support further development of the venture and supports the transfer from pre-venture to venture status. As certain behaviours have survived the internal selection mechanism (and therefore have been selected by the structural context), they can be articulated into

an “envelope concept” (a frame for further research initiatives, a strategic direction) which through interaction with the corporate management can lead towards reconceptualisation of the corporate strategy and can promote the further development of the venture fitting its new fields. It provides furthermore signals of encouragement for further strategic behaviour from lower levels (Burgelman 1980). The corporate management learns from the authorizations they have made about the selective effect of the structural context and therefore may lead to change it (Burgelman 1980).

The overlaying processes encompass activities through which the current corporate strategy is extended by the ICV in terms of the business field (strategic context determination) and the activities involved in establishing administrative procedures that encourage to act strategically (structural context determination) (Laaksonen 2007). The determination of the structural context precedes the determination of strategic content (Burgelman 1980). Structuring therefore is the “creation of a selective internal environment in which strategic behaviour [...] at lower levels are encouraged and run their course” (Burgelman 1980, p.331). Strategizing is the “retro-active rationalization of the surviving strategic behaviour into a coherent corporate strategic design that explains these behaviours and provides guidance for further development in selected arenas and fields” (Burgelman 1980, p.331). The iterative process of structuring and strategizing determines the corporate context in which the core processes take place (Burgelman 1980).

3.2.5 ACTIVITIES IN CORPORATE ENTREPRENEURSHIP

In this chapter, important activities identified in the corporate venturing process will be discussed.

3.2.5.1 Bootlegging

“Bootlegged” or “non-programmed” research refers to projects which are carried out without formal authorisation (Burgelman 1980). Burgelman (1980) offers several explanations for this form of projects: ideas come up between budgetary cycles and to avoid losing them, they are funded informally. Moreover, an invention might be abundant and unpredictable, and researches “need an outlet for their creative energies” (Burgelman 1980, p.112). Furthermore, bootleg projects may be even encouraged by R&D management to a certain extent because they can serve as demonstration objects:

to show initial results indicating the feasibility of a solution (Burgelman 1980). This is coherent with the notion that it is hard to decide for R&D management which projects will be meaningful, especially in exploratory research.

Laaksonen (2007) extends the bootlegging activity towards collaboration with internal or external third parties in the domains of market, technological and administrative knowledge. The activity of cross-functionalizing which will be discussed below is closely related to this collaborative approach. This approach, to involve internal or external third parties is called as bridging and will be discussed further. However, bridging in the bootlegging state did not materialize before the definition process (Laaksonen 2007). One characteristic of bootlegging activities found by Laaksonen (2007) was that these activities could not be clearly related to one radical innovation in the future. Nevertheless, they have been necessary steps towards these innovations. Bootlegging activities furthermore belong to the periphery of the corporation, when viewed from the existing strategic context (Laaksonen 2007).

To manage exploratory research towards the definition of new business opportunities, Burgelman (1980) introduces the concept of envelopes. There, the envelope is defined, but not what specifically goes into them. The envelope is elastic at the beginning and then narrowed down. The exploratory research starts with the definition of envelopes by the R&D manager. These envelopes set boundaries and parameters, within these the group leader level defines specific objectives and programs (Burgelman 1980). Parallel to these formal efforts, bootleg research projects are initiated by individuals and condoned by R&D managers. If these projects were successful, a redefinition of the envelopes would take place to add specific and formalised objectives (Burgelman 1980).

Bootlegging allows and even encourages lower level employees to engage in strategic initiatives and allows R&D managers to formally fund only reasonably safe projects while simultaneously preserve their future capability to sponsor risky projects in a more informed way, after these have a demonstrated success record (Burgelman 1980).

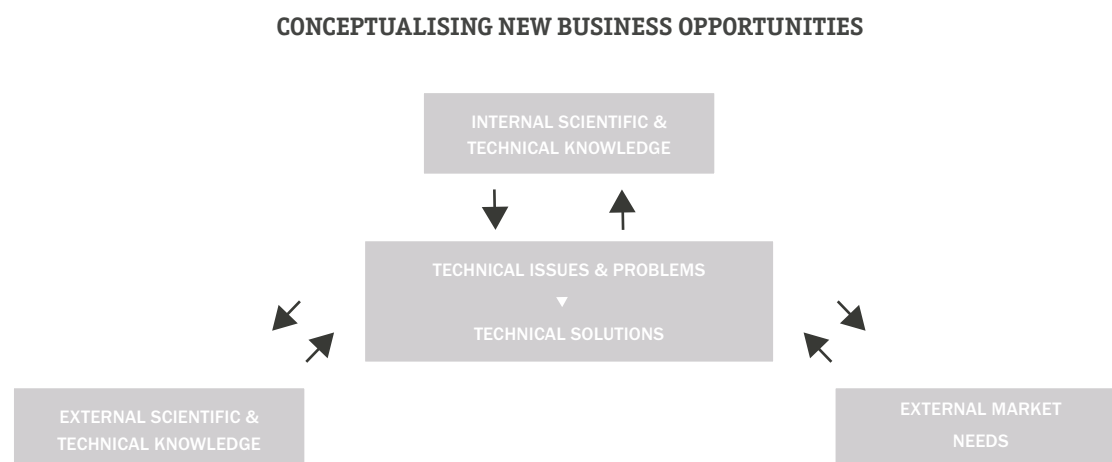
3.2.5.2 Double-Linking up process

Burgelman (1980) indicates two crucial dimensions in creating an opportunity: need linking and technical linking. The special role of outside users is highlighted for radical innovations (for example see Hippel 2005). However, contributions from outside users are only one input into these processes (Burgelman 1980; Laaksonen 2007). Different sources for opportunities are existing customer needs, combination of planning and market evaluations and even perceptions of corporate management (Laaksonen 2007).

Technical linking up involves combinations of a technical problem occurring inside the organisation with linking it to external technical and scientific knowledge. Need linking up is the combination of a perceived market need with technical knowledge inside the corporation (Burgelman 1980). Burgelman (1980) points out that ideally both processes should be conducted with the same intensity, but his data suggests that there is a stronger emphasis either on technical or need linking.

In both Burgelman's (1980) and Laaksonen's (2007) case, ICV projects started most often with a technology push approach. Laaksonen (2007) indicates that even his case company's culture favoured a technological emphasis, the new technologies have been only seldom commercially successful. In technology push, the conceptualisation starts with the technical problem and linking up process. Later, it will be linked to a market need (Burgelman 1980). In need pull, the conceptualisation starts with the awareness of a new market need, followed by a search for technological solutions inside and outside the corporate domain (Burgelman 1980).

Figure 8: Double linking up process (Burgelman 1980, p.132)



An opportunity became only realistic and tangible inside the organisation through estimating how realistic the opportunity could be in terms of technical feasibility, i.e. concerning the organisation's competences and whether external competences could be accessed to make a technical solution feasible (Laaksonen 2007). This is in line with Burgelman's (1980) findings that an opportunity becomes feasible for an organisation via the technical solution. This has been done in the cases observed by Laaksonen (2007) by a single person championing the project or a team led by a middle manager.

In Laaksonen's words: "Thus, in the first sub-stage of the definition process, need perception activities involved the matching of a new or recognized, but poorly served, market need to the market success of technological knowledge, a service, or a system. After this, technical linking activities led to the discovery or collection of external and/or internal pieces of technological knowledge to define solutions for new, or known but unsolved, technical knowledge." (Definition applied from Burgelman 1983 in Laaksonen 2007, p.189).

Technology and market development are two essential activities in the early stage of ICV, as the technology is often not yet available, which makes the development challenging. Market development may be as challenging, as the market need is often not clearly defined and prospective users are not able to articulate their needs due to the radical nature of the innovation as well as the lack of information about technical possibilities (Burgelman 1980).

3.2.5.3 Decision making

Laaksonen's (2007) findings about decision making seem to be very relevant, as decision making is the step towards allocation of resources for pursuing an internal corporate venture. He found out, that decision making is a relevant and necessary stage for the development of radical innovations, but mostly because of development reasons: the project manager is forced to tell a convincing story to the corporate management and go through the internal selection and evaluation system in order to pass this stage (Laaksonen 2007). There is an information asymmetry between the project manager who is deeply involved in the project and corporate management. Thus, if the story is persuasive and consistent, the management may lack the capacity to evaluate the story (Laaksonen 2007). This is in line with Bower (1970) who found that all projects that reached corporate decision making passed it and were funded, which was also

observed in Laaksonen's (2007) cases. This indicates that the opinion of the project manager may be more significant than the opinion of business management unit or corporate management concerning the decision whether an opportunity will be pursued (Laaksonen 2007). The story is therefore crucial and must be easy to communicate, both inside and outside the organisation. The story should be centred around one main theme, which was the factor that differentiated the ICV project from competitors and own operations (Laaksonen 2007). The factor that is emphasized is highly context dependent (Laaksonen 2007). During the definition process, entrepreneurial activities are evaluated mostly based on quality and the clearness of intentions (Laaksonen 2007; Burgelman 1980).

There is a shift in the decision-making process. In the early stage, project management can choose more freely, as the amount of resources involved is low and circumstances for the choice are simpler than in later stages. Later, when more resources are involved and the ICV project gets more anchored in the organisation, the circumstances for choice become more complex. At this point, the corporate management may be able to have a clearer picture about the venture and can choose more informed than at the earlier stage (Laaksonen 2007).

Thus, a realistic estimation of an opportunity and estimation in the early stage of ICV takes place at the operational level. Official decision making is due to the lack of the capability to make an informed choice by corporate management in the early stage not regarded as the most critical process for the development of a radical innovation (Laaksonen 2007). However, the criteria attached to the decision-making activity help the venture manager to structure the activities necessary towards building an ICV.

3.2.5.4 Buffering & bridging

Buffering and bridging are two activities introduced to internal corporate venturing by Burgelman (1980): buffering is to shield the venture in gestation from too much pressure from other parts of the organisation while bridging refers to building connections with people inside and outside the corporation to proceed with the technical- and need-linking process. Laaksonen (2007) built on Burgelman's conception and researched buffering and bridging in depth. He labels buffering a core managerial activity in the definition process, because it gives the persons involved in the

venture in gestation the ability and peace to work, to identify important third parties necessary for collaboration and seek for people outside the R&D function to include (Laaksonen 2007).

Bridging, he claims, is more important in the bootlegging process and buffering in the definition process. Both of these are critical in the impetus process. Through buffering, a technical core is created and managerial activities necessary to proceed with the radical innovation are defined. In this core, initial connections are formed to build a group of interested persons with similar or congruent sources of motivation, experience or intentions who can assist each other in market and technical development (Laaksonen 2007). At the beginning, bridging is focused on bringing new knowledge towards the organisation (Laaksonen 2007). Buffering & bridging reduce the need for information processing or increasing the organisation's capacity to process it (Galbraith 1973).

Cross-functionalizing is one form of bridging, usually performed by the project champion. This term refers to joining functional specialists and cross-functional generalists in the project. In multidisciplinary teams, need and technical linking activities are performed (Laaksonen 2007). Further, cross-functionalizing occurs in the definition process and is either carried out by the project champion or project team led by a middle manager (Laaksonen 2007). It takes usually place at the service unit level and is directed towards activities to commercialise an invention and to connect to the customer market with the concept defined by the project champion (Laaksonen 2007).

3.2.5.5 Championing

Championing is an important activity for ICV development. It refers to a person (the champion), who develops a sense of ownership for a project and is persistent in driving the project further and navigating it through obstacles in its development. Laaksonen (2007) points out that project champions are crucial for the emergence and development of radical innovations. The project (or product/service champion, as most ICV start with one particular product / service idea) champion is usually at the group leader level in R&D situated (Burgelman 1980). For group leaders, managing an ICV would be a substantial career step and furthermore, they are still deeply involved in the technical development (Burgelman 1980). Group leaders unite a sufficient substantive input in

exploratory research as well as knowledge of the “fabric” of the corporation to perform both linking up processes leading towards the conceptualisation of a new business opportunity (Burgelman 1980). Furthermore, it is more likely that an individual rather than a group takes the role of the champion (Burgelman 1980). Especially in the early stage, product championing is a major driver developing momentum for the venture in gestation to move towards receiving the venture status (Burgelman 1980). One manager in Burgelman’s case study pointed out that “Nothing will succeed without a champion. Without a champion, things turn into oblivion” (Burgelman 1980, p.221). The champion has the ability to see technical implications of an idea, evaluate its fit towards the organisation and has the capacity and motivation to commit him/herself towards the idea to create a vehicle (product, process, service, system) for developing a new venture (Burgelman 1980). The product / project champion is usually very optimistic about the radical innovation project (Burgelman 1980).

Burgelman (1980) introduces the organisational champion, typically the direct supervisor of the project champion, who develops links between the venture in gestation and the organisation and shows the strategic fit of the ICV into the corporate strategic context by articulating a broader strategy for the new business field and pointing out the fit of the particular ICV into this strategy (Burgelman 1980). By doing this, the organisational championing puts his/her reputation on the line, and therefore the ICV will be seriously screened by him/her. The organisational champion should ideally not come from an R&D context, although a thorough understanding of the technical implications is required (Burgelman 1980).

4. Case Study



4.1 CASE STUDY INTRODUCTION

The case company

THE EMPIRICAL RESEARCH for this thesis took place within the support structure for corporate venturing of a major European engineering company, one of the world's largest and most successful companies of its kind. It employs currently over 50.000 employees worldwide. The industry has long innovation cycles. The corporation offers high-tech investment goods and focuses on the business-to-business market. The industry the company is situated in, is despite a prolonging growth about to overcome major changes implied by resource scarcity.

The support structure within the case company

The support structure is a department concerned to foster disruptive innovation within the company. It was founded after an internal executive strategy workshop in 2008, as a response for the growing need for disruptive long-term innovation for products, services and new business models. In addition, the support structure should be independent from current development pressures. A task force was built to develop the core concept of the support structure, leading to the launch of the department in 2010 (Internal Document, 2010; Internal Discussions).

Innovation is one of the core concerns and activities within the case company, as its internal goals are to significantly increase the operations performance. However, as efficiency in operations is required, there needs to be a special emphasis on creating an innovation culture. Efficiency suffocates the intrinsic ability to innovate. With streamlining all operations, the niches to innovate and experiment are reduced. Thus, the challenge of the case company is the transition from occasional innovation towards a recognised dedicated structure to foster innovation to stay ahead of the competition. A different approach for managing the innovative system versus the operating system is perceived to be required, leading towards the support structure as "a dedicated nest for innovation with no other priorities and an innovation-inspiring management approach" (Internal Document, 2010).

The mission of the support structure is "to originate and establish the realisation of game-changing innovations beyond current products and services for the benefit of

[the case company]" (Internal Document, 2010). Therefore, it should combine creative ideas into innovative concepts, explore and exploit them in a timely manner with partners and other stakeholders and to mature innovative concepts up to demonstration for handover to the business units of the corporation (Internal Document, 2010; Internal Discussions).

In order to select projects for action within the support structure, the following characteristics were defined: The project should be disruptive (and thus have difficulties in prioritisation in other departments of the case company), bridge insights from unusual origins (transverse or from another industrial domain), topics with no "natural home" in the current set-up and avoid duplication of existing activities (Internal Document, 2010) Therefore, the support structure's task is "clearly [to foster] the disruptive and long-term things that wouldn't happen without the special attention from our side" (Internal Document, 2010).

The work of the support structure in brief

In practice, a bottom-up ideation approach is taken into account with a virtual community, where all ideas are entered and subsequently discussed and enriched by the community itself. The virtual community involves a community gate, letting ideas progress through a combination of comments, "likes" and views. After this initial gate, the idea owner is contacted by the support structure and a first business model is drafted.

From here, the process continues through direct interaction. The next phase of the process is prototyping, generating a tangible outcome used to pitch the idea. Thus, the support structure concentrates on the viability and feasibility of an idea (Internal Discussion). In terms of the form of corporate venturing, the support structure follows the direct-internal approach from Miles and Covin (2002) or direct integration by Burgelman (1984b).

4.2 THE SUB-CASES

FOLLOWING EISENHARDT (1989), the cases were chosen for theoretical sampling. When researching corporate venturing, scholars suggest a longitudinal approach such as conducted by Laaksonen (2007) and Burgelman (1980). However, due to time constraints of this research, the sub-cases have been chosen due to the stage they are currently in:

Case A is at the beginning of the process, having an idea and taking initial steps for pushing it towards an innovation.

Case B is currently in the concept phase.

Case C is an effort, which was developed until the prototype stage, but then did not find a sponsor (and is thus retrospective).

Case D is currently entering the development phase.

Case E is a successfully commercialised product of the company. While in Case A to D the idea owner is also the implementing person, Case E differs. Three persons were involved: the person who initially had the idea, the business owner and a team member of the support structure. The team member of the support structure has been interviewed for this study. The complete team participated in the co-creation workshop.

Therefore, the Case A at the front-end of the process is complemented by Case B working currently on the concept, Case C did not proceed further than the prototyping stage, while Case D successfully passed the front-end of the corporate venturing process. Case E encompasses the complete process from idea towards implementation. All cases are focused on product innovations.

4.2.1 CASE A

Case A is situated at the beginning of the process from an idea towards innovation. The corporate entrepreneur works in an engineering function and undertook initial steps for driving the idea towards an innovation and therefore the idea is in between the idea and concept phase.

It has been chosen for reasons of theoretical sampling, covering the front-end of the early stage. The research has been focused on the questions: how did the corporate entrepreneur get the idea and what were initial activities carried out? How does the corporate entrepreneur expect the process to continue?

To answer these questions, an individual in-depth interview via telephone has been conducted as described in the research methodology chapter. Furthermore, a design probe has been given to the corporate entrepreneur in order to capture the daily life and circumstances when working on the idea as well as success factors and obstacles and an emotional component. In addition, the corporate entrepreneur participated in an in-depth co-creation workshop with other corporate entrepreneurs using Lego Serious Play.

4.2.1.1 Findings

The corporate entrepreneur in Case A had two ideas: one related to a problem encountered during projects, which had its focus outside the corporate entrepreneur's expertise. Thus, the corporate entrepreneur did not possess the means to pursue the innovation and selected a passive role, submitting the idea but not desiring to drive it further. The second idea (which will be the base for the case) was related to the corporate entrepreneur's own educational background, and therefore the corporate entrepreneur perceived to have the means for driving the idea further and selected a more active role. The virtual support structure intended to gather and discuss ideas was only used for the first idea that was outside the corporate entrepreneur's domain of expertise.

The second idea had a relation to the corporate entrepreneur's daily work, but was not in the own functional area. However, the effects of an underlying problem led to problems in the corporate entrepreneur's own functional area, and from this the idea was developed.

The idea, first roughly prototyped was then concretised through various activities related to acquire know-how (such as learning to do 3D modelling) and information search. The main aim of the corporate entrepreneur was to apply for a patent, and for this aim all activities were conducted. The activities encompassed networking to detail the concept and get backup from experts for the idea.

However, the corporate entrepreneur's network was limited to his/her own function.

The corporate entrepreneur actively champions the product, but expects that the active role ends after doing a second, refined prototype showing the functionality. Somebody else would develop the idea towards implementation. The business case was perceived interesting for the corporate entrepreneur, but was finally not done due to the engineering background of the corporate entrepreneur. However, there would be an interest to follow the whole process as an observer.

It was not considered relevant to include customers early in the process. All activities related to the innovation were conducted outside the working hours. The corporate entrepreneur perceives a lack of clarification whether it is allowed to engage in innovative activities during working time. The activities in the idea phase were mostly related to recognising and defining the opportunity, while the opportunity was detailed during the phase from idea to concept. Bootlegging was done between idea and concept to further engage in prototyping. Technical activities have been conducted early, while business-related activities are expected to be done after the patent application has been filed.

Besides these, the activities described by Burgelman (1980) were conducted in a similar way as described in his study: buffering took place at the beginning of the process, as well as bridging is expected in the concept phase. The fit to the fabric of the corporation is between idea and concept. Technical and need linking is expected in the concept phase, reflecting the technical emphasis of the corporate entrepreneur as well as the idea.

4.2.1.2 Analysis

It was observed that the process has been subject to resources such as own time and the mode of dealing with difficulties a time-based pacing process (Liao et al. 2005). The corporate entrepreneur acquired new skills during the development of the idea, referring to capability building (Keil et al. 2009). Prototyping has been found important both in the early stage as working prototype (also in Brown 2009; Brown 2008) as well as later to demonstrate the feasibility of the concept and thus to give credibility (also in Carter et al. 1996). Opportunity recognition was based on a technical problem, followed by a technical detailing process with initial thoughts about the business model as also observed by Burgelman (1980).

Related to Research Question 2, the early stage of corporate venturing was found to

be valid. As expected by Noyes & Brush (2012), the case reveals elements of a predictive and effectuate logic. The goal has been set and therefore points towards a predictive logic, as well as the outcomes did not reshape in major aspects. There were no self-selected stakeholders engaged in the process. However, small experiments were conducted and the project depended heavily on the means of the corporate entrepreneur.

The means of the corporate entrepreneur revealed a crucial detail: the type of the idea – whether it can be approached through the means of the corporate entrepreneur or not – determines the activity in developing the idea towards an innovation. If the idea is not accessible by the knowledge of the corporate entrepreneur, the only means available may be to hand it over to somebody more knowledgeable (in this case to bring it into the virtual support structure). Thus, the idea will not be actively championed. However, if the same person has an idea possible for him/her to pursue and realise, he/she engaged in championing. Regarding the activities, an important detail is that the business case is conducted late, which can be explained by the engineering background of the corporate entrepreneur. Further questioning revealed that creating a business model is not in the corporate entrepreneur's skillset, but there would be an interest to accompany the whole process as an observer.

With respect to Research Question 3, several implications can be drawn for a support structure: the virtual platform is favouring ideas that are accessible to a wide audience with various backgrounds (crowd). However, the crowd cannot give qualified feedback and thus cannot promote a very specific idea through the "community gate". Therefore, an expert commission should evaluate specialised ideas and seek contact. Furthermore, a support structure should give networking support, as the own network of the corporate entrepreneur is limited to his/her own function. The network is used to drive the idea further and get input from sources more knowledgeable than the corporate entrepreneur him-/herself. The final implication towards the support structure is related to the frame within the company: the corporate entrepreneur is acting in a grey area when using company resources to develop the idea as the desired amount of innovativeness within the company is not communicated. Thus, the frame should be clarified, for example by allowing employees to dedicate a certain amount of time for innovative activities.

4.2.2 CASE B

Case B is currently in the late concept phase, working towards being regarded as a project. The corporate entrepreneur has an engineering background and is on a specialist level. The issue which this study aims to research is how the corporate entrepreneur got the idea, which activities were conducted, and which activities are expected to follow. Therefore, an interview, design probes and a Lego Serious Play workshop were conducted.

4.2.2.1 Findings

The corporate entrepreneur struggled with the consequences of a problem reaching into the own function. The problem was situated in the core competency of the corporate entrepreneur, but outside of the responsibility of the workplace. However, the problem was impacting on the work and therefore, information was gathered by the corporate entrepreneur about the problem, leading towards the idea.

While detailing the idea, the corporate entrepreneur sought contact with the system owner of the part where the problem was situated, but got frustrated because the novel solution was rejected. The idea of the corporate entrepreneur had an impact on a part of the system that emerged over years in the domain of the system owner. Through this long development cycle, a sense of ownership (here referred to as “tradition”) emerged. This was an obstacle for the objective evaluation of the corporate entrepreneur’s idea.

Further, the corporate entrepreneur tried to find a channel for the solution, but his/her manager did not know what to do with the idea.

While detailing the core idea, the corporate entrepreneur realised that he/she was focusing on the effects rather than the cause, and therefore redirected his/her efforts towards the cause rather than to deal with the effects. Hence, a more radical second idea began to take shape. However, the corporate entrepreneur was facing various challenges: due to a lack of seniority in the company, networking was a challenge and the credibility of the corporate entrepreneur was questioned. Only with applying for a patent, the credibility increased. Furthermore, the innovative behaviour outside the core functional field was not accepted by peers, provoking critical behaviour regarding the time spent with the support structure to develop the idea further.

Reading about a customer asking the same question pointing towards the cause for the

problem encouraged the corporate entrepreneur to go on with the research. However, there was a strong “not-invented here” behaviour by the system owner and the personal network of the corporate entrepreneur was too limited to overcome the obstacle. The support structure was partly helpful to develop the idea further, but the virtual platform was questioned as well as the approach of using the crowd for pre-screening ideas. Furthermore, there were misunderstandings regarding the role of the corporate entrepreneur and communication from the support structure towards corporate entrepreneurs. The lack of clarity regarding the acceptance of innovative behaviour can be best expressed with a quote: “An employee of the company regards him-/herself in the first place as employee of the company” rather than an entrepreneur.

Further, the risk aversion of engineers was emphasized as well as the hostile environment at the company regarding innovations. Due to the hostile environment, the idea was developed slowly into an innovation, lasting several years. The “suggestion box” of the company was described as very slow process that does not lead towards implementation and lacks credibility as well as knowledge. Further, the financial reward offered by ideas submitted through the suggestion box was referred to as ridiculous and labelled as “hush-money”. Short-term financial rewards were seen problematic as incentives to innovate since those seem to trigger the submission of lower quality ideas.

4.2.2.2 Analysis

Case B was going through a complex, time-based pacing process. The lack of a channel for ideas impacting on another than the core function as well as a manager hostile to innovations, the “not invented here” attitude and traditional thinking of the system owner slowed down the project substantially. However, the corporate entrepreneur periodically tried again to place the idea, despite the hostile environment for innovations. Customer feedback, even received indirectly through a journal, motivated the corporate entrepreneur to be on the right track. For the credibility within the company, getting a patent was crucial. The missing reputation within the company as well as a limited personal network were further obstacles.

Concerning Research Question 2, Burgelman’s (1980) model can be confirmed also in Case B. While the stage process is implied by the support structure, the core processes such as technical and need linking (here in the first phase), fit to the fabric of the

corporation (in concept phase) and product championing have been conducted. The latter has been perceived by the corporate entrepreneur to happen in the final phase, although in the opinion of the author, product championing has been conducted periodically from the beginning. Bootlegging of resources was not required. Buffering and bridging has been also found relevant. While the corporate entrepreneur tried to bridge and experienced bad reactions, it was necessary to buffer the innovative activity until credibility could be established through the patent.

The corporate entrepreneur has a strong effectuate approach. Predictive elements were imposed through the support structure in order to fit the innovation to the company and obtain the resources to implement it. However, the corporate entrepreneur was disappointed while seeking partnerships, and due to the hostile environment for innovations, there were no self-selected stakeholders.

Concerning Research Question 3, the corporate entrepreneur had a strong negative opinion on the innovative environment in the company. The support structure is seen as a “channel for ideas without a natural sponsor” and an alternative path towards a mature system.

The existence of the support structure is in the words of the corporate entrepreneur the “sole reason why this idea goes forward”. Despite this positive attitude, the virtual community was seen critically concerning the confidentiality of interactions (such as voting for an idea) and the reliance on the crowd, which should be combined with an expert review once a year. Also it was emphasized that the crowd lacks the knowledge to evaluate specific ideas.

The corporate entrepreneur sees the role of the support structure as a “service provider” that develops ideas further which do not fit into the own environment and thus the active part in the path from idea towards the project is seen on the support structure’s side. Furthermore, it was emphasized that every idea should get a profound feedback.

The main function of the support structure was seen as establishing networks (partly happening today in the opinion of the corporate entrepreneur, but not to the experts regarding the idea) and methodical support. Also a high threshold concerning the participation in the virtual community was mentioned due to the official character of the community.

The bad experiences with the suggestion box of the company show that the corporate

entrepreneur tried to place his/her idea already somewhere else before turning to the support structure, indicating that multiple channels are used to drive an idea further. The comments about a monetary return are very insightful: money as a reward is not appealing if the idea does not get implemented (“hush-money”) and the amount of reward offends the corporate entrepreneur rather than motivate him/her. Also short-term monetary rewards in the case of patents seem to be the wrong stimulus. Thus, it is recommended to offer longer-term financial prospects (e.g. an equity stake) or, more important, a channel to establish the innovation in the company.

4.2.3 CASE C

Case C is already a substantial amount of time in the prototyping stage but does not find a sponsor to continue. The corporate entrepreneur is on a group-leader level in engineering. To find out about the idea and how it was developed, two interviews were conducted and the corporate entrepreneur took part in a Lego Serious Play workshop.

4.2.3.1 Findings

The idea of the corporate entrepreneur got triggered through a campaign organised by the support structure. Campaigns are calls for ideas, supported by a high-level sponsor and ideally backed with financial support for the winners of the competition. While non-triggered ideas generally face problems in acquiring necessary resources for development, campaigns do have resources available to implement ideas.

The call for ideas made the corporate entrepreneur think about different ideas, and gave the idea to combine two well-known known physics principles towards a product. First, this was applied to another problem, but then iterated towards the final idea.

A very rough draft was created and submitted (“it was a bit even like a joke”). The draft got accepted, and the corporate entrepreneur started to develop the idea further. A colleague who participated in the same campaign but was not selected joined forces with the corporate entrepreneur. The driving force remained the corporate entrepreneur him-/herself. The corporate entrepreneur built a low-tech prototype to clarify the principle, acquired know-how when detailing (mainly through internet search) and detailed the technology side of the concept. However, the business case was neglected (“This was my biggest regret”), pointing towards the means of the corporate entrepreneur due to his/her engineering background.

The network of the corporate entrepreneur is broad, however only in the engineering side. The corporate entrepreneur decided against a patent as it would impose restrictions on sharing the idea, and getting feedback seemed crucial for the corporate entrepreneur. The campaign setting imposed a time pressure to the project that was seen beneficial. The work of the support structure was seen sceptical, as the corporate entrepreneur was not familiar with social networks and expected a more active support from the support structure, especially in direction of networking in order to talk to more knowledgeable people. Especially after passing the selection process, active expert feedback, network help and information would have been expected. To team up with an interdisciplinary team would have been beneficial in the opinion of the corporate entrepreneur, however, due to the lack of personal contacts further team-building did not take place after the colleague joined forces with the corporate entrepreneur.

Only some activities proposed by Burgelman (1980) were conducted. Technical and need linking took place later in the process, fit to the fabric of the corporation in the concept phase, bootlegging was not conducted as no resources were necessary and product championing did not take place (even the corporate entrepreneur would have liked to, but had doubts on having the necessary skills as well as time pressure through the day job).

As the campaign was triggered by what Burgelman describes as structural and strategic context, bottom-up strategic behaviour could not be observed. Due to the official nature of the project, buffering was not required.

4.2.3.2 Analysis

The corporate entrepreneur was aware of his/her lack of knowledge regarding the business side as well as specific engineering knowledge and thus a multidisciplinary team would have been helpful in his/her opinion.

The time pressure was seen beneficial to avoid a long and lonely detailing process typical for innovations in the case company. Thus, the way of working indicates a complex process.

The triggered campaign impacts on Research Question 2: core activities of Burgelman's (1980) model have not been conducted. Especially the lack of product championing, which was replaced by occasional "teasing" whenever the corporate entrepreneur

sees an opportunity to do it is expected to have an impact on the idle phase of the innovation currently. In the other cases discussed, active championing was a core activity for an innovation to proceed. However, strong elements of effectuation can be observed, as the corporate entrepreneur did the project by his/her own means and acquired knowledge on the way. Worth mentioning is the view on patents: while in other cases acquiring a patent was perceived crucial to gain credibility (see also Alsos & Kolvereid 1998; Rotefoss & Kolvereid 2005; Liao & Welsch 2008; Gordon 2012), credibility did not seem to be an issue in this case which may be connected to the high-level support of the campaign as well as the credibility by being selected (Laaksonen 2007).

Concerning Research Question 3, the implications on the support structure are that a high-level support is beneficial for the credibility of corporate entrepreneurs, motivates through recognition of the corporate entrepreneur by executives and therefore offers a visible achievement. Time pressure was perceived beneficial for the development of the idea and should therefore be considered to be implemented into the support structure on a permanent basis. The skill set of the corporate entrepreneur as well as the network point towards that the corporate entrepreneur did not have the means to conduct a business analysis, even he/she saw the importance ("It's my biggest regret that I did not do the business case."). Therefore, there is an opportunity to complement skills, either by fostering the formation of multidisciplinary teams or by offering methodical support in the activity.

The overall performance of the support structure was regarded sceptically, and the arrangement of the campaign was not credited towards the support structure (it was perceived to be organised by the organisational entity where the high-level executive was situated). Prototyping was perceived to be a key activity, both in the early stage as working prototype as well as demonstrating the concept later in the process. Thus, activities to make the business tangible to others seem to be helpful (see also Carter et al. 1996). The virtual community was regarded critically because it did not help the corporate entrepreneur as well as there was a lack of knowledge regarding the functionality of social networks.

Due to the self-understanding of the support structure to support corporate entrepreneurs in their work, but not to champion the ideas by themselves, the lack of product championing seems to be the crucial reason for the idea not to proceed – either towards implementation or decision that it will not be pursued. The corporate entrepreneur was proud of the recognition by being selected and having the chance to present the idea

to the selection committee. Therefore, the relevance of events supported by high-level executives should be noted.

4.2.4 CASE D

Case D found a sponsor and currently is entering the project phase. The corporate entrepreneur has a business background and is on the group leader level in the company. In order to conduct the research, a four hours lasting in-depth interview was conducted, design probes given and the corporate entrepreneur participated in Lego Serious Play workshop.

4.2.4.1 Findings

The corporate entrepreneur conducted a triggered search for ideas because he/she has the vision to improve the user experience of the product. In addition, thoughts about implementation accompanied the ideation phase. As a frequent user of the product, the corporate entrepreneur thinks of him-/herself in the role of the user and iterates frequently during the development of the idea, constantly improving the concept. Keeping the core principle, the idea is refined during each iteration. The regular job of the corporate entrepreneur is completely different, although situated in the business side. The focus is strongly on desirability. However, other employees are wary and the corporate entrepreneur faces strong opposition which even endanger his/her regular workplace. From engineering side, obstacles are imposed through arguments against the concept that are not assessable by a business person (such as safety issues). The patent was mentioned as an element to gain legitimacy.

The idea was submitted to a campaign, but not triggered by it. It won the second place in the competition and earned a price, consisting of a small personal gift and development money, but no time allocation for the development of the innovation. Yet, winning the competition was a strong motivator and its interesting for the corporate entrepreneur to “push it through till it’s in the final product”. The corporate entrepreneur does not ask for permission. The corporate entrepreneur develops many ideas, but has generally problems to implement them and uses multiple channels to implement the ideas. Generally speaking, the corporate entrepreneur would agree also if somebody else would implement the ideas, if recognition is ensured. Concerning the successful idea, the corporate entrepreneur mentioned “it was only luck” that it got

into implementation.

The corporate entrepreneur lacks a personal network outside of his/her own function and therefore does not have access to technical knowledge. The support structure was criticised due to the lack of a permanent link to the innovation process as well as the lack of decision power since a decision should be binding towards the acquisition of resources and freedom to implement an idea. There was good feedback about the attitude of members of the support structure as the feeling is perceived to be welcome. There is a lack of knowledge about the innovation system at the company.

The virtual community was perceived as “no value added”, and the corporate entrepreneur would like to talk straight to experts (also in an event through an elevator pitch) to get hard feedback. The crowd is perceived as the wrong audience. There is potential for frustration as no rapid feedback is given for ideas in the support structure and the process may take long time.

The corporate entrepreneur would like to get in touch with customers in order to validate the idea, but has no means as getting directly in touch would endanger the workplace of the corporate entrepreneur. To succeed, corporate entrepreneurs would need protection as operations of the company are forming a hostile environment. Further, the day job and routine are perceived as harmful for innovation, as there is no room for creative impulses and no time to follow ideas. Another obstacle is that there is no access to decision makers and no channel for ideas that are impacting different functional areas than the own workplace. There were bad experiences with the suggestion box in terms of idea ownership. When having an idea, the corporate entrepreneur develops it further until a point where it cannot proceed at the time and keeps it in mind, together with requirements that would be needed to implement it. Once the requirements are met, the idea is continued to be developed. Following an idea is a continuous learning process for the corporate entrepreneur.

The corporate entrepreneur followed Burgelman’s (1980) model. Technical & need linking is conducted in the idea phase, as well as fitting the idea to the fabric of the corporation. Bootlegging has not been done, as no resources were required. Championing has been placed in the project phase, although in the author’s view championing took place along the whole process. Even stronger are the core processes: by being innovative, the corporate entrepreneur challenges the structural context through questioning and engages in strategic behaviour. Buffering and bridging is conducted in the front phase.

4.2.4.2 Analysis

The ecosystem for innovation at the company has to be regarded as critical, as there is little acceptance of co-workers for innovative behaviour. Non-engineers wanting to innovate need to be prepared to deal with resistance from engineering side. One strategy mentioned to deal with this is to ask for details when being criticised.

The highly iterative way of working indicates a complex process taking place. It further contains elements of design thinking (Brown 2009; Brown 2008), although focusing mainly on desirability and viability, but not feasibility. Obtaining a patent can be seen as critical to obtain legitimacy towards others and claim ownership of the concept. The suggestion box has been described as not suitable to claim ownership of an idea. This leads together with the impressions of the other cases towards a multifaceted negative image of the suggestion-box-system at the case company. There is a need to validate assumptions with customers and users. The case emphasizes the importance of customer and user thinking.

The lack of channels for ideas outside the own function is emphasized in this case, as well as the use of different channels rather than one to push ideas towards implementation – the corporate entrepreneur uses all means to undertake this activity. “Not invented here” was also found in this case.

One important notion towards recognition of the corporate entrepreneur is the aim to improve the social position in the company and show co-workers, that innovative activities are meaningful. Further, monetary rewards are not seen crucial as motivator – while there was a product worth below 1.000 € given as a personal reward for winning the campaign (“nice”), a substantial amount of money for developing the idea was given and thus the idea can be driven towards implementation. A multidisciplinary team would have solved the problems encountered by talking with engineers.

Related Research Question 2, it can be stated that the case follows the model derived from Burgelman (1980) while having strong elements of effectuation and creative approach – all elements mentioned by Noyes & Brush (2012) are fulfilled. The strong championing of corporate entrepreneur may be the differentiating factor between a successful and unsuccessful innovation.

Concerning Research Question 3, it can be stated that the personal attitude of the

members of the support structure is crucial in order to motivate the corporate entrepreneur (which is currently fulfilled). However, there is a lack of knowledge concerning the innovation system and different channels in the company that could be improved.

Further, the support structure is seen as passive (“too busy with itself”). To establish a way to engage in communication with customers and users would help the corporate entrepreneur to ground the assumptions concerning desirability and viability in reality. The virtual platform is seen critically, as it does not bring any value to the corporate entrepreneur – the expectation is to get expert feedback and a honest and binding go / no-go decision, coupled with development money and a frame to pursue the innovation. It is needed to establish a link to the normal innovation process.

Moreover, networking towards the “right” people with expert knowledge and decision power should be improved as well as networking with other functions. As there are different types of corporate entrepreneurs and their activity depends on the means available, the support structure should ask whether an corporate entrepreneur wants to implement the idea by him-/herself or expects somebody else to implement this idea to avoid frustration. Pitching the idea in a physical event as well as a certain time set for each phase of the process would be perceived valuable.

4.2.5 CASE E

Case E is successfully implemented and will be discussed from the perspective of the support structure’s team member. An interview with the support team member as well as a Lego Serious Play with the idea owner, support team member and business owner were conducted.

4.2.5.1 Findings

A front-line employee who worked for the company wanted a product on a new device for the daily work and discovered that this would be also a business for the company. The employee did an early prototype, developed the functionality and tested the device with colleagues. Six months later, a demonstrator was ready, developed by the front-line employee him-/herself.

The support structure arranged the possibility to pitch the idea to the top management, but it did not get accepted. The momentum was not there. But then, one month

later, a competitor entered the market with a similar product, and then the interest within the company was raised. The member of the support structure took over and began to champion the idea, but re-packaged it: from a product innovation towards a process innovation (to be able to develop the product in the same time as the competitor did). A similar product was available in the company on another platform, therefore a sales channel already existed. However, doubts from marketing whether the team can develop the product within the short period of time made it impossible to utilize the channel.

Re-packaging of the idea was a crucial activity to gain a sponsor: the sponsor was more interested whether the company can make it to develop the product within the short time rather than the result. Customers asked for the product, however sales did not collaborate with the team until the feasibility of the innovation was proven.

The support structure member stayed with the innovation, even another person (from the sponsor's department) got to be the business owner. The business side was not very emphasized and included only expected costs and returns. The main selling argument was emotional: to be able to work as fast as the competitor.

Burgelman's (1980) process and activities can be also found in this project. The activities of technical and need linking have been conducted (although late in the process) and product championing played a strong role. Important to note is that a fit to the fabric of the corporation was deliberately neglected, questioning the structural context and engaging in strategic behaviour. Bridging has been conducted to talk to as many people as possible to find a sponsor. Buffering has been conducted in the late stage of the concept, as with increasing popularity of the product other organisation members wanted to include other functions.

4.2.5.2 Analysis

Due to the lack of momentum, and the stop after the initial development as well as a longer championing phase, the process can be characterised as time-based pacing process (Liao et al. 2005). Emotions were important as the packaging of the idea decided over its success: by referring to the competitor, a feeling of competition was established.

There were three milestones: the first idea and prototype, to make the business tangible for others (Carter et al. 1996), the re-packaging of the idea to add an emotional

component and sell it to the right people through the network.

Due to the involvement of the support structure, the team was extremely well networked and was able to include the top management as well as marketing and sales. But even with such a good network, and customers asking for the product, it was hard to convince the sales department to work together. The team consisted of business people and a user (the initial idea owner) and was confident to be able to succeed, and the sponsor focused on capability building (Keil et al. 2009) rather than the final product. Activities related to business development were conducted towards the project phase in order to implement the idea, while opportunity recognition and definition were conducted from the idea towards the concept.

Concerning Research Question 2, the case followed Burgelman (1980). From all the cases, it was the most predictive: the goal was defined, and activities were undertaken to reach the goal. However, the starting points were the means of the front-line employee and the team engaged in a very creative way of working, using design thinking (Brown 2008), and emphasized speed in the implementation phase.

Concerning Research Question 3, the support structure was actively involved in the innovation. Due to the active role of the support structure, networking, organising the stage for decision-making (such as the top management presentation) and methods, information and contacts were available. The idea was successfully implemented.

4.3 FINDINGS OVERALL

BESIDES THE CASES, ten interviews have been conducted, both formal and informal with persons involved in the innovation process. The interviews covered the innovative environment of the corporation, the role of the support structure, activities and the process of internal corporate venturing.

Valuable information was given by members of the support structure. An executive expert experienced in innovating within the corporate environment was interviewed multiple times. Further, other corporate entrepreneurs were interviewed. Findings from the case studies were included in the interviews and triangulated by these means.

Moreover, three co-creation Lego Serious Play workshops were conducted with members of the support structure (expert workshop with five participants) and two workshops with one member of the support structure and corporate entrepreneurs from the case studies. Further, the executive expert mentioned above participated. The first workshop with corporate entrepreneurs had three participants. The second workshop had six participants.

Before the final workshop concept was decided, a pilot workshop with students was conducted. In the workshops, the overall innovation process in the case company, obstacles, success factors and stakeholders as well as characteristics of the innovation process were included. The groups mapped the innovation process from their perspective, engaging in discussions and building a shared understanding of the process. Further, scenarios based on the research findings were elaborated during the workshops and thus the findings were triangulated.

The findings can be categorised in general findings, activities, support structure and channels for innovation, idea sources and the role of the corporate entrepreneur and process characteristics. All findings presented below have been triangulated and reflect the opinion of at least two persons involved in the process, collected through various means.

Although the categories are related to the research questions, they are not limited to them in order to be able to present crucial insights that will be applied to the research questions in Chapter 5.

4.3.1 GENERAL FINDINGS

The general findings are findings worth mentioning which did not fit to any other category. One finding is the lack of emotions in the company: both in terms of products as well as the way of working, emotions are neglected and facts preferred. This is well reflected in the quote presented before: “An employee of the company regards himself in the first place as employee of the company” (Case B). Therefore, efforts related to championing of the idea may lead towards alienation of co-workers.

Innovation culture

The culture inside the organisation does not foster innovation – there are many obstacles for corporate entrepreneurs on their way from an idea towards an innovation, pictured in all co-creation workshops. Rules and regulations are used against creativity.

The negative view on innovation is demotivating, and as decision makers tend to avoid risks, it is easier to say no than yes and demand to have all facts before making a decision. This leads towards a long detailing process to strengthen an idea and the need to discover alternative paths to implement the innovation. Labelled as “shadow” of the company, processes such as procuring (the challenge to get material needed to innovate) as well as reporting and everyday tasks related to administrative functions that demand much time were mentioned.

Active corporate entrepreneurs tend to work on their ideas mostly during mornings and evenings in their free time, discussing their ideas mainly in the private life, as within their daily work, the acceptance of the innovative activity is low and is seen as a “private hobby”.

A strong argument for pursuing an idea towards innovation is when a competitor works on the issue at hand – this leads to market pressure on the case company.

Success factors

Although not integral part of this research, a few personal characteristics regarding the corporate entrepreneur were mentioned. Besides the network, the hierarchical position within the company is a key for success as well as reputation. Technical understanding is desirable to be able to defend the project and champion it. Empathy to communicate to different stakeholders is important as well as confidence in the idea.

Radical projects may need a “guardian angel” with a solid position in the company to be successful. Two characteristics are observed: successful corporate entrepreneurs

have a proactive attitude, do not ask for permission and can bear negative feedback.

Obstacles

Tradition is “acting without thinking” (one corporate entrepreneur) and an obstacle within the company. In the co-creation workshops it was connected to arrogance and the “not-invented-here” syndrome. Not-invented-here was a common obstacle towards finding a sponsor: as the system owner wants to avoid to admit that another solution is better than the current or future solution developed by the own department, ideas are blocked.

The allocation of resources is seen as top-down with little influence from bottom-up. Management is lacking insights into the ideas and activities of corporate entrepreneurs, therefore there is no innovation-pull by the management happening, but always innovation-push by the corporate entrepreneurs, leading to frustration.

There is a lack of people who can make an idea real, closely related to the role of the corporate entrepreneur. Another obstacle is that successful products of the company were protected from innovation to avoid endangering revenue streams. There is also a tendency towards risk aversion. The daily work leaves no time for being innovative and does not offer any stimuli for innovations. Corporate entrepreneurs are seen as endangering the system and are not supported by operations of the company. Processes (such as inflexible procurement) harm the innovativeness further. Other functions are reluctant to collaborate with corporate entrepreneurs due to risk aversion.

For the motivation of the corporate entrepreneur it was found to be crucial to receive active support from the support structure, find a team and work together as well as recognition of the corporate entrepreneur. In the last co-creation workshop, however, it was argued that recognition may not be the personal reason to engage in innovative behaviour, as the joy of doing something meaningful that goes beyond the boundaries of the regular job description is seen crucial. In the overall picture emerging from the combination of interviews, probes and co-creation workshops, it can be stated that it is both: recognition is important for the motivation of the corporate entrepreneur as well as confirms the legitimacy of the innovative behaviour and one reason to engage in such behaviour is the joy of doing something meaningful.

4.3.2 ACTIVITIES

The findings concerning activities are related to Research Question 1. The initial construct derived from the literature review has been applied to the cases as part of the interview procedure described in the methodology of this research.

The occurrence of the activities pointed out in the research construct has been mapped according to the stages of idea, concept and project.

Table 6: Activities in the Cases compared

KATZ& GARTNER 1988	CATEGORY	ACTIVITY	CASE A	CASE B	CASE C	CASE D	CASE E
Resources	Funding	company funding	not used	not used	not used	not used	project (strong), concept (not so strong)
		investing own money	not used	complete process (time)	project (time)	idea (time & books etc.)	idea (time)
		bootlegging resources	idea to concept	not used	not used	not used	not used
Intention-ality	Opportun-ity	opportunity recognition	idea	idea	not used	not used	idea
		thinking business idea	not used	concept	concept	idea	idea
		information search	idea to concept	idea	concept to project	idea to concept	idea to concept
		search opportunities	not used	not used	idea	idea	concept
		think how to exploit opportunities	idea	not used	idea	idea	idea to concept
		define opportunity	idea	not used	idea	idea	not used
		fit to fabric of corporation	idea to concept	concept	concept	idea	deliberately misfit!
Intention-ality	Planning	write business plan	not used	project	not used	idea	concept to project
Boundary	Legitimacy	establish legal entity	not used	not used	not used	not used	not used

	CATEGORY	ACTIVITY	CASE A	CASE B	CASE C	CASE D	CASE E
		develop trust among stakeholders	not used	not used	project	iproject	concept to project
		got facilities & equipment	not used	not used	not used	not used	project
		decision making	not used	not used	concept	concept to project	concept to project
		customer/ market development	project	concept	not used	idea	idea to concept
		application patent	concept to project	concept	concept (not done)	idea to concept	not used
Exchange/ Resources	Business Development	developing procedures	concept to project	not used	not used	not used	project
		organising startup team	concept	not used	project	project	project
		risk management	not used	not used	not used	concept	project
		market development	project	not used	concept	project	concept to project
		full time work	not used	not used	not used	not used	idea & project
		developing prototype	concept	not used	concept & project	project (& later)	idea (low-tech) & project (demonstrator)
		technical & need linking	concept	idea	concept to project	idea	concept to project
		recombination resources	not used	idea	not used	project (& later)	not used
		assessment difficulties	idea to concept	concept	concept	idea	concept to project
		acquiring know-how	idea to concept	not used	concept to project	not used	idea to concept
		product/ service development	concept to project	concept	not used	project (& later)	concept to project
		sales, marketing	not used	not used	not used	project (& later)	project

KATZ& GARTNER 1988	CATEGORY	ACTIVITY	CASE A	CASE B	CASE C	CASE D	CASE E
		customer discussions	project	not used	not used	project (& later)	concept to project
	Advice/ CE Activities	seeking advice	idea to concept	idea	concept to project	concept	concept
		buffering	idea to concept	idea	not used	idea	project
		bridging	concept	not used	concept to project	idea	concept
		establishing networks	concept	project	project	concept to project	concept
		product championing	idea to concept	project	not used	concept to project	concept to project

Funding & Opportunity

Funding was perceived to be necessary and crucial. However, in the early stage of corporate venturing, corporate entrepreneurs did not perceive the need to acquire considerable funds. This may be due to the fact that all corporate entrepreneurs were employees of the corporation and thus the salary aspect is not crucial in the early stage of corporate venturing.

Corporate entrepreneurs conducted activities related to the opportunity mostly in the early stage (idea and concept). The fit to the fabric of the corporation, however, was conducted relatively late (compared to the other activities in this category), indicating that the support structure may have imposed this activity.

Planning

Planning was perceived useful if used to coordinate the actions. However, the majority of corporate entrepreneurs either neglected planning or did it in a later stage. Only Case D engaged in early stage planning (in the idea stage).

Legitimacy

Applying for patent was mentioned frequently due to credibility reasons as well as to claim idea ownership. Legitimacy can be obtained through various means: through the sponsor, customer's voice and patent. Through this legitimacy, the corporate entrepre-

neur receives protection in an environment characterised by the need for efficiency.

Decision and selection was mentioned as success factor, as it gives motivation to continue as well as credibility within the organisation. The recognition by executives motivates the corporate entrepreneur. Decision-making serves two functions: to give credibility (high-level support is demonstrated) and to evaluate competently the value of the innovation. In the last co-creation workshop, this was subject to discussion as decision-makers do not necessarily have the capability to evaluate ideas properly, and therefore difficulties in implementation may be one consequence. Another consequence may be a delay in the decision-making process, as it is forwarded to more competent persons. This process delays the innovation, which impacts negatively on the time-to-market. Furthermore, a mindset of risk-aversion leads to a tendency to decide negatively the easier and safer choice for the decision-maker.

Business development

Activities mentioned as success factors were the self-marketing of the idea owner, demonstrated by the successful sponsor acquisition after re-packaging the idea in Case E. In the co-creation workshops, marketing was highlighted, as it is crucial for convincing stakeholders. It was also mentioned that instead of offering different channels for more specific ideas (see implications support structure), there should be an emphasis on training how to communicate ideas understandably.

Furthermore, a convincing business case was mentioned, although other corporate entrepreneurs were successful with a basic business case that was perceived by the team member “weak” (Case E).

Prototyping was perceived helpful both in the early stage to further develop the concept (Case C, E), as well as later to demonstrate the functionality (the same cases). A member of the support structure emphasized the role of a demonstrator to find a sponsor. The costs of the prototype were not perceived as crucial. Prototyping was also frequently mentioned in all co-creation workshops. In the last workshop, the group identified as one of the core activities to do iterative prototyping – feedback cycles to develop the product further. Both early prototyping and building a demonstrator were seen as crucial activities.

The importance of two activities of the business development category has not been foreseen: interdisciplinary team-building and customer- and user-involvement. Due to their importance, these activities will be discussed separately.

Interdisciplinary team-building

Concerning team building, corporate entrepreneurs worked mostly alone in the first phase, triggered by bad experiences due to the hostile environment in the company. However, one corporate entrepreneur (Case D) attempted to include the expert in the field of his/her innovation in order to increase the chances of realisation.

In general, an interdisciplinary team would have been perceived beneficial for the development of the idea, but mostly in a later stage (not on a “crude idea”. Self-selected stakeholders entered the project in two cases: Case C and E. Case D would have liked people to join, but referred to this that people are too busy to join an entrepreneurial team. This may be also connected to the lack of emotions pointed out in the general findings. In the co-creation workshops it became apparent that interdisciplinary teams would be beneficial, although one group limited it to distinct phases of the process, whereas parts of the implementation should be done within the disciplines. The other group of corporate entrepreneurs highlighted the importance of interdisciplinary teams throughout the process. To have experienced and knowledgeable team members with a profound technical knowledge has been emphasized. It was further highlighted that finding team members is a crucial but difficult activity.

Customer- and User-involvement

Regarding customer- and user involvement, several insights were found during the research. To know that the solution was desirable for the customer served as motivator, no matter if this knowledge was passed indirectly (Case B) or directly (Case E).

All interviewees, both in the cases and additional interviewees agreed to the importance of satisfying customer needs. However, the way of customer involvement was discussed vividly. While one corporate entrepreneur with an engineering background stated “If I would have listened to the customer, I wouldn’t have done anything”, pointing towards Henry Ford’s famous quote “If I had asked people what they wanted, they would have said faster horses.”. Other corporate entrepreneurs would have liked to get directly in touch with customers, which is currently only possible through marketing, when the product is in an almost mature stage and ready for selling.

The importance of creating a market pull approach through networking with customers was expressed. This market pressure, as discussed in the general findings, worked as a strong argument for developing the idea towards innovation, both for the team and the sponsor. Further, during the co-creation workshops it became apparent that

different groups had different views on customer involvement: while experts emphasized to get in touch with customers early, one group was focusing on including users into the process while neglecting customers until the end of the workshop.

Another group discussed customer- and user-involvement controversially, with opinions from “it’s not important at all” to “crucial to involve”. Moreover, the emotional component of customer- and user-involvement was emphasized: whether they do like a solution or not is seen as based on emotional, irrational reasons. To create desirable innovations, it was argued that deep contextual knowledge is required to innovate – in Case E, the original corporate entrepreneur was a user by him-/herself. However, it was agreed by both corporate entrepreneur groups that a channel towards customer- and user-involvement is currently lacking, despite the importance of contextual knowledge for innovations.

Advice / CE activities

In respect of networking, it was crucial that all corporate entrepreneurs except Case E (who worked in the support structure) had only a limited network in their own function and hoped to reach another audience through engaging in the virtual community of the support structure. One corporate entrepreneur marked networks as “being inbred”, showing dramatically that the networks of corporate entrepreneurs are limited to their own function. The campaign Case C engaged in was perceived helpful to find like-minded people. This was one of the core benefits for the corporate entrepreneur: “that is why the campaign was interesting”. Networking was seen as key element in all co-creation workshops, with emphasis on personal connections. Often it was referred to serendipity in respect of finding the right contacts and like-minded people to develop the idea further. To involve experts into the development of the idea, it was recommended to address either the competency of the expert as crucial to get his/her commitment, or to mention other competent people (in order to address the expert’s honour to prove that he/she is the best in the respective field).

Product championing was intensely conducted by successful corporate entrepreneurs and distinguished the successful from failed corporate entrepreneurs.

4.3.3 SUPPORT STRUCTURE AND CHANNELS FOR INNOVATION

Virtual Community

The first part of the findings concerning the support structure is related to the virtual community. The virtual community builds the first stage of the process towards an innovation if the channel is chosen to use the support structure. In the virtual community, a combination of votes, comments and views decides which idea proceeds into the next stage.

However, there was multiple criticism towards the approach using a virtual community as gate. One criticism was that there is a bias towards the nature of the idea: very specific ideas may not be able to gather enough supporters to proceed as the crowd lacks knowledge to evaluate the idea. Several corporate entrepreneurs emphasized that there should be a periodical expert review to screen the ideas. The second function the community aims to provide is a network among corporate entrepreneurs.

However, it was criticised that it is difficult to find and reach the right experts and that those are mostly not participating in the virtual community. While one corporate entrepreneur criticised the emotional component of voting (and suggested to develop an artificial intelligence system to avoid emotional evaluation), other corporate entrepreneurs claim that there is currently too less emotional involvement of corporate entrepreneurs within the community.

The feedback of the crowd is seen critical as it is perceived to have no decision power to proceed towards implementation (although it forms the first gate of the support structure). Decision-making by executives and the connected legitimising effect is disabled through the community approach. Further, besides the crowd evaluation and networking challenges, corporate entrepreneurs may lack experience with the functionality of social networks. To be dependent on other people to proceed leads towards a passive behaviour of the corporate entrepreneur.

Expectations towards the support structure

Corporate entrepreneurs expect from the support structure three core activities: support for networking, information and expert feedback. Currently, this is only partly the case: expert feedback is not offered to all ideas submitted in the virtual community.

Similarly, support for networking is perceived only partly to be available, especially when trying to reach the experts on a specific topic. Furthermore, decision power

is expected, which is tightly coupled with credibility: when a decision is made, the resources should be available to implement the idea.

Therefore, the support structure needs to be coupled to the regular innovation process. However, this is currently not established on a regular basis. The main motivator for corporate entrepreneurs is to be able to pursue the idea, as the reward in Case D shows: there was only a little personal gift, but a substantial amount of money (and link to the innovation process) offered as reward, and it was together with recognition perceived as highly motivating.

Thus, in the case of campaigns, the link towards the regular innovation process is established. For other ideas, however, this link is missing.

Methodical support is expected by corporate entrepreneurs and given by the support structure. There is a dissonance concerning the role of the support structure and corporate entrepreneur: while the support structure expects the corporate entrepreneur to be active, the corporate entrepreneur expects the support structure to be in an active role after submitting an idea. Corporate entrepreneurs invest their own time and simultaneously experience uncertainty concerning the acceptance of their innovative behaviour. Clarifying the frame would help corporate entrepreneurs to justify their activities in their work environment.

There is frustration about the support structure because it is perceived as “service provider that advances ideas without a natural sponsor” – a role the support structure only partly fulfils due to the missing link towards the regular innovation process. Further, there are too few people available who are able to evaluate an idea profoundly. Immediate monetary return is regarded as the wrong stimulus for innovation, as it attracts ideas focused on the short term only.

Regarding the channels for innovation, corporate entrepreneurs do not have an overview of the different possibilities within the company and thus discover more possibilities to advance their idea by serendipity or networking. Corporate entrepreneurs use multiple channels within the company, which are gradually discovered, depending on his/her experience within the company. The suggestion box was also used by the corporate entrepreneurs, however with bad experiences. There is no channel for big ideas affecting multiple functions and managers are unable to cope with such radical ideas. Thus, many ideas are hard to get into realisation.

Table 7: Needs of active and passive inventors and corporate entrepreneurs

	INVENTOR	CORPORATE ENTREPRENEUR
active	needs help	needs nothing
passive	needs to be addressed	does not exist (fails)

Currently, there is only limited management-pull for ideas (through campaigns) as well as corporate entrepreneurs are lacking the personal contact to decision makers. The following matrix was established during one co-creation workshop, indicating the different needs of different people:

The active inventor needs help to develop the idea, while the active corporate entrepreneur was described as “nothing is needed”. The passive inventor needs to be addressed by management-pull through the support structure, while a passive corporate entrepreneur does not exist as he/she will fail during the process. While important to show the need for actively addressing different types of people, it needs to be acknowledged that corporate entrepreneurs also need support in terms of network, information and expert feedback as indicated above.

Inspiration from outside and creative environment

An interesting aspect of the co-creation workshops that has not been addressed through the other data collection methods was the view towards outside: the corporate entrepreneurs collectively emphasized that an outside view is crucial as source for inspiration.

However, there were different opinions how to get this outside view. While some corporate entrepreneurs preferred a trend scout that should be connected to the internal environment, other corporate entrepreneurs (with a higher position within the company) argued that everybody should collect the outside view, indicating that people with different means regarding the network and position in the company have a different view on the subject. However, all agreed that no consultants should be engaged for this but partners with a clear task and own interest, such as a joint venture or being on the payroll of the case company. The core task of the company was described to integrate better things from outside into its core business rather than to invent everything by itself.

Further, the physical environment was emphasized in all co-creation workshops,

giving corporate entrepreneurs a space to work on their innovations in a different environment than their day job, offering means to prototype, peer- and methodical support. In the same vein, freedom was emphasized during the workshops: without freedom, creativity is limited. Freedom requires trust, less control (less tight reporting for example) and flexible ways of working (result-oriented way of working rather than to control the way how corporate entrepreneurs work).

4.3.4 IDEA SOURCES & ROLE OF THE CORPORATE ENTREPRENEUR

There are three main sources of ideas:

The first source of ideas are peripheral innovations concerning the workplace of the corporate entrepreneur (concrete problems which need to be solved in order to fulfil the main task). These innovations do not trigger a sense of ownership within the corporate entrepreneur: he/she would like to have those challenges solved, but not necessarily by him-/herself. Often, these innovations are outside the core competence of the corporate entrepreneur and thus the means are lacking to realise this innovation, leading towards a passive behaviour of the corporate entrepreneur – he/she expects that the idea once submitted in the virtual community is taken by the respective departments and implemented.

The second source of ideas is something impacting the main job of the corporate entrepreneur directly. The corporate entrepreneur is “suffering under the conditions of the problem”, and therefore seeks a solution even the problem is not in the core functional area. The corporate entrepreneur typically has the skills to solve the problem. While working on the problem, the underlying cause may be discovered, leading towards a more radical innovation. These ideas typically evoke a sense of ownership and thus the corporate entrepreneur engages in product championing.

The third source of ideas is the triggered search for opportunities by the desire to improve the end product of the corporation. Two corporate entrepreneurs in this study used the third source of innovation: Case C combined technical principles, while Case D researched the user experience of the product. One difference may be the motivation: while Case C was triggered by a campaign (and no product championing took place), Case D was triggered out of intrinsic motivation, leading towards a strong desire to implement the idea into the final product.

An interesting detail revealed during the research is that one corporate entrepreneur

may be in more than one of the categories – depending on the means of the corporate entrepreneur, a more active or passive role is determined. As the support structure demands the corporate entrepreneur to be active, it is suggested to ask the corporate entrepreneur whether he/she sees a more active or more passive role. All corporate entrepreneurs were interested in the whole process from idea towards innovation, but depending on the source of the innovation and the means in a more passive, observing or active, championing way. In the passive situation, the corporate entrepreneurs may offer a “user perspective” to the problem at hand.

4.3.5 EFFECTUATION AND/OR PREDICTIVE APPROACH

Research Question 2 asks whether Effectuation and/or elements of a predictive approach can be combined with Burgelman’s (1980) research findings on the process and activities of corporate entrepreneurship. Therefore, all cases were researched in this respect.

Case A shows elements of a predictive approach (concrete goal, try to avoid uncertainty, no partnerships) with an effectuative approach (iterative way of working with own means, engaging in experiments).

Case B was following the effectuative approach, although no one entered the project self-selected. The support structure imposed predictive elements (creating a plan).

Case C combines a predictive element (linear development) with elements of the effectuative approach (iteration, based on own means, self-selected stakeholders and partnerships).

Case D created a plan at the beginning as a plan for action, but worked in a highly effectuative way.

Case E started with a concrete goal and avoided uncertainty, but worked in a highly effectuative way. Therefore, it can be stated that the way of working was always based on own means and mostly iterative, although the environment was not open for innovation as there were mostly no self-selected stakeholders.

The outcomes reshaped substantially in all cases except Case E. Concerning creating a plan, two cases did not create a plan, while two created it at the end of the process. Only one corporate entrepreneur created it at the beginning. There was mixed feedback on how to deal with unexpected situations, as two corporate entrepreneurs saw

it as a source of opportunity, while one wanted to overcome them quickly and one take the time to reflect. Small experiments were conducted by all corporate entrepreneurs (although there was no clear answer in Case E).

Process Characteristics

All cases were progressing fast in a short time, as well as went through phases of inertia, indicating that it is a complex time-based pacing process. Failure was regarded to be normal, pointing towards affordable loss.

Means of Corporate Entrepreneurs

Depending on the educational and professional background and therefore on the means of the corporate entrepreneur, activities were emphasized or neglected: all engineers neglected business development activities in the idea phase, while people with a business background neglected technical development in the first place. Obstacles related to the own means were observed: engineers for example used arguments against an idea, which were not accessible to a corporate entrepreneur with a business background due to the lack of means.

Triangulation revealed that the vision of the corporate entrepreneur and the means he/she perceives to have determines how actively he/she engages in championing the innovation. Means that are perceived as not easy to acquire (for example because they are distant from the corporate entrepreneur's core competency) lead towards a more passive role. However, the lack of means can also trigger the search for partnerships to overcome the obstacle. Seen from the opposite angle, passive people do not engage in acquiring new means but rather give up.

Capability building and other insights

All corporate entrepreneurs indicated that the innovative activity broadened their skills. Although the activities were related to the means of the corporate entrepreneur, the importance of the other side was acknowledged: in Case C the corporate entrepreneur said it was his "biggest regret" not do the business case.

The roughness of the first draft was emphasized as usually proposals in the case company are very detailed. A lonely and long detailing process should be avoided, therefore a set time span for each stage of the process may be desirable. To ground situations in the company in every-day life (outside the company) was mentioned to be important for success. Agility (sprints and releases) were mentioned in one case

(Case E) to be crucial. In one co-creation workshop the time-to-market was discussed vividly, as the innovation process is too long and decision-making may take long time.

One process characteristic was highlighted in the last workshop: the process should be “as simple as possible, but not simpler” (Corporate Entrepreneur), indicating that the current innovation ecosystem is hard to grasp for an corporate entrepreneur and needs to be tremendously simplified.

Table 8: Elements of Prediction and Effectuation in the Cases

QUESTIONS	CASE A	CASE B	CASE C	CASE D	CASE E
Was your starting point a vision, which you wanted to achieve through own skills or a concrete goal?	concrete goal, but solution emerged	vision (starting with a problem and an open end)	vision (“it happened like this”), building on another idea and taking the principle and applying it to another context	vision	concrete goal
How did you conduct activities					
linear or iterative?	iterative	iterative	more linear (one iteration to bring the new idea to the new application)	strongly iterative	iterative, design thinking, agility and sprints
based on your own means?	yes, learned new skills on the way	never asked him-/herself the question, just started	completely, yes	means-driven (powerpoint-prototype for examples)	yes
through small experiments based on affordable loss? (opposed to expected returns)	tried various versions, small experiments	not to get rich (not expected returns)	small experiments prototypes, low-tech did not acquire any funding (only time invested)	affordable loss-experiment to share IPR with expert in order to get idea into implementation	(no answer)

QUESTIONS	CASE A	CASE B	CASE C	CASE D	CASE E
How did you deal with unexpected situations? Did you use uncertainty as a source of opportunity or did you try to avoid it and quickly overcome the situation?	when dealing with unexpected situations take the time to get distance and then work on it	acknowledged and source of opportunity	(no answer)	source of inspiration (to invent out of necessity)	overcome quickly
Did you create a plan? When? What was the reason for it?	no	only with support of support structure to develop the idea further and bring it to market	no	yes (beginning)	yes, with sprints and releases, but not too much planning in the creativity part (more in implementation)
Did you ask yourself "What can I do? Who do I know, which resources can I get?"	(no answer)	"never doubting", "never reflected if (he/she) can bring it to end"	(no answer)	yes	team member had the skills, was interested, learning, personal time and was able to make a prototype and pitch it to top management (support structure arranged presentation)
Did people enter the project self-selected?	no, only the support structure showed interest (and his/her manager)	people interested, but no one entered the project	one person in campaign through offering mutual feedback – worked later closer together	hoped for it, but no	yes

QUESTIONS	CASE A	CASE B	CASE C	CASE D	CASE E
Did the outcomes of the project reshape?	yes, slightly, but main idea stayed the same	yes, a lot, and in completely different directions	yes, the concept got refined and the first idea changed to the second	yes, strongly because of customer experience	re-shaped only in details
Did you seek partnerships?	no, worked alone and got feedback from manager	at the beginning yes, but then disappointed	yes, sought partnership with one fellow innovator in the same campaign	protection because of bad experiences, but now try again to seek partnerships	no partnerships

5. Discussion



The discussion will be guided by the Research Questions:

1. Are activities from entrepreneurship applicable in corporate entrepreneurship?
2. Can the Burgelman (1980) model be expanded towards elements of effectuation and/or a predictive logic?
3. Which managerial implications can be drawn from the insights into activities and process characteristics?

5.1 ACTIVITIES FROM ENTREPRENEURSHIP IN CORPORATE ENTREPRENEURSHIP

Research Question 1: Are activities from entrepreneurship applicable in corporate entrepreneurship?

THE FOUR CATEGORIES Resources, Intentionality, Boundary and Exchange from Katz & Gartner (1988) have been the basis for the six categories of entrepreneurship activities derived for this thesis: funding, opportunity, planning, legitimacy building, business development and advice / Corporate Entrepreneurship activities. The categories have been confirmed relevant in corporate entrepreneurship during the course of this research. However, the activities within the categories differ partially.

Funding

In the funding category, it was found that company funding is important in the project phase, but not in the early stage because it mainly involves the commitment of own time. Thus, the activity “own money” from entrepreneurship was translated into “own time” invested in the project. The case findings suggest that similar to the positive effect of own money invested (Liao et al. 2005; Alsos & Kolvereid 1998; Carter et al. 1996), own time invested by the corporate entrepreneur is a success factor.

Opportunity

Opportunity-related activities have been conducted mostly in the idea phase. Information search has been conducted to detail the idea. During this process, corporate entrepreneurs acquired new capabilities. Learning and capability building as key outcomes of entrepreneurship and corporate entrepreneurship (Block & MacMillan 1993; Keil et al. 2009; Ranta 2005; Backholm 1999; Dierickx & Cool 1989) can be confirmed in this study. The fit to the fabric of the organisation was mostly conducted in the concept phase (that can be seen as the pre-venture substage of Burgelman), while Burgelman (1980) situated it in the conceptualisation sub-phase. One observation was that Case E deliberately chose to neglect the fit to the fabric of the corporation by suggesting a novel way to exploit the opportunity.

Planning

In terms of planning, the ambiguous situation observed in the entrepreneurship literature can be also found in corporate entrepreneurship: the business plan (or mostly

a business model following Osterwalder (2010)) has been done either late in the implementation phase due to external requirements such as requirements for implementing the project or as springboard for action in the early stage. An interesting observation was that corporate entrepreneurs with an engineering background tended to neglect the business model upon active methodical support from the support structure and external pressure, while acknowledging the importance. However, the importance was seen rather as a tool for communication than a “springboard for action” (Carter et al. 1996). The statement of Carter et al. (1996, p.164) that “action rather than planning, doing rather than thinking” distinct the successful entrepreneur from the failed entrepreneur and thus more active entrepreneurs are more likely to conclude their venture attempt with improved results (Gordon 2012) can be also observed in the corporate entrepreneurship context.

Legitimacy building

Legitimacy building has been identified as a crucial activity in both entrepreneurship and corporate entrepreneurship literature. However, the activities conducted differ. While in entrepreneurship literature actions to “making the business tangible to others” (Carter et al. 1996, p.161) were for example to establish a legal entity and getting facilities and equipment, activities such as decision-making, getting a patent and customer’s voice are important means in corporate entrepreneurship. The decision-making by a person with a high hierarchical position gives strong credibility within the organisation, helping the corporate entrepreneur to implement the idea. Acquiring a patent showed both the feasibility as well as “seriousness” of the innovation. Getting a customer involved helped in decision-making as well as to get credibility. Expensive equipment, as suggested in entrepreneurship literature, was purchased after the decision that gave already the credibility, so a distinct effect of this activity could not be observed.

Business Development

In the business development category, developing procedures and full time work were not considered relevant by corporate entrepreneurs in the early stage. Prototyping was seen crucial, in the early stage in connection with rapid feedback, indicating a creative approach towards innovation such as design thinking which is based on early prototyping and iterative feedback loops, both within the team as well as with users (Brown 2008).

As addressed when discussing the business plan, means for the business side were determining whether planning was used actively and business modelling was conducted or not. Engineers focused on technical development first.

Team building happened late, although an interdisciplinary team would have been perceived beneficial but the personal networks of the corporate entrepreneurs were limited to their own functions. Team building was seen as a crucial but difficult activity. Through teams, corporate entrepreneurs can broaden their resource and knowledge base (means) as indicated in Sarasvathy's (2008) "Whom I know" and partnership category. Parker (2003) names as advantages for cross-functional teams, the speed of conducting tasks, the ability to deal with complexity, an increased customer focus (as indicated in this study, corporate entrepreneurs with a business background showed a stronger customer focus) and creativity. Brown's (2009; 2008) concept of design thinking uses interdisciplinary teams as crucial element in innovation projects.

Market development was conducted mostly late. During interviews, it became apparent that there were mostly no means available to engage in this activity, as a channel towards the customer in the early stage is currently lacking. Corporate entrepreneurs with a business background seemed to have a stronger customer focus. However, all corporate entrepreneurs agreed on the importance of satisfying customer needs. Some corporate entrepreneurs had a critical attitude towards user involvement, indicating customer's limited ability to imagine future solutions. Nevertheless, customer feedback was seen as strong legitimizing element within the company and obtained mostly due to personal relationships. One corporate entrepreneur argued that it is impossible to create meaningful solutions without having deep contextual knowledge which is in line with the design thinking concept (Brown 2009; Brown 2008).

As indicated in the findings, two activities have been found important and thus will be discussed further in the implications on a support structure: interdisciplinary team-building and customer- and user-involvement.

Advice and Corporate Entrepreneurship activities

In the final category, advice and Corporate Entrepreneurship activities the research showed that product championing is a crucial success factor for corporate entrepreneurship and as suggested by Burgelman (1980) forms the link between definition and impetus process. Product championing was intensely conducted by successful corporate entrepreneurs, trying to implement their ideas through various channels

within the organisation. Self-marketing and the “packaging of the idea” were crucial activities. Further, the amount of activities conducted and the proactiveness of the corporate entrepreneur were connected to the probability of success of the corporate entrepreneur, indicating that a higher concentration of activities (especially towards the handover from concept to project) was beneficial as suggested by Lichtenstein et al. (2006).

To summarize, the categories derived from entrepreneurship literature can be found in corporate entrepreneurship. Most activities are valid for both contexts, however bigger differences can be found in the funding and legitimacy category. Crucial elements of design thinking such as early prototyping, iterative feedback, user and customer involvement as well as building interdisciplinary teams (Brown 2009; Brown 2008) were found to be important activities.

Further, the iterative nature of the process as well as concentration suggest that there may be an underlying complex process, supported by this that a common sequence of activities could not be observed. Product championing and the activeness of the corporate entrepreneur were crucial for success, as suggested by Carter et al. (1996).

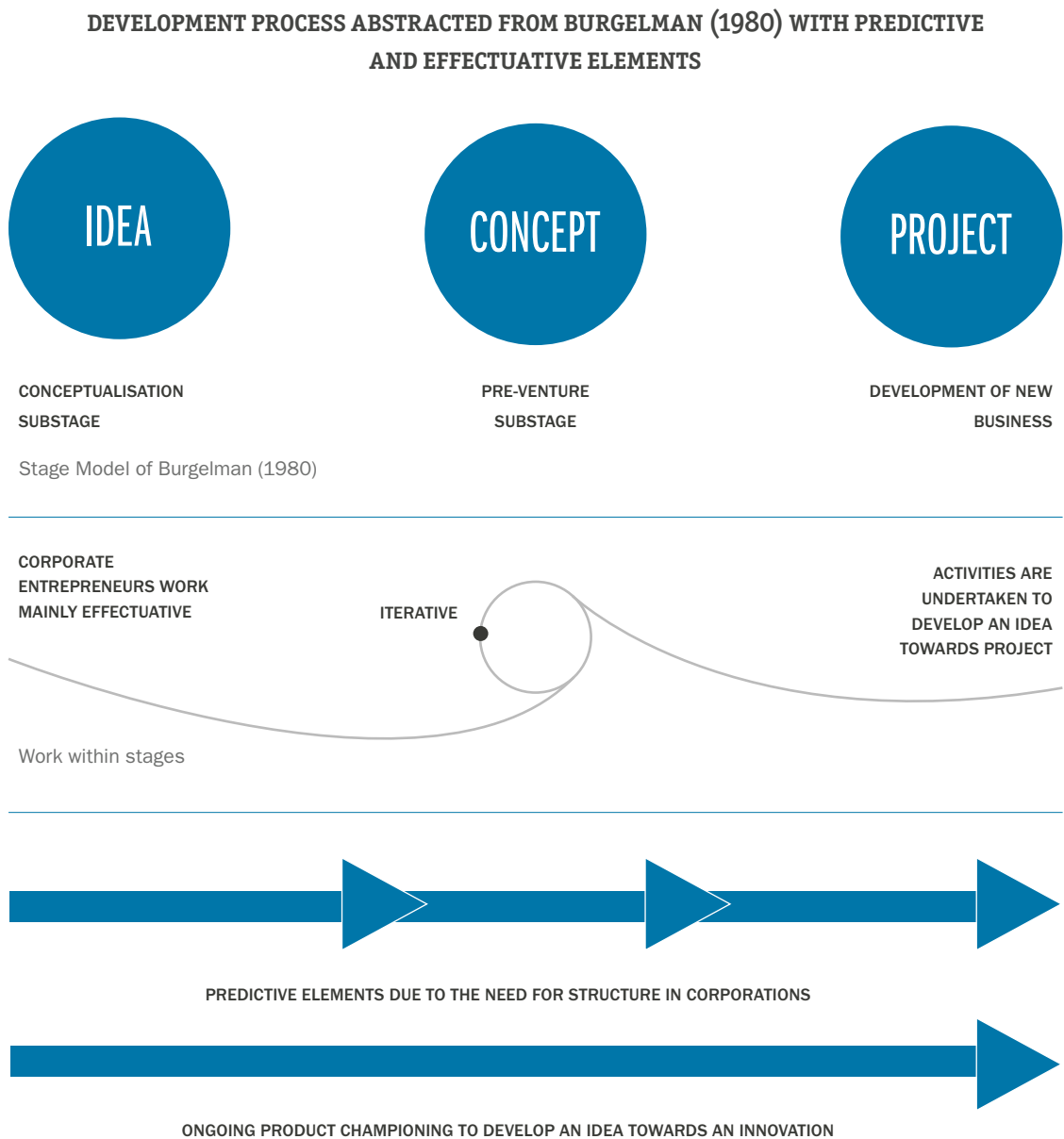
The means of corporate entrepreneurs (see Sarasvathy 2001; Sarasvathy 2008) were determining how different activities were used, such as business planning as “springboard for action” (Carter et al. 1996) or due to external requirements.

Lastly, legitimacy building was seen as crucial element for success, as corporate entrepreneurs need the commitment of co-workers in operations to implement their idea into an innovation.

5.2 THE BURGELMAN (1980) MODEL AND EFFECTUATION AND/ OR A PREDICTIVE APPROACH

Research Question 2: Can the Burgelman (1980) model be expanded towards elements of effectuation and/or a predictive logic?

Figure 9: Burgelman (1980) Model and Effectuation and/or a Predictive Approach



THE MODEL INTRODUCED in 2.5.1.2 that connects Burgelman's (1980) core processes from the corporate entrepreneur's perspective with his stage model was found to be valid in the case company. This has been researched through the presence of the activities suggested as well as through a comparison of the cases towards the model.

However, as discussed in the limitations, the emphasis has not been on Burgelman's (1980) model itself, but a predictive and effectuate logic within the process.

Burgelman's activities and stages were found. Championing played a crucial role for developing an idea towards innovation (as also suggested by Laaksonen 2007). Without ongoing product championing, the idea could not reach the project stage. Technical and need-linking has been performed in the early stage as well as championing as link towards the project stage (Burgelman 1980).

However, due to the strong engineering background of the case company, the research findings indicate that there is a strong technology-push approach with late linkage towards customer needs. The linkage to customer needs was neglected due to the means of corporate entrepreneurs: most corporate entrepreneurs had no access to customers and perceived limited foresight of customers (see the discussion in the activities).

Complex Process

The Burgelman model was criticised as being too linear (Van de Ven 1986). It became apparent during the research that although there needs to be a choice of a sequence by corporate entrepreneurs due to the limited amount of activities being feasible to conduct parallelly (Delmar & Shane 2002), there was no common pattern. The activities conducted were connected to the means of corporate entrepreneurs (and every corporate entrepreneur had a different set of means as starting point). The process of corporate entrepreneurs to make an innovation happen was resembling a complex process as pointed out by Lichtenstein et al (2006), conducted in an iterative, nonlinear and creative way as suggested by Noyes & Brush (2012). It was characterised by intense phases of work as well as phases where the innovation was not developed further, indicating a time-based pacing process as suggested by Liao et al. (2005).

Despite this complex process lived by corporate entrepreneurs, the Burgelman (1980) model could be found which may be in line with the need for structure in large corporations that may demand linearity. The stage model presented by Burgelman

(1980) resembled the process imposed by the support structure. This stage model was used by corporate entrepreneurs due to the chance to drive their project further rather than “naturally”.

That there was no common sequence of activities found (and also no best one, as proposed by Delmar & Shane (2003)) may also be due to the small amount of cases compared during this theory-building research. Yet, a pattern in all cases emerged, showing that the activities conducted were close to the means of corporate entrepreneurs. As expected and indicated by Noyes & Brush (2012), elements of a predictive and effectuative logic were found. Corporate entrepreneurs tend to work more with an effectuative logic, while the corporate environment demands to bring in structure. Burgelman (1980) describes the “fit to the fabric of the corporation” as an activity carried out by the corporate entrepreneur. During this research, it became apparent, that the support structure influences the fit to the fabric of the corporation by requiring certain activities to be conducted in order to proceed within the support structure towards a corporate venture.

Product Championing

In line with Burgelman (1980) and Laaksonen (2007), this study confirms the importance of product championing for the success of the corporate entrepreneur. As identified in entrepreneurship literature, more active corporate entrepreneurs either were successful or failed, while passive corporate entrepreneurs were still trying (Carter et al. 1996), and those might be the real failed corporate entrepreneurs (Stützer 2007). The amount of the activities conducted and the proactiveness of the corporate entrepreneur were connected to the probability of success of the corporate entrepreneur, indicating that a higher concentration of activities (especially towards the handover from concept to project) was beneficial as suggested by Lichtenstein et al. (2006) and can be seen as product championing.

Means

Following a resource-based view (Wernerfelt 1984), means have been identified in this study as central element in corporate entrepreneurship. According to their means, corporate entrepreneurs engaged in active or passive behaviour. Ideas connected to the means of the corporate entrepreneur (close to his/her core competency) were pursued actively, while ideas originating from a “user perspective” of the corporate entrepreneur (when a problem was identified, but solving it was not possible with the

given skills) were submitted and not championed actively. As championing is one of the key activities leading towards the impetus process of Burgelman (1980), this finding is crucial. Further, while there has been no typical order identified, in which activities were conducted, means determined the activities that were conducted first. The closer the means of the corporate entrepreneur were connected to the activity, the earlier it was conducted. Means perceived as not easy to acquire (for example because they are distant to the corporate entrepreneur's core competency) lead towards a more passive role. But, the lack of means also triggered the search for partnerships to overcome this obstacle. Regarded from the opposite angle, passive corporate entrepreneurs did not engage in acquiring new means when necessary. This can be seen as an indicator for a lack of championing, a core activity in order to implement the idea. Product championing was intensely conducted by successful corporate entrepreneurs, trying to implement their ideas through various channels within the organisation.

Sarasvathy (2008) called the emphasis on means the "bird-in-the-hand" principle, putting emphasis on using existing means to create novel solutions opposed to discovering new ways to achieve pre-defined goals. However, during this research, it became apparent that it is mostly a combination of both: acquiring new knowledge while starting with available means. However, a crucial insight is that the corporate entrepreneur has to see the possibility of acquiring the knowledge needed in order to engage in learning new ways. Further, Sarasvathy (2008) described means as three-fold: who I am, what do I know and whom I know. It can be confirmed that all three categories were important within all cases: the position of the corporate entrepreneur determined the access to decision makers and legitimacy within the company. What do I know referred to the skill set of the corporate entrepreneur and this determined the activities conducted. Whom I know referred to networking and championing of the innovation, both activities seen crucial.

Küpper (2010) identified in his study of effectuation in R&D projects that it is important to use means to concretize goals in projects with a high degree of innovativeness, while set goals appeared to be more beneficial for projects with low innovativeness. Read et al. (2009) highlighted the importance of means on venture performance. Brettel et al. (2012) however could not find in their study of effectuation in corporate R&D projects a positive correlation of "means-driven" and increased R&D output, arguing that not a focus on means may be important, but what is being done with existing means.

Means determined active or passive behaviour of corporate entrepreneurs, championing, the building of new capabilities (Block & MacMillan 1993; Keil et al. 2009; Ranta 2005; Backholm 1999; Dierickx & Cool 1989) as well as the order activities were conducted such as customer and market development.

Process from the corporate entrepreneur's perspective

The process from the corporate entrepreneur's perspective has been perceived as highly iterative. The outcomes reshaped frequently during the process. Prototyping, both in an early stage as well as later to demonstrate the feasibility of the idea was regarded as important. This can be seen as an indicator, that a creative approach is pursued (Noyes & Brush 2012), taking elements of design thinking into account (Brown 2009; Brown 2008).

Small experiments were conducted and early prototyping with iteration cycles was perceived very helpful. Design thinking includes viability from the business side, feasibility from the engineering perspective and desirability from a user's perspective (Brown 2009; Brown 2008). Elements of design thinking such as iteration, early prototyping, demonstrating the feasibility (strongly due to the emphasis on engineering within the case company), combined with viability (mostly imposed by the support structure in order to acquire resources needed to pursue the innovation) were found.

However, other elements of design thinking such as taking inspiration from the user context were found seldom, despite the highlighted importance during one co-creation workshop. Rapid iteration based on user and customer feedback is one of the key elements of design thinking (Brown 2009; Brown 2008). However, this happened only in Case E, due to the lack of access to and acceptance of user feedback.

Planning happened late and mostly due to the support structure. Although small experiments could be observed, there was no strong evidence for the affordable loss principle introduced by Sarasvathy (2001). Also different corporate entrepreneurs had different approaches to deal with uncertainty.

As operations were focused on effectiveness rather than innovativeness, a hostile environment for corporate entrepreneurs could be both observed and concluded from all data collection methods. Thus, corporate entrepreneurs avoided early partnerships and got only in exceptions support from self-selected stakeholders.

To sum up, elements of effectuation were found in combination with elements of the predictive approach. While means, iteration and small experiments of the corporate

entrepreneur lead to an effectuated approach towards innovation, the company may demand structure in order to allow projects to proceed. Therefore, the support structure imposed predictive elements to create a fit towards the fabric of the corporation and find a sponsor for the project.

5.3 IMPLICATIONS ON A SUPPORT STRUCTURE FOR CORPORATE VENTURING

Research Question 3: Which managerial implications can be drawn from the insights into activities and process characteristics?

IN TERMS OF the support structure, three main findings will be discussed: how the support structure can influence the means of the corporate entrepreneur, customer- and user-involvement and the forms of corporate venturing.

5.3.1 BUILD ON THE MEANS OF CORPORATE ENTREPRENEURS

As discussed in the last chapter, means were found to be crucial in the development of an idea towards an innovation. However, the lack of means was an obstacle for corporate entrepreneurs. Therefore, the support structure should offer services to complement the set of means of the corporate entrepreneur. Brown (2008) suggests that holistic innovations should be viable in the business sense, feasible in the technology sense and desirable from the customer's perspective. While desirability will be further discussed below, ways to complement the set of means of the corporate entrepreneur in the business and technology sense will be discussed here.

To complement the means of the corporate entrepreneur, two strategies are suggested: on the one hand methodical support, offering support in developing the idea and knowledge from other disciplines, for example business modelling support towards an corporate entrepreneur with a technological background. On the other hand, another way to complement the means of the corporate entrepreneur is to foster multifunctional, interdisciplinary team building as suggested by Parker (2003) and Brown (2009; 2008). Therefore, the support structure would need to facilitate networking, that people can find each other in an environment characterised by a focus on exploitation rather than exploration, which is perceived by corporate entrepreneurs as hostile towards innovation. This networking support may have a positive effect on finding team members, self-selected stakeholders (Sarasvathy 2001) and seeking partnerships (Sarasvathy 2001). These activities have been regarded by corporate entrepreneurs as the hardest, but also most important activities. By encouraging networking of open-minded, innovative people, a community may be built against the hostile environment, encouraging each other and offering peer support.

The process from an idea towards an innovation from the corporate entrepreneurs' perspective is characterised by iteration, action and creative elements (Noyes & Brush 2012), incorporating elements of design thinking (Brown 2009; Brown 2008) and a complex process (Lichtenstein et al. 2006). The task of the support structure is to fit this process towards the fabric of the corporation, as Burgelman (1980) calls the evaluation whether a project fits to the corporation or not. A service to offer means to develop an idea towards the predictive logic of the non-innovative environment of the company focused on efficiency may help in implementation of the idea into the operating system of the company.

When taking the means of the corporate entrepreneur into account, it should be acknowledged that depending on the means of the corporate entrepreneur, he/she might want to choose an active or passive role. Therefore, the support structure should clarify whether the corporate entrepreneur prefers an active or passive role and offer different channels for both options. In an active role the corporate entrepreneur should be supported in championing the idea. If the corporate entrepreneur chose a passive role, the idea should be passed onwards to the respective department for evaluation. The corporate entrepreneur (or in this case idea owner) should have the possibility to stay in the process, offering a user perspective as in the cases researched all ideas leading towards a passive role were connected to a problem the corporate entrepreneur encountered as a user of a product or service. These problems tended to obstruct the work of the corporate entrepreneur, not in the sense of the core competence, but in peripheral issues such as the desire to find faster contacts or exchange data more conveniently.

Further, the support structure should offer methodical support for corporate entrepreneurs, offering them a way to acquire new capabilities and means. This can encompass activities leading towards the desirability, feasibility and viability of the idea. Examples are means to build prototypes (feasibility), business modelling (viability) or a channel towards customers and end users (desirability).

The crucial services expected by corporate entrepreneurs are information necessary to develop the idea, expert feedback, a path towards implementation (that will be discussed later in this chapter), methodical support and active support by the support structure. The active role of the support structure is also addressed by Burgelman (1980) with the activity of organisational championing in order to get the resources to exploit an opportunity.

Currently, the support structure of the case company offers support in terms of networking and the virtual community, however no regular physical networking events are conducted. In terms of means, the support structure offers support in business modelling and prototyping. Team-building is currently not facilitated.

5.3.2 CUSTOMER- AND USER-INVOLVEMENT

Customer- and user-involvement has been one aspect that has been highlighted during the case study.

Although there was mixed feedback concerning customer- and user-involvement, all corporate entrepreneurs in this study agreed that it is important to know the needs of the customer. Stützer (2007) emphasizes the need to involve customers: if a customer rejects a product, it needs to be iterated. The earlier this iteration happens, the less are the potential costs. Further, these iterations are sources of opportunities, which is in line with the effectuative logic using uncertainty as a source of opportunity (Sarasvathy 2001). The customer can be internal or external. However, there should be a facilitator to translate problems from the customer- or user context into inputs usable for innovations.

Verganti (2011) emphasized that looking for new technologies to better fulfil existing customer needs will lead to incremental innovations. By asking what a customer wants, the limited insight of customers and users into available possibilities may lead towards incremental innovations, as demonstrated by Henry Ford's famous quote "If I had asked people what they wanted, they would have said faster horses". Verganti (2011) highlights the role of experts as "interpreters" who have both insights into technological developments as well as the customer- and user context. Those experts should look at the complete user experience in a holistic way and bring in outside inspiration towards the company (Verganti 2011). They observe users as they go through an experience as inspiration, interpret these experiences towards ideas for products (ideation) and build full scale prototypes to let users experience the future product experience.

The process described by Verganti (2011) is closely related to the three-stepped process of design thinking with the phases inspiration from the users' context, ideation and implementation (Brown 2008). Thus, the interpreters actively engage in the look for new technologies that could be used to address tacit needs of customers. Experts with

a novel perspective on users build the link between the company and users rather than engaging directly with users (Verganti 2011). This approach of a facilitated customer- and user-involvement has also the advantage that the channel within the company towards users is defined, offering means to include customers early in the process which is one of the success factors in entrepreneurship (Delmar & Shane 2003). Including users offers a strong legitimizing element within the company and helps corporate entrepreneurs to evaluate and improve the desirability of their innovations.

Currently there does not exist a support structure for involving users and customers in early-stage innovation projects within the case company.

5.3.3 FORMS OF CORPORATE VENTURING

One expectation from corporate entrepreneurs was that the support structure offers a way towards implementation. As the innovation matures, a resource commitment needs to be made. As mentioned above, the environment within the case company is characterised by a strong focus on efficiency. Deserti (2011) describes two main elements: the world of limits and world of opportunities. Both limits and opportunities need to be balanced. If only opportunities are pursued regardless of the limits, the feasibility of the project is endangered. However, if there is an emphasis on the limits, truly novel solutions may not be generated. Projected on the situation observed, the world of limits may resemble the part of the organisation focused on exploitation, while the world of opportunities points towards exploration. Naturally, exploitation has a substantial influence on the daily operations within the case company. March (1991) points out that corporations need to be able both to exploit existing assets in a profitable way and simultaneously explore new opportunities. O'Reilly III and Tushman (2011) refer to this concept as ambidexterity and emphasize that corporations need to develop dynamic capabilities to sense changes in the outside environment as well as must be able to act on the opportunities. If a corporation cannot engage in both explorative and exploitative actions, the firm keeps focused on the exploitative part and may not be able to meet future challenges (O'Reilly III & Tushman 2011).

Currently, the support structure is set-up directly integrated into the company. Although established in the R&D department, funding needs to be acquired out of current operating or strategic budgets and thus the firm engages in direct-internal venturing (Miles & Covin 2002). The strategic importance of the support structure is

high, however, the operational relatedness of the projects may not be always strongly given. Thus, following Burgelman (1984b), a different organisational design may be better suited.

One problem directly emerges from the current set-up of the support structure: funding for corporate ventures is coming directly from entities outside the support structure (direct-internal in Miles & Covin 2002). Thus, the main problem is to find a suitable entity for funding the corporate venture after the decision is made to pursue the venture. This has two implications: a decision from the support structure that the venture should be pursued may be regarded as of limited use by the corporate entrepreneur (because the budgetary power to pursue the innovation is not given) and the search for a sponsor can be long due to “not-invented-here” and the nature of radical innovations that may not have a natural department to be situated in.

Thus, a different solution such as the indirect-internal form of Miles & Covin (2002), setting up an internal venture capital fund that originates and operates within the corporation may be desirable. In addition, setting up a new product/business department (Burgelman 1984b) may be useful, as corporate entrepreneurs have a conflict with their day job during the development of the venture, when it is not feasible anymore to conduct the innovative activities during the free time (as currently the case). Furthermore, to work together in the same department and hierarchical level was found during this research to be beneficial for teamwork and the trust among team members.

Lastly, the support structure was set up to pursue radical innovations. However, from the viewpoint of corporate entrepreneurs, the support structure offers a way to implement ideas without a “natural sponsor” in the company or rejected by the respective system owner. This difference in intention and perception may lead to frustration of the corporate entrepreneur. Furthermore, Küpper (2010) argues that radical and incremental innovation projects need to be managed differently.

5.3.4 SUMMARY OF THE IMPLICATIONS

To sum up, the support structure should help corporate entrepreneurs to acquire new means as well as facilitate networking and offer methodical support. Currently, there exists a knowledge gap within the case company concerning the desirability of solutions. Therefore, it is argued to set up a solution to include customers and users into the

innovation process. As the support structure aims to develop holistic, radical innovations, it is argued to follow Verganti (2011) to facilitate customer- and user-interaction through the use of interpreters. One blind spot of the case company is insights into trends outside its core competency. However, both Verganti (2011) and O'Reilly III and Tushman (2011) argue that it is necessary to include outside trends to foster long-term innovativeness. Therefore, it is argued that the support structure for facilitating customer- and user-interaction may reside outside corporate boundaries to fulfil both roles: gather contextual information about users and customers (and thus enable the iterative development of innovation projects as suggested by Brown (2009; 2008)) and to give new impulses from outside (technology epiphanies as called by Verganti (2011)).

Concerning the form of corporate venturing, it is suggested to take the concept of ambidexterity (O'Reilly III & Tushman 2011) into account, indicating a need for change in the setup of the support structure from a direct-internal form towards an indirect-internal form, including funding of ventures through an internal venture fund (Miles & Covin 2002). Moreover, incremental and radical innovations may demand different management approaches as suggested by Küpper (2010). Therefore, it is recommended to concentrate the resources of the support structure for corporate venturing on radical innovations.

6. Conclusion



This study contributes to the understanding of the early stage of corporate venturing through evaluating the fit of entrepreneurship activities to corporate entrepreneurship, combining the Burgelman (1980) model with elements of a predictive and effectuate logic and giving recommendations towards building a support structure in the example of the case company.

A theory-building, qualitative research in form of a case study has been conducted within a major European engineering company. The researcher joined the company's support structure for corporate venturing and conducted field research with corporate entrepreneurs. Five sub-cases have been taken into account, following theoretical sampling to gain insights into the entire early stage of corporate venturing, from an idea towards a project that is implemented. Triangulation has been used as well as abductive reasoning to develop an in-depth understanding of the early stage of corporate entrepreneurship.

To conclude, each research question will be addressed separately, namely:

1. Are activities from entrepreneurship applicable in corporate entrepreneurship?
2. Can the Burgelman (1980) model be expanded towards elements of effectuation and/or a predictive logic?
3. Which managerial implications can be drawn from the insights into activities and process characteristics?

As the last research question aims on giving recommendations for building and improving a support structure for corporate venturing it will be discussed within the managerial implications. Further, avenues for future research will be pointed out.

6.1 CONTRIBUTIONS

6.1.1 ACTIVITIES FROM ENTREPRENEURSHIP IN CORPORATE ENTREPRENEURSHIP

THE FIRST THEORETICAL contribution of this study is the expansion of activities from the domain of entrepreneurship to the corporate entrepreneurship context.

Through a comprehensive literature review, a set of activities from entrepreneurship and corporate entrepreneurship has been created. This list has been structured in six categories that have been derived from Katz & Gartner's (1988) framework: funding, opportunity, planning, legitimacy building, business development and advice / corporate entrepreneurship activities. These categories derived from entrepreneurship literature and expanded to activities from corporate entrepreneurship literature have been found and partly validated during the case study.

Most activities are valid for both contexts, however bigger differences can be found in the funding and legitimacy category. While funding may be more important after a decision for establishing a corporate venture was made, legitimacy has been found to be crucial in both entrepreneurship context (through literature review) and corporate entrepreneurship.

However, different activities have been conducted to make the business tangible to others (Carter et al. 1996): while in entrepreneurship literature for example establishing a legal entity was a crucial activity, corporate entrepreneurship emphasized decision making, obtaining a patent and customer feedback.

Crucial elements of design thinking such as early prototyping, iterative feedback, user and customer involvement as well as building interdisciplinary teams (Brown 2009; Brown 2008) were found to be important activities. Further, the iterative nature of the process as well as concentration suggest that there may be an underlying complex process, supported by this that a common sequence of activities could not be observed. Product championing and the activeness of the corporate entrepreneur were crucial for success, as suggested by Carter et al. (1996).

The means of corporate entrepreneurs (see Sarasvathy 2001; Sarasvathy 2008) were determining which actions the corporate entrepreneurs engaged in and how different activities were used, such as business planning as "springboard for action" (Carter et

al. 1996) or due to external requirements. Lastly, legitimacy building was seen as crucial element for success, as corporate entrepreneurs need the commitment of co-workers in operations to implement their idea into an innovation.

6.1.2 ELEMENTS OF THE BURGELMAN-MODEL OF CORPORATE ENTREPRENEURSHIP COMBINED WITH ELEMENTS OF A PREDICTIVE AND EFFECTUATIVE LOGIC

The second theoretical contribution of this study is an update of the early stage of Burgelman's (1980) process and stage model with elements of effectuation and the predictive approach from the corporate entrepreneur's perspective.

For the purpose of this study, Burgelman's (1980) stage- and process model were merged into one model describing the early stage of corporate venturing from the corporate entrepreneur's perspective. This model has been validated in the case company through the presence of key activities of the model as well as comparison of the cases towards the model.

One key contribution of this study is the connection of the Burgelman (1980) model with elements of a predictive and effectuative approach derived from Sarasvathy (2001; 2008) and Noyes and Brush (2012).

There were recent attempts to bridge the concept of effectuation towards corporate R&D projects (Brettel et al. 2012; Küpper 2010). Nevertheless, the presence of effectuative elements within the early stage of corporate venturing and a connection between predictive and effectuative elements and the Burgelman (1980) model has not been established prior to this study.

Strongly triangulated findings lead to a profound understanding of the concept of means within corporate venturing. Based on the means available for corporate entrepreneurs to pursue a certain idea, an active or passive role is chosen. For example, if an engineer pursues an idea close to the own field of excellence, it is more likely that he/she will engage in an active role, championing the project and developing it further. If the same engineer may have an idea concerning a social network within the company due to difficulties in working with colleagues from other companies but does not have an IT background, it may be perceived that there may be no means available to actively champion the innovation. Product championing was identified by Burgelman (1980) as a crucial activity and link between the definition and impetus process. Thus, the availability of means is crucial determining an active or passive behaviour of the

corporate entrepreneur.

Furthermore, elements of design thinking such as iteration, early prototyping, demonstrating the feasibility (strongly due to the emphasis on engineering within the case company), combined with viability (mostly imposed by the support structure in order to acquire resources needed to pursue the innovation) were found. However, other elements of design thinking such as taking inspiration from the user context were found seldom, despite the highlighted importance during one co-creation workshop.

Although elements of design thinking have been found, the Burgelman (1980) model, which has been criticised as being too linear (Van de Ven 1986) could also be found. One approach to explain this phenomenon is that corporate entrepreneurs work in a creative, effectuate way, following a complex process. However, there is a need for structure in large corporations in order to make funding decisions. Therefore, a support structure for corporate venturing may impose elements of prediction in order to fit the projects to the fabric of the corporation to receive funding. Thus, a combination of the predictive approach and effectuation in connection with the Burgelman (1980) model can be found in the early stage of internal corporate venturing.

6.2 MANAGERIAL IMPLICATIONS ON A SUPPORT STRUCTURE FOR INTERNAL CORPORATE VENTURING

THE MANAGERIAL IMPLICATIONS address the Research Question 3: “Which managerial implications can be drawn from the insights into activities and process characteristics?”

Three main managerial implications result from the research: to build on the means of corporate entrepreneurs, offer a path towards customer- and user-involvement and outside trends, and to change the form of the corporate venturing support structure towards a direct-internal venturing system.

6.2.1 BUILD ON THE MEANS OF CORPORATE ENTREPRENEURS

As shown above, means have been identified to be crucial for the development of an idea towards an innovation. Thus, the support structure should offer services to complement the set of means of the corporate entrepreneur. Holistic innovations according to Brown (2009) need to be viable in the business sense, feasible in the technology sense and desirable from a customer point of view. The support structure should complement the means of the corporate entrepreneur either through methodical support (e.g. in business modelling for corporate entrepreneurs with an engineering background) or through fostering multifunctional, interdisciplinary team building (G. M. Parker 2003; Brown 2009). For the latter, the support structure should facilitate cross-functional networking.

Currently there are seldom self-selected stakeholders joining projects and partnerships occurring, crucial elements for effectuation as identified by Sarasvathy (2001). As corporate entrepreneurs tend to work in a creative, effectuative way, it can be expected that they would also engage in partnerships and support projects they find meaningful. However, due to the hostile environment perceived by corporate entrepreneurs, networking needs to be facilitated, as due to the expansion of means through interdisciplinary teams superior outcomes are expected.

As the process from the corporate entrepreneurs' perspective is characterised by iteration, action and creative elements (Noyes & Brush 2012), incorporating elements of design thinking (Brown 2009; Brown 2008) and a complex process (Lichtenstein

et al. 2006), the task of the support structure is to fit this process to the fabric of the corporation (Burgelman 1980). A service to offer means to develop an idea towards the predictive logic of the non-innovative environment of the company focused on efficiency may help in implementation of the idea in the operating system of the company.

Crucial services expected by corporate entrepreneurs are to get information necessary to develop the idea, expert feedback, a path towards implementation (that will be discussed later in this chapter), methodical support and active support by the support structure. The active role of the support structure is also addressed by Burgelman (1980) with the activity of organisational championing in order to get the resources to exploit an opportunity.

6.2.2 CUSTOMER- AND USER-INVOLVEMENT

Currently, there exists a knowledge gap within the case company concerning the desirability of solutions in the early stage. There was mixed feedback concerning customer- and user-involvement. However, all corporate entrepreneurs in this study agreed that it is important to know the needs of the customer. Especially experienced engineers doubted on the ability of customers to be able to foresee radical innovations.

Therefore, it is argued to set up a solution to include customers and users early in the innovation process. As the support structure aims to develop holistic, radical innovations, it is argued to follow Verganti (2011) to facilitate customer- and user-interaction through the use of interpreters. Interpreters research the holistic user and customer experience, combine it with outside trends and thus form a basis for radical innovations.

The process described by Verganti (2011) is closely related to the three-stepped process of design thinking with the phases inspiration from the users' context, ideation and implementation (Brown 2008).

One blind spot of the case company is insights into trends outside its core competency. However, both Verganti (2011) and O'Reilly III and Tushman (2011) argue that it is necessary to include outside trends to foster long-term innovativeness. Therefore, it is argued that the support structure for facilitating customer- and user-interaction may reside outside the corporate boundaries to fulfil both roles: gather contextual information about users and customers (and thus enable the iterative development of innovation projects as suggested by Brown (2009; 2008)) and to give new impulses

from outside (technology epiphanies as called by Verganti (2011)).

6.2.3 FORM OF CORPORATE VENTURING

Concerning the form of corporate venturing, it is suggested to take the concept of ambidexterity (O'Reilly III & Tushman 2011) into account. This concept suggests the division of the part of the company focused on exploitation of existing opportunities and the part concerned with exploration of future opportunities. Although set up in the explorative part of the company, the support structure for corporate venturing in the case company does not have the means to fund corporate ventures and is thus dependent on other entities, making the support structure's decision to pursue a corporate venture of limited use for the corporate entrepreneur.

There, it is suggested to change the setup of the support structure from a direct-internal form towards an indirect-internal form, including funding of ventures through an internal venture fund (Miles & Covin 2002). Further, to set up a new product business department (Burgelman 1984b) may be useful, as corporate entrepreneurs have a conflict with their day job during the development of the venture, when it is not feasible anymore to conduct the innovative activities during the free time (as is currently the case). Furthermore, to work together in the same department and hierarchical level was found to be beneficial for teamwork and the trust among team members.

Moreover, incremental and radical innovations may demand different management approaches as suggested by Küpper (2010). Thus, it is recommended to concentrate the resources of the support structure on radical innovations.

6.3 DIRECTIONS FOR FUTURE RESEARCH

The qualitative methodology of this research followed a theory-building approach (Järvinen 2004). All findings have been triangulated thoroughly. Nevertheless, the research findings should be tested quantitatively on a larger sample, including organisations from different industries.

The study has contributed significantly towards the understanding of effectuation in a corporate context, enriching the pioneering work done in this field by Küpper (2010) and Brettel et al. (2012). However, not all elements of effectuation could be

verified during this study. Especially regarding the element “affordable loss” (Sarasvathy 2001) an ambiguous picture emerged. Furthermore, while expected that facilitation of networking by the support structure will lead towards an increasing use of partnerships and amount of self-selected stakeholders, this would need to be verified through further research.

Lastly, this thesis gave recommendations towards the support structure for corporate venturing. It would be beneficial to conduct a longitudinal study following the implementation of these recommendations and the effect on corporate entrepreneurship within the organisation.

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Appendices

1) Introduction

Why?

We want to go to a journey into your daily life! Through this little book we want to find out how your day and environment in which you work looks like to improve our support for your activities.

What?

The book contains four sections:

- 1) Your motivation during the journey of your idea towards an innovation (complete once).
- 2) How does your week look like? A schedule for one week, where you can indicate when you work on your idea (each day).
- 3) Daily Sheets: how does your everyday look like? (each day).
- 4) Things you want to say but do not fit into the other categories.

How?

On the right hand side you can find a bookmark leading to each of the four tasks. The different colours stand for a different task.

The task itself is explained on the page where the bookmark is.

Make use of the stickers which you can find in the back of the booklet - feel free to use them as you wish, but please do not forget to explain what each colour means.

When?

Please fill the book within the forthcoming seven days and send it back after that to Thomas Abrell / ETC.

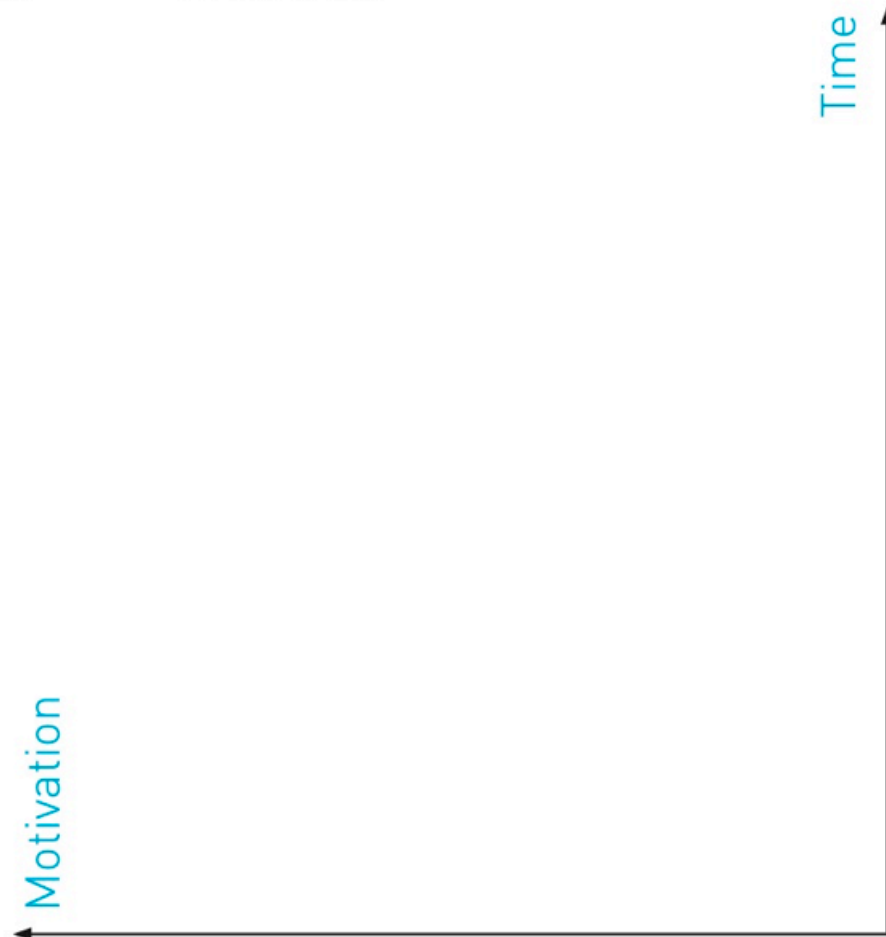
Thank you!

2) Idea Journey

Please draw the motivational journey of the development of your idea from the day you first thought about it until today. Use the stickers and explain briefly (do the task once).

GR for Highlights

RE for Downsides



3) Your Week

Please fill in how your week looks like - especially (but not only) when you are doing something related to make your idea happen. Please use the different colours as indicated below and complete the task at the end of each day.

BL thinking of the idea

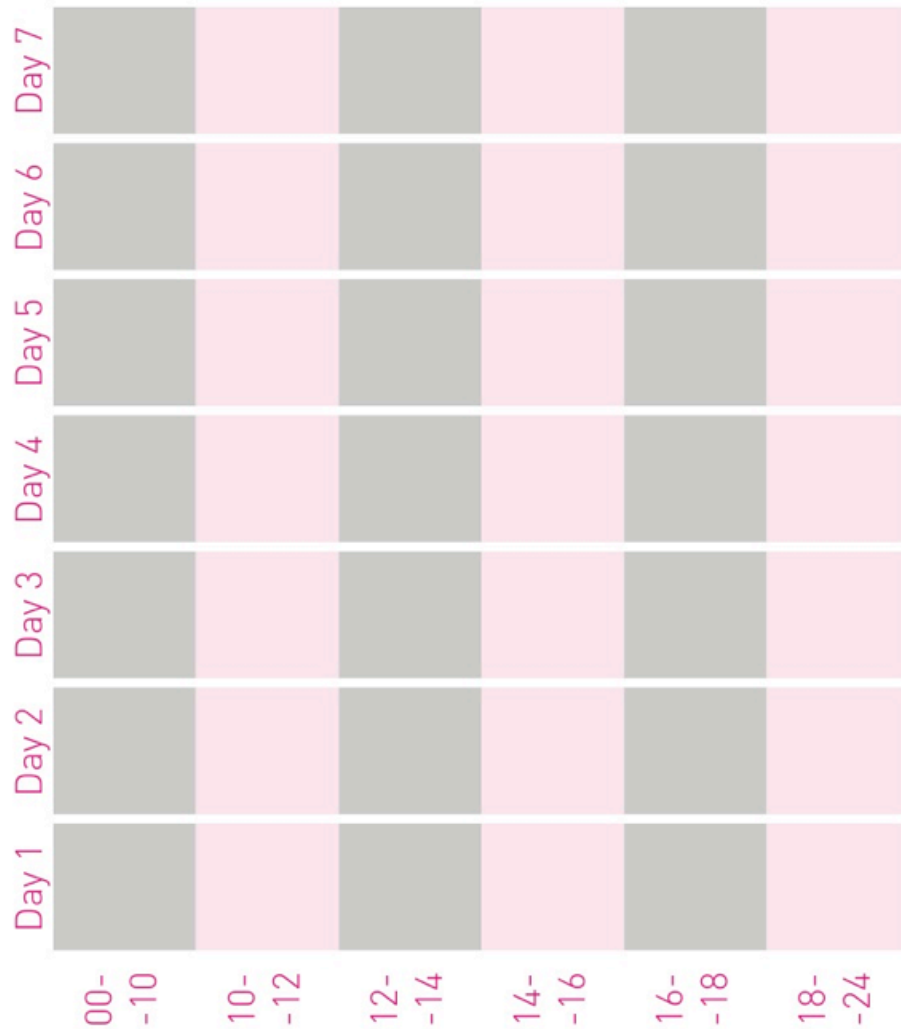
OR talking to somebody about the idea

GR working on the idea

Please turn the page to find the schedule.

3) Your Week

- BL thinking of the idea
- OR talking to somebody about the idea
- GR working on the idea



4) Daily Sheets

Please fill in **every day** of your week how your day looked like.

For this task, please name each day **five remarkable things** of the day and label them with the stickers as followed:

GR liked

RE did not like

OR common sense (Gesunder Menschenverstand:-)

Furthermore, please indicate **activities you did for driving your innovation forward** and **how your immediate (work/family/friends) environment perceived the activity**.

Please use

GR liked

RE did not like

5) Anything else?

Is there anything else you would like to tell which was not covered by the questions before?

Feel free to put everything down you find important!

I will return this probe book to you after the evaluation and would be happy to talk briefly with you about your experiences.

**Thank you very much
for your help!**

Thomas Abrell / Airbus Innovation Cell
thomas.abrell@airbus.com

APPENDIX 2: LEGO SERIOUS PLAY WORKSHOP

Task 1: Choose a figure representing you and build one typical situation related to innovation you experienced in your work environment.

Task 2: Build 3 activities which are the most crucial for developing an idea towards an innovation.

Task 3: Bring yourself, the work environment as well as the activities together in one shared model.

Task 4: Put the model aside. Now build one challenge from your everyday life (not related to work).

Task 5: Build a solution for the everyday problem.

Task 6: Can the solution be integrated into the innovation model you built before? Discuss and build a shared model.

Task 7: Identify key stakeholders in the journey from an idea to innovation. Pick figures representing them.

Task 8: Discuss and integrate the stakeholders into the shared model.

Task 9: Build success factors for the innovation process.

Task 10: Build obstacles in the innovation process.

Task 11: Discuss and integrate the success factors and obstacles into the shared model.

