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**FROM CREATIVE IDEAS TO NEW EMERGING  
VENTURES: THE PROCESS OF  
IDENTIFICATION AND EXPLOITATION  
AMONG FINNISH DESIGN ENTREPRENEURS**

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# **FROM CREATIVE IDEAS TO NEW EMERGING VENTURES: THE PROCESSES OF IDENTIFICATION AND EXPLOITATION AMONG FINNISH DESIGN ENTREPRENEURS**

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## **Abstract**

*This paper summarizes the main findings from the dissertation, which was handed in for inspection in February 2008. The full table of context can be found as a separate appendix.*

This study focuses on identification and exploitation processes among Finnish design entrepreneurs (i.e. self-employed industrial designers). More specifically, this study strives to find out what design entrepreneurs do when they create new ventures, how venture ideas are identified and how entrepreneurial processes are organized to identify and exploit such venture ideas in the given industrial context. Indeed, what does educated and creative individuals do when they decide to create new ventures, where do the venture ideas originally come from, and moreover, how are venture ideas identified and developed into viable business concepts that are introduced on the markets? From an academic perspective: there is a need to increase our understanding of the interaction between the identification and exploitation of emerging ventures, in this and other empirical contexts.

Rather than assuming that venture ideas are constant in time, this study examines how emerging ideas are adjusted to enable exploitation in dynamic market settings. It builds on the insights from previous entrepreneurship process research. The interpretations from the theoretical discussion build on the assumption that the sub-processes of identification and exploitation interact, and moreover, they are closely entwined with each other (e.g. McKelvie & Wiklund, 2004, Davidsson, 2005). This explanation challenges the common assumption that entrepreneurs would first identify venture ideas and then exploit them (e.g. Shane, 2003). The assumption is that exploitation influences identification, just as identification influences exploitation.

Based on interviews with design entrepreneurs and external actors (e.g. potential customers, suppliers and collaborators), it appears as identification and exploitation of venture ideas are carried out in close interaction between a number of actors, rather than alone by entrepreneurs. Due to their available resources, design entrepreneurs have a desire to focus on identification related activities and to find external actors that take care of exploitation related activities. The involvement of external actors may have a direct impact on decision-making and various activities along the processes of identification and exploitation, which is something that previous research does not particularly emphasize. For instance, Bhava (1994) suggests both operative and strategic feedback from the market, but does not explain how external parties are actually involved in the decision-making, and in carrying out various activities along the entrepreneurial process.

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# 1 INTRODUCTION

## 1.1. THE RESEARCH PROBLEM

Previous researchers suggest that personal characteristics and previous experience will influence an individual's likelihood to become self-employed. On the contrary, Gartner (1985) was one of the first to argue that we do not need to know who the entrepreneur *is*, but rather what he or she actually *does* when creating new ventures. Individuals with characteristics that support the likelihood of new venture creation may still decide against it. Consequently, we know from previous research that individuals identify potential venture ideas and make their decisions to exploit them, based on their access to information and previous knowledge (cf. Venkataraman, 1997). However, some researchers argue that this decision always signifies a commitment to create new formal ventures (e.g. Gartner, 1998), whereas others argue that the entrepreneur may in fact identify and decide to exploit venture ideas without creating new organizations (e.g. Shane & Venkataraman, 2000; Davidsson, 2003). The challenge is that the disagreement in entrepreneurship research is mainly conceptual. The field continues to lack an empirical understanding of what individuals actually do, and what actually they create, when they identify and exploit new emerging venture ideas.

Results from one of the few investigations on identification and exploitation, challenge the common assumption that entrepreneurs first identify venture ideas and then exploit them (cf. McKelvie & Wiklund, 2004). Instead, these processes appear to be closely entwined (e.g. Davidsson, 2005). The assumption is that exploitation influences identification, just as identification influences exploitation. Previous researchers indicate that design entrepreneurs are professionals in their own right, but may lack vital resources related to production, distribution and business on the whole (e.g. Salimäki et al, 2004; Lindström et al., 2006). Consequently, entrepreneurial processes in this specific research context may show some special features associated with the exploitation of identified ventures ideas. Previous research indicates that the choice of mode for exploitation derives often from the individual who identifies the venture idea. They need to consider their willingness to exploit it themselves, or on behalf of someone else. Further, the venture idea can be exploited via a hierarchical mechanism, like a firm, or via some other market mechanism, such as licensing or franchising (e.g. Shane, 2003). Due to a potential lack of business orientation, resource deficits and uncertain customer demand, the design entrepreneurs may find it challenging to promote their venture and convince others of the potential behind it. As pointed out by previous entrepreneurship researchers, the surrounding environment plays a significant role both for exploitation, but also for identifying exploitable venture ideas (e.g. Mata & Portugal, 1994). As a result, the resource availability will influence also the selection of an appropriate mode for exploiting a venture idea (e.g. Aldrich, 1999). The assumption is that design entrepreneurs' aim often on earning a living from self-employment, rather than the creation of new formal ventures.

Consequently, there are two major considerations with regard to the research problem. First, a consideration of importance is that the entrepreneurial process view is a frequently and an increasingly discussed topic within recent entrepreneurship research. The theoretical knowledge regarding the entrepreneurial process is increasing gradually, but extant empirical understanding continues to remain incomplete. Secondly, various individual and context specific factors suggest authentic characteristics for

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entrepreneurial processes. However, existing theoretical frameworks are eagerly generalising these factors to progress a multidisciplinary and general theory of entrepreneurship (e.g. Shane & Venkataraman, 2000; Gartner, 2001; Davidsson, 2004). Previous research commonly suggests that entrepreneurship consists of venture ideas, individuals, and ways of organizing the activities within the overarching context of market environments. In general, it would be fair to state that hitherto research on the entrepreneurial process has focused only on specific parts of the entrepreneurial process. Few studies have captured the complexity of the phenomenon, by focusing on: the characteristics of the entrepreneurs; the venture ideas to which they respond, their strategies, and moreover to their resource acquisition and their organizational processes. Instead researchers have decided to limit their studies to particular venues, without considering their explanatory power or relationship to other parts of the entrepreneurial process. As pointed out by Shane (2003), by focusing only on one aspect of the process, most researchers fail to provide a comprehensive explanation of the phenomenon.

During the past few years, an increasing number of researchers have focused on the entrepreneurial process, and their contributions strive more than earlier ones to include inputs from all the major disciplines. To support this development, several researchers suggest that entrepreneurship should be seen as a process rather than an event (e.g. Bygrave & Hofer, 1991; Venkataraman, 1997), and many researchers call for more process driven research (e.g. Bygrave & Hofer, 1991; Shane and Venkataraman, 2000; Busenitz et al., 2003; Sciasca & De Vita, 2004). Consequently, the entrepreneurial process has increasingly become the focus of interest in entrepreneurship research (e.g. Bhave, 1994; McKelvie & Wiklund, 2004; Johannisson, 2005). However, previous attempts to describe entrepreneurial processes involve some substantial challenges. Some describe the process as sequential (e.g. Shane, 2003), while others agree to at least partial interaction between identification and exploitation (e.g. Bhave, 1994; Davidsson, 2003; McKelvie & Wiklund, 2004). The challenge is however to distinguish how identification and exploitation are actually interrelated.

As a result, in this study the primary unit of analysis is the entrepreneurial process, which is influenced by individual(s) behaviour and the surrounding environment. The interest here is in identification and exploitation, which are regarded as the sub-processes of more aggregate level entrepreneurial processes. In order to understand the behaviour of individuals in such processes and to address the current lack in empirical research, there is a need to find answers to what individuals actually do when they identify and exploit new emerging venture ideas. Similarly, the understanding of the sources and means to identify venture ideas remain mainly conceptual, and there is a need to shed light on how venture ideas are actually identified. It is also central to increase the understanding of how identified venture ideas are actually exploited. In addition, a limited number of previous researches assume that the processes of identification and exploitation are somehow entwined and interact with each other. However, at the current state there is only a vague and incomplete understanding of this relation. Therefore, it is regarded as important to increase the insight concerning the nature of the relation between identification and exploitation processes in this specific context. Consequently, this study strives to find answers to the following three questions:

- 1. What individuals do when they identify and exploit new emerging venture ideas?**
- 2. How are venture ideas identified and exploited?**

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### 3. How is exploitation organized in association to identification of venture ideas?

#### 1.2. RESEARCH PURPOSE

There is hardly any previous research that would explain what design entrepreneurs actually do when they identify and exploit. Similarly, there is a lack of research on the origins and identification of venture ideas, as well as, the development of such ideas into viable business concepts, which are eventually introduced on the markets. Rather than assuming that entrepreneurial processes and venture ideas are constant in time, this study will examine how design entrepreneurs adjust emerging venture ideas to enable exploitation in dynamic market settings. Consequently, the general aim of the study is to:

**Increase the understanding of the interaction between identification and exploitation of emerging venture ideas.**

This study supports the idea of a comprehensive framework for entrepreneurship, which incorporates the effects of individuals, identification of venture ideas, modes of exploitation, and the institutional and industrial environment. However, it makes sense to be aware of the challenges, confusion and complexity, which may derive from the decision to examine entrepreneurship from such a multidisciplinary scope. The underlying rationale for this choice is that a multidimensional research scope is appropriate, in order to increase our understanding of entrepreneurial processes, in association with the specific context of design entrepreneurship. Anyway, some of the potential problems with a multidisciplinary research scope are more or less inherent with the research field (Shane, 2003). Entrepreneurship as a field of research is relatively young, and it takes time to build systematic knowledge. Reviewing previous entrepreneurial process literature raises some important observations, related to the applied approaches and concepts. Instead of building on previous models, entrepreneurship researchers tend to create new models and definitions for their particular personal interests. Therefore, it is important to conduct a thorough literature review and present the complexity and multidisciplinary of previous entrepreneurship literature. Moreover, this study relies on interviews with selected design entrepreneurs and external actors, as well as, on an analysis of previous field specific investigations, to grasp the activities of entrepreneurial processes in the given context. In order to provide explanatory information the focus is on examining design entrepreneurs who are about or have recently decided to become self-employed. This study contributes particularly to the understanding of how starting entrepreneurs bring identification and exploitation processes together in their entrepreneurial processes.

Consequently, this study follows the logic of entrepreneurial process studies, where the elements and activities are typically linked to the sub-processes of identification and exploitation. As a result, by raising the specific research questions and by reaching out to accomplish the aim, this study is set out to make four major contributions to the specific field of research. *These are presented in the concluding section.*

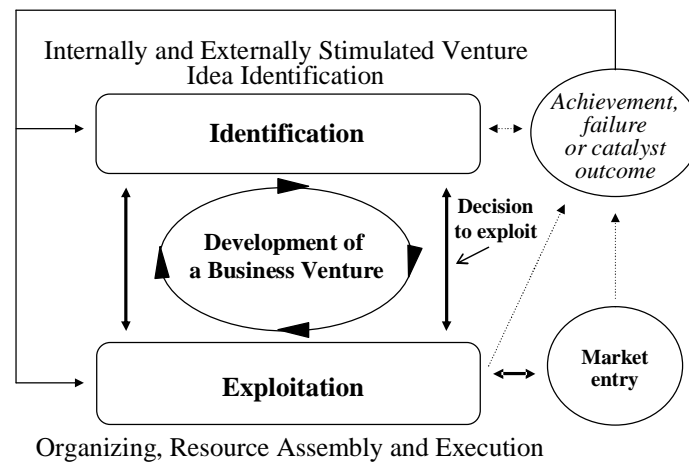
## 2 SUMMARY OF THEORETICAL DISCUSSION

The identification of venture ideas, assembly of resources and making the decision to exploit are regarded as the fundamentals of entrepreneurial processes. Consequently, by

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drawing on knowledge from multiple disciplines, this study examines what design entrepreneurs do when they identify and exploit new emerging venture ideas, how venture ideas are identified and exploited, and how exploitation is organized in association to the identification of venture ideas? Rather than assuming that venture ideas are constant in time, this study examines how emerging ideas are adjusted to enable exploitation in dynamic market settings. This study builds on the insights from previous entrepreneurship process research, identified elements and activities originate from the disciplines of economics, psychology, social-culture, and management. Therefore, the theoretical discussion drew from multiple disciplinary sources, and introduced two major schools of entrepreneurial process theory. These schools are regarded as complimentary rather than mutually exclusive (cf. Davidsson, 2003). The preliminary conceptual framework is set forth in figure 1, and it will be discussed more thoroughly in the proceeding section. The interpretations from the theoretical discussion build on the assumption that the sub-processes of identification and exploitation interact, and moreover, they are closely entwined with each other (e.g. McKelvie & Wiklund, 2004, Davidsson, 2005). This explanation challenges the common assumption that entrepreneurs would first identify venture ideas and then exploit them. The assumption is that exploitation influences identification, just as identification influences exploitation. In the figure, the interaction between these two sub-processes is drawn as a cycle, which encompasses business venture development. For instance, Bhawe (1994) suggests that business concept identification and commitment to venture creation interact with each other.



**Figure 1** Preliminary conceptual process model

Similarly to the conceptual model put forth in figure 1, it is possible to identify a certain pattern of progression in previous efforts to conceptualize entrepreneurial processes. Opportunity based models focus more on the sources, identification of venture ideas and the decision to exploit them, whereas behaviour based models are more interested with the organizing of entrepreneurial processes, strategies and resource assembly. Analysing existing entrepreneurial opportunity and entrepreneurial behavioural models suggests that they generally address a number of phases along the process. As a result, the researcher experiences it as feasible to sort these entrepreneurial process models according to these phases, because it makes forthcoming empirical interpretation more straightforward. Nevertheless, it is important to recall that these categories are primarily conceptual.

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To begin with, **opportunity based process models** (*appendix 1*, table 4) capture underlying factors that influence identification of opportunities, for instance, personal characteristics and experience, entrepreneurial behaviour, and environmental factors. This first phase is similar to the feed-back loops from outcomes to identification and exploitation in figure 8 and is labelled “*venture idea search*”. The second phase captures identification and development of initial opportunities into viable business opportunities. It is similar to the identification process and the development of a business venture in the figure and is labelled “*venture idea identification and development*”. The third and final phase captures the decision to exploit and the subsequent launch activities towards creating, for instance, a firm, production of a product, or use of a new technology or a new organizational form. This is similar to the decision to exploit, exploitation process and market entry in the figure and is labelled “*venture idea exploitation*”.

Similarly, it is feasible to sort previous **behavioural process models** (*appendix 1*, table 5) into three different phases. Generally, such models emphasize new venture creation. The first identified phase captures, at least to some extent, the characteristics of the individual(s) and everything that takes place before a new venture is created, for instance, education, gathering of experience, or changes in the environment. It is somewhat similar to the feed-back loops from outcomes to identification and exploitation in figure 1 and is labelled “*pre-venture*”. The second phase captures the implementation or creation of a new venture. It is similar to the exploitation process and it is labelled “*venture creation*”. The third and final phase captures all activities taking place after the new venture is created, for instance, initial market success and growth. This section is similar to market entry and the outcomes in figure 1 and is labelled “*post-creation*”. As a result, these kinds of categories enable sense making and identification of certain patterns in previous entrepreneurial process models, and moreover, it allows the researcher to conduct a thorough and systematic analysis of complex and rich data. Although, such a categorization is feasible for analysis purposes, it is important to recall that categories are bound to be entwined, since elements and activities interact. Therefore, these loosely drawn conceptual boundaries overlap at least to some extent.

As pointed out, this study seeks to increase the understanding of the interaction between identification and exploitation of emerging venture ideas. The primary **unit of analysis** is the entrepreneurial process, which is influenced by individual(s) behaviour and the surrounding environment. Rather differently, existing *models of entrepreneurial opportunity identification* commonly focus on the individual entrepreneur as the unit of analysis, which is typical for previous entrepreneurship research. The only exceptions is the individual-opportunity model (Shane & Venkataraman, 2000; Shane, 2003), which addresses multiple units on different levels of analysis (i.e. individual, process, opportunity and environment). Nevertheless, this particular process model aims at stating a domain, and is not originally conceptualized for empirical investigation. On the other hand, such attempts have been presented by Eckhardt and Shane (2003) and Sarasvathy et al. (2003).

On the other hand, the *models of new venture creation* commonly focus both on the individual entrepreneur and the organization as the unit of analysis. The exemptions are the models presented by Greenberger and Sexton (1988) with only the individual as unit of analysis, and the model from Hansen and Allen (1992) with the organization as unit of analysis. Apart from these, Bird and Jelinek (1988) and Starr and Fondas (1992)

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focus primarily on the organization, but also on the individual, and Van der Werf's (1993) model focus on the organizations and the industry. On the other hand, the network and the organization are units of analysis in Larson and Starr's (1993) model. In addition, the models from Gnyawali and Fogel (1994) and Busenitz and Lau (1996) have the environment, individuals and organizations as the units of analysis. Consequently, few models focus on the entrepreneurial process as the unit of analysis, as is the case here. The reason for focusing on the process as a unit of analysis has to do with the aim of this study, which is to increase the understanding of the interaction between identification and exploitation of emerging new venture ideas.

In this study, the assumption is that personal features and competence influences individual behaviour, which in turn is regarded as one of the major **drivers of entrepreneurial processes**. In addition, the assumption in this study is that the environmental context influences, among other things, the identification and existence of venture ideas, decision-making, as well as, modes of exploitation, resource assembly and outcomes. Existing *models of entrepreneurial opportunity identification* have a diverse scope concerning the cycles and motors of change. Three of the models focus on entrepreneurial acts and some form of decision making towards new venture creation (Herron & Sapienza, 1992; Campbell, 1992; Bhave, 1994), two on entrepreneurial alertness based on personality traits and prior knowledge (Gaglio & Katz, 2001), and social networks (Ardichvili, Cardozo & Ray, 2003). In addition, two of the models focus on entrepreneurial opportunity discovery and acquisition of information (Fiet, 1996; Shane & Venkataraman, 2000), and two on entrepreneurial creativity (Sarasvathy, 2001, Lumpkin, Hill & Shrader, 2001).

The *models of new venture creation* show significant differences regarding the cycles and motors of change. Nevertheless, entrepreneurial behaviour in new venture creation seems to be the dominating cycle and motor of change (Gartner, 1985; Bird & Jelinek, 1988; Learned, 1992; Hansen & Allen, 1992, Van der Werf, 1993), as well as, personal and organizational characteristics (Webster, 1976; Moore, 1986; Greenberger & Sexton, 1988; Bygrave, 1989, Starr and Fondas, 1992; Busenitz and Lau, 1996; Gnyawali & Fogel, 1994). In addition, the models introduced by Hansen and Allen (1992) and Gnyawali and Fogel (1994) emphasize the environment, as the driving cycle and motor of change. Consequently, the drivers in this study resemble broadly the ones introduced in previous research. More precisely, they are individual behaviour and the influence of the environment on identification and exploitation. This study adopts as its fundamental assumption that the economy is characterized by both heterogeneity and uncertainty, which suggest that the **modes of change** along the process are primarily constructive (cf. Van de Ven & Poole, 1995). In line with this, individuals and organizations are faced with different venture ideas and have different understanding of what is a successful or acceptable outcome. In practice, the modes of change are associated with the progression of the entrepreneurial process, from identification of venture ideas, decision-making and selection of modes to exploit, and moreover, resource assembly and initial outcomes.

The *entrepreneurial opportunity models* show a great variance in the mode of change. For instance, Herron and Sapienza (1992) suggest that an individual's dissatisfaction is influenced by their aspiration. Consequently, good opportunities lead eventually to launch activities, which are directed at developing organizational structure, in accordance with industry context and strategy. Further, Campbell (1992) relies on the creation of a firm, production of a new product or use of new technology or new

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organizational form. Fiet (1996) builds on investments in information, signal of venture opportunity, information channel, security arrangements, roles of the individual and discovery. In line with this, Shane and Venkataraman (2000) focus on opportunity discovery, decision to exploit and execution, whereas Gaglio and Katz (2001) refer to alertness, ignorance, discount or alertness.

In a similar fashion, Ardichvili, Cardozo and Ray (2003) refer to entrepreneurial alertness, which influences the core process and leads to abortion, venture formation or subsequent business. Sarasvathy (2001) takes a set of means as given and focus on selecting between possible effects that can be created with that set of means. Lumpkin, Hill and Shrader (2001) build on the idea of preparation, incubation, insight, evaluation and elaboration. On the other hand, Bhawe (1994) builds on the assumption of an iterative, nonlinear, feedback driven, conceptual and physical process, which is in line with the assumptions of this study concerning the nature of the entrepreneurial process. Opportunity recognition is either internally or externally stimulated, and it is followed by a commitment to physical creation, set up of production technology, and moreover, organization creation, product creation, linking with markets, and customer feedback (Bhawe, 1994).

Moreover, there is also a great variance in the mode of change among the *new venture creation based models*. To begin with, Webster (1976) introduces different stages of the process, and Gartner (1985) refers to the characteristics of the individual(s) starting the new venture; the organization which they create, the environment surrounding the new venture, and the process by which the new venture is started. Moore (1986) refers to innovation, and implementation that is influenced by the individual and environment. Greenberger and Sexton's (1988) refer to vision, personality and desire for control, and moreover, Bird and Jelinek's (1988) build on a flexible focus, structuring resources, temporal agility, influencing others and behavioural flexibility, which is assumed to influence the process of venture creation. Somewhat similarly, Learned (1992) builds on the propensity to found new ventures, the intention, sense making of the situation and decision to either found or abandon the new venture. According to Starr and Fondas (1992), organization formation is shaped by two stages: anticipatory socialization, and new entrepreneur socialization. In addition, Hansen and Allen (1992) refer to information possessing ability, pre-organizing and environmental load, which form an interaction effect that influences the likelihood of new organization creation. On the other hand, Van der Werf (1993) suggests that the modes of change are characterized by a pool of potential entrants. Their intentionality is influenced by attractiveness of industry, ability of individual ventures to compete and technical effort. On the other hand, Larson and Starr (1993) focus on essential dyads (contracting, expanding, and culling) and the conversion of dyadic ties into socioeconomic exchanges (exploration and engagement). Gnyawali and Fogel (1994) refer somewhat differently from the others to opportunities. They claim that opportunities are possibilities for new ventures to exist, and existence in turn is influenced by government policies and procedures. Finally, Busenitz and Lau (1996) build on the social context, cultural values, and personal variables, which they claim all to influence cognition and the venture creation decision.

*As a conclusion*, the theoretical discussion in the theoretical chapter, and particularly the conceptual assessment put forth here, suggest that a substantial number of research focuses on relevant fields of inquiry for entrepreneurial process research. However, considerably few studies focus on the aggregate entrepreneurial process, by

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incorporating concepts from multidisciplinary sources. Therefore, it is necessary to refer to a range of research contributions, which sometimes focus on different units of analysis, and addresses combinations of elements and phases of entrepreneurial processes. This kind of bundling of previous literature from multiple sources involves some evident research related risks. For instance, theoretical models designed to explain some specific phenomena may be less suitable to explain similar phenomena under different circumstances, for instance, on another level or phase of an entrepreneurial process. The application of a multidisciplinary approach is validated, by building on recent conceptual contributions from within the field of entrepreneurship process research (e.g. Busenitz et al., 2003; Van der Veen & Wakkee, 2002; Shane, 2003; Sciascia & De Vita, 2004; Johannisson, 2005). Due to the current state of the specific research field, the framework presented here captures the most essential findings. However, the field still lacks an overarching durability, where the interplay between different concepts would have been properly validated in empirical research.

Nevertheless, previous theoretical contributions and the limited number of empirical studies suggest that future process related research needs to consider and build more aggregately on the theoretical constructs presented in this chapter. Until recently, empirical research on opportunities, opportunity identification and exploitation are almost non-existent. Consequently, this study adopts as its fundamental assumption that the economy is characterized by heterogeneity (Shane & Venkataraman (2000). Furthermore, the supplementary fundamental assumption is that the economy is characterized by uncertainty (Knight, 1921). For example, individuals are assumed to differ due to experience, skills and cognitive capacity (Shane & Venkataraman, 2000) and their motivation (Birley & Westhead, 1994).

In addition, organizations differ based on the governance structure (Foss, 1993) and resources (Penrose, 1959; Barney, 1991). In line with this, the heterogeneous external environment is also assumed to influence the emergence of a venture idea (Zahra & Dess, 2001). Due to heterogeneity, individuals and organizations are faced with different opportunities and will create diverse venture ideas and strategies to exploit them. On the other hand, uncertainty results largely from this heterogeneity, because individuals and organizations have different understanding of what is a successful or acceptable outcome (Gimeno, Folta, Cooper & Woo, 1997; Venkataraman, 1997). Therefore, decision-making is assumed to occur in situations where a certain or calculable outcome is not known. Hence, genuine risk exists and cannot be calculated away (Knight, 1921).

Furthermore, in opposition to Gartner (1989, 2001), this study is not limited to study only or primarily the emergence of new (independent) organizations. Instead, this study focuses on the emergence of *new market offerings or ventures, but also more imitative offers* through different *modes of exploitation* (e.g. licensing, franchising and outsourcing) (e.g. Shane & Venkataraman, 2000; Davidsson, 2004). More precisely, entrepreneurship may occur in various organizational settings, as long as, it is related to new, market-related activity. For example, Davidsson (2004) suggests that it makes sense to study the processes of emergence and use the venture idea itself as the unit of analysis (cf. Davidsson & Wiklund, 2001). Here the *new business venture* is interpreted rather broadly, e.g. as independent start-ups, new internal ventures or limited new market offers that are not necessarily entire “business ventures”.

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Venture ideas are used instead of “opportunity” to describe an unproven market opening, since uncertainty makes it impossible to know if the opening is a profitable “opportunity” or not (Davidsson, 2004). Consequently, entrepreneurship could be studied at almost any level of analysis, as long as its qualifications are related to identification and exploitation of new venture ideas. Hitherto, most studies have either focused on the individual or the organisation; other possibilities would be the process or even the venture idea in itself. The challenge of the following chapters will be to explain the applicability of these theoretical concepts when explaining the interaction between identification and exploitation of emerging venture ideas. More precisely, the following chapter (3.) introduces the reader to the research methods, the chapter after that presents and analyses the empirical material (chapter 4.), and the final chapter (5.), discusses and puts forth both theoretical and empirical conclusions.

### 3 INTERPRETATION AND INTERPRETIVE REFLECTION

This study examines entrepreneurial processes as observable, but context dependant, complex and multifaceted phenomena. The aim was not to explain entrepreneurial processes based on definite research outcomes, but to increase the understanding of such processes in the given research context (cf. Arbnor & Bjerke, 1997). According to Langley (1999) the task of analysing process data is messy and making sense of them is a constant challenge. Consequently, the researcher needed some means to interpret the collected data and to transform it into a more specific theoretical understanding, which does not betray the richness, dynamism, and complexity of the data. The aim was to make the data understandable and potentially usable to others (Langley, 1999).

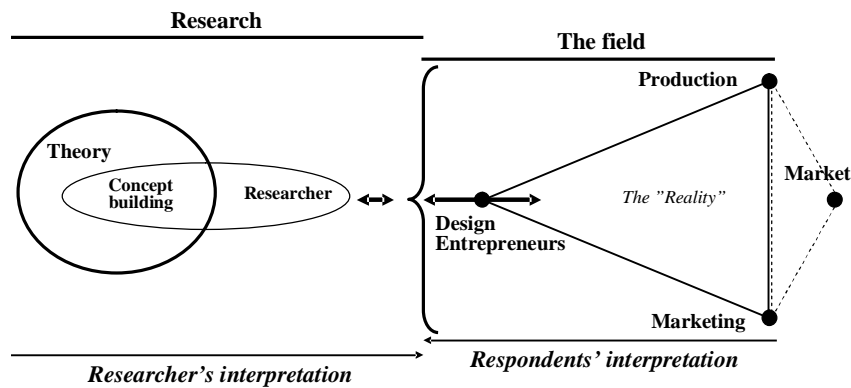


Figure 2 Two-way interpretation model

In the spirit of the interpretive research approach, the assumption was that it was not only the researcher who made interpretations. In addition, the interviewed respondents made their own interpretations of the surrounding world order. The interview sources are presented in table 6 (*appendix 2*). As shown in figure 2 above, the researcher examined and interpreted the implication of each respondent’s respective reality in the studied context. Interpreting and reflecting the different actors own interpretations of the context allowed a certain kind of triangulation of research findings. However, the research outcome was seen just as one interpretation made at a specific era of time, even if the aim was to build and refine extant theory. Due to the interpretive nature of the study, it was experienced as challenging and risky to make wide going generalizations based on the outcome. For instance, Hiillos (2004) suggests that results from a study like this should be considered as alternative truths, instead of new, absolute truths.

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This kind of double-loop interpretation implies that interpretation and reflection were constantly present in the process, and moreover, that the researcher was not the only one who made interpretations. In that sense, the researcher had a responsibility to ensure that the respondents' interpretations and the own interpretations reflected the examined reality as well as possible. Nevertheless, the researcher had a deeper and broader insight of the data and the research outcome, than the reader or the respondents (e.g. Abnor & Bjerke, 1997). Therefore, it was seen as particularly important that the researcher tried to report truthfully for the flow and major decisions, which were made along the process (Alvesson & Sköldberg, 2004). This study built on several decisions that were made by the researcher along the research process. The major decisions indicated a change in research direction, either from theory building to collecting and interpreting empirical material, or the other way around. However, the process in itself involved a myriad of smaller decisions, either conscious or unconscious, and moreover, immediate or sliding decision along the process. More precisely, table 3 presents how the analysis and interpretation took place along the research process.

**Table 1 The interpretation pattern**

Conceptual discussion	Empirical Findings	Interpretations
<p><b>Literature on entrepreneurial processes.</b> The interpretations result in an interest towards the interaction of identification and exploitation, and in creating a preliminary conceptual process model.</p>	<p><b>Industrial analysis</b> based on previous research. <b>The interviews</b> with design entrepreneurs focused on topics like choice of self-employment, identification and exploitation of venture ideas, resources, future goals and experience.</p>	<p>Design entrepreneurs become self-employed due to a desire of freedom and creativity. They enjoy identification, but have limited resources to exploit. As a result they often have to give in on their creative desires, and need to interact with other actors.</p>
<p><b>Interpretations of material</b> from interviews and new theory result in a modified model. It recognizes ongoing decision-making and the influence of external actors. Next there is a need to locate suitable external actors to increase understanding of how identification and exploitation interact in the specific context.</p>	<p><b>Interviews with external actors, which</b> examined the interaction between identification and exploitation of emerging venture ideas, in association with design entrepreneurs.</p>	<p>Decision-making and associated activities in association with various actors. Rather than the design entrepreneur making a decision-to-exploit the identified venture ideas, in isolation from others. The interaction pattern between identification and exploitation starts to crystallize.</p>
<p><b>Interpretation of external actor interviews.</b> There is a need to compare findings from interviews with design entrepreneurs and external actors.</p>	<p>The <b>reflective interpretation</b> assess the explanatory power of the theoretical discussion in the given empirical context. A final conceptual model is presented to show interaction of identification and exploitation.</p>	<p>The new conceptual model builds on previous research and the findings from this study.</p>

As presented in table 3, the research process was set of from the decision to begin with reviewing **entrepreneurship literature** and previous entrepreneurial process related research. Consequently, the research method was selected and the researcher decided to state initial research purpose and questions. The decision to set of by reviewing literature was to some extent in conflict with, for instance, the grounded theory approach, which prefers that the researcher enters the field without a clear conceptual

construction (e.g. Eisenhardt, 1989; Charmaz, 2006). Nevertheless, in line with the interpretive research approach, the researcher found it valuable to gather an initial understanding of potential elements, activities and potential dilemmas recognized by previous research. In addition, the theoretical discussion put forth in chapter 2 was built gradually along the process, for instance, when concepts became clearer or challenges were encountered in explaining some particular empirical findings. The conceptual state of entrepreneurial process research provided limited support for empirical studies. In that sense, theories were built along the process, rather than before entering the field. Visual mapping was used to make sense of previous research contributions and the researchers associated interpretations (Langley, 1999). This enabled visualization of the complex relations and interactions of entrepreneurial processes. The interpretations were based on previous research and they resulted in awakening the researcher's interest to examine the interaction of identification and exploitation. Therefore, a preliminary conceptual process model was created based on previous research. In addition, an appropriate empirical research context was selected, but before starting with collecting data from the field, the decision was made to set of with an industrial analysis.

The **industrial analysis** was based on previous field specific investigations, and it introduced the researcher to the dynamics of the empirical context. The researcher had only a limited previous understanding concerning the special conditions of this specific research context. Therefore, it was seen as valuable to become acquainted with the limited previous research concerning industrial design in a business framework. Nevertheless, the analysis provided some preliminary understanding concerning the context, and assisted in planning the collection of data from the field. Thereafter, the **design entrepreneurs** were selected and interviewed, and the findings were interpreted and analyzed. Instead of trying to find representative design entrepreneurs, the aim was to find respondents that were interesting and as comprehensive as possible. This decision was assumed to result in richer data in association to the research problem. The theme interviews with design entrepreneurs focused on topics like choice of self-employment, identification and exploitation of venture ideas, resources, future goals and experience. The idea was that theme interviews would provide richer data and a broader scope of understanding, than what semi-structured or open ended interviews. Consequently, the preliminary interpretation from the literature review, industry analysis and from conducting interviews was that design entrepreneurs become self-employed primarily due to their desire of freedom and creativity. The entrepreneurs enjoy identification, but have limited interest to exploit. As a result they often have to give in on their desires, and need to interact with other actors. These findings indicated that previous research does not explain particularly well a situation where the entrepreneur focuses on identification, but expects to find someone else to take care of parts of the exploitation.

Next, the data from each interview were transcribed and analysed several times, before proceeding with the **interpretation** on a more aggregate level. This ensured that the researcher's understanding did not change during the subsequent reading and analysis process. In the beginning of the interpretation process, text material from one of the cases (design entrepreneur D) was investigated in greater detail, and the results were presented in a seminar paper (Tötterman, unpublished). At first, the researcher tried to analyze and translate the data from each interview, without a proper coding scheme. However, it turned out to be an overwhelming task, and there was an evident risk for losing the sight of the original research purpose. In that sense, it turned out to be challenging to set of by analysing the multifaceted, complex and time dependent

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aggregate level entrepreneurial process. Instead, the decision was made to translate the interview data from Finnish into English, and thereafter, continue by organizing the data in a more systematic fashion and establish a coding scheme for the data (cf. Warsta, 2001; Charmaz, 2006). The translation made the researcher familiar with the data, and eased interpretation and comparison with previous research. After that, the researcher continued to use the original written and recorded sources when checking interpretations of the data. Direct citations were translated first after writing the initial interpretations from the data.

As presented in the example in *appendix 3* (table 7) and in *appendix 4* (narrative), using a coding scheme enabled a chronological presentation of each of the eight design entrepreneurs' entrepreneurial process. More specifically, as shown in table 4 below, each process was coded by first tabulating and describing shortly all identifiable events of significance. These events were expected to take place in a timely order when actions were executed and certain critical events occur (e.g. decision to exploit a new business venture). The identification and description of the specific process activity included also the number where the activity could be found in the transcribed text and the narrative as shown in *appendix 4* (e.g. C1-C20). Then, each event was given an activity description label, and moreover, the activity initiator(s) and the initial outcome(s) were identified and written down. Next each event was interpreted by following the logic of the literature review, and by coding them according to elements of entrepreneurial processes. Overall, the elements analysis consisted of seven main categories, which all had three subcategories. Thereafter, each event was coded according to the three categories representing entrepreneurial opportunity based models, as well as, the three categories representing the new venture creation models (behaviour).

Consequently, the interpretation and analysis became more straightforward after categorizing the data according to the coding scheme presented in table 2. It also allowed the researcher to conduct a cross analysis between data from different entrepreneurial processes, since the coding enabled categorization and summing up specific kinds of events. Thereafter, the data from each entrepreneurial process were coded according to a narrative strategy (Langley, 1999), by writing short coded metaphors in English, based on the transcribed case material. The metaphors were written in a chronological order, and they state the input, event and output from each event. Data from the process activity descriptions were tabulated to summarize the essence of different variables across cases (Langley, 1999). During data interpretation, the researcher continuously looked for findings that would assist in steering the research process forward. Almost from the beginning, the interviews and subsequent interpretations suggested that design entrepreneurs are seldom the only participants involved in carrying out their entrepreneurial processes. In fact, the initial findings suggested that design entrepreneurs worked or wanted to work intensely with the identification process, but were either cooperating or wished to do so regarding the exploitation process. These findings were compared with the theoretical discussion, but no overarching explanation was found for it. Therefore, the researcher made the decision to introduce new theoretical insight, by searching and carefully selecting two additional process models. One of the models was particularly detailed in explaining how decision-making proceeds from initial ideas to launching new ventures on the market (Cooper, 2000). The other model focused on the role of external actors on various phases of the venture creation process (Guy & Clark, 1997). In combination with the previous theoretical discussion and interpretations, these models enabled the researcher to modify the preliminary conceptual model. The new model recognized the

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need for ongoing decision-making and the influence of external actors. Next there was a need to locate suitable external actors to increase the understanding of how identification and exploitation processes interact in this specific context.

**Table 2 Applied variables in the design entrepreneurs' process descriptions**

<b>Variable</b>	<b>Coding Scheme</b>	<b>Explanation</b>
<b>Activity description</b>		Identification and description of the specific process activity, including the number where the activity can be found in the transcribed text (e.g. A1-A20)
<b>Input</b>		The initiator of a certain activity
<b>Output</b>		The initial outcome from the activity
<b>Events</b>		Events take place in time, when actions are executed and certain critical events occur, e.g. decision to exploit a new business venture
<b>Element</b>	Personality, Competence & Experience, Industry & Institution, Opportunities & Identification, Decision-Making, Mode of Organizing and Outcomes	General conceptual description of specific activity
<b>Opportunity</b>	Sources, Identification & Development, and Exploitation	Activity description based on the entrepreneurial opportunity view
<b>Behaviour</b>	Pre-Venture, Venture Creation, and Post-Creation	Activity description based on the entrepreneurial behavioural view

The researcher experienced a need to understand the influence of ongoing decision-making and external actors in as much as depth as possible. As a result, the decision was made to conduct additional **interviews with external actors**, since it was assumed to bring more specific data on these and other issues that had emerged during the interpretation. The decision to continue with external actor interviews was supported by the nature of the interpretive reasoning, which aims at going beyond the evident data. In practice, the process starts from identifying a particular phenomenon (e.g. surprising or abnormal). The aim is then to account for this phenomenon by relating it to broader concepts, by inspecting the researchers own experience and stock of knowledge of similar comparable phenomena. Strange phenomena are not used to disconfirm existing theories, but to come up with new configurations of ideas. On the other hand, regularities in the data have to be associated with ideas that go beyond the data themselves (e.g. Kirkeby, 1994).

The semi-structured interviews with external actors examined the interaction between identification and exploitation of emerging venture ideas, in association with design entrepreneurship. The interviews were valuable from the data triangulation perspective. The selection of suitable external actors was done, based on previous interpretations and some expert comments. Thereafter, the semi-structured research questions were developed, piloted and finally decided upon to be used in the interviews with external actors. The researcher experienced it as necessary to conduct interviews with a broad range of business representatives, in order to receive a representative picture of the

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examined context. Nevertheless, the careful selection and categorization of respondents, and the proper planning of the research instrument, made data collection, interpretation and comparison of collected data straightforward. Consequently, interpreting the findings so far started to crystallize the understanding of an interaction pattern between identification and exploitation. The findings from both design entrepreneur and external actor interviews indicated that these processes are entwined and that they interact in various ways. In addition, design entrepreneurs are often accompanied by several actors, who influence and may be directly involved in carrying out activities and decision-making along the duration of the process. These findings increased the understanding of the interaction between identification and exploitation, but also suggested more complicated cycles and modes of change, than originally anticipated based on previous research. It became evident that it is typically not the entrepreneur(s) who makes a decision to exploit and acts accordingly. Instead, decision-making is seen as continuous and activities are carried out in interaction with various parties, even if the process may also involve some form of concrete decision to exploit identified venture ideas.

In order to **interpret the data from external actor** interviews, the decision was made to write out all interviews and translate the material into English, before continuing with the interpretation. Similarly to the previous, the researcher continued to check original data sources and transcripts, to ensure that correct interpretations were made concerning significant findings, and that direct citations were as correct as the translation allowed. Thereafter, a proper coding scheme, put forth in table 3, was established based on interpretations from design entrepreneur interviews and previous literature.

This time data were primarily coded according to the elements and progression of entrepreneurial processes, with a special focus on decision-making and activities associated with identification and exploitation along the process. Applying a coding scheme right from the beginning probably made the interpretation clearer, but somehow it did not reach the same depth of analysis as in the previous interpretation. Perhaps this was the case, because the researcher had been forced to work intensely with the first set of data, to make sense out of it. Another explanation could be the researcher's unavoidable learning process, which might have made the interpretations more foreseeable. According to Langley (1999), a coding scheme helps to structure the material, but equally to determine those elements that will receive less attention. In that sense, the interpretations focused on analysing the data from an elements and activity based perspective. All decisions, process elements and activities were coded and data were sorted according to the coding scheme. The decision was made not to write out process descriptions or create tables to depict the process descriptions of external actors, since the focus of the study was on the design entrepreneurs' processes. The findings from the external actor interviews strengthened the pre-understanding that design entrepreneurs interact closely with external actors, when they advance their entrepreneurial processes. A clear process pattern started to emerge from the data, which presented more obviously how processes proceed, and how entrepreneurs and other actors may influence the procedure.

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Table 3 Applied variables in interpreting external actor interviews

Focus area	Coding Scheme		
<b>Experiences from working with design entrepreneurs</b>	<b>Personality characteristics</b> Personality and motivation, core-self evaluation, and cognitive characteristics	<b>Competence and experience</b> Education, life and carrier experience	<b>Social factors</b> Social skills and activities
<b>Underlying reasons for establishing business relationships</b>	<b>Industrial factors</b> Knowledge and demand conditions, life-cycles, investment requirements and structure	<b>Company specific factors</b> Strategy, resources and competences	<b>Designer specific factors</b> Strategy, resources and competences
<b>Decision-making related to product development and promotion</b>	<b>Decision-making and product development</b> Decision related to identification and development	<b>Decision-to-exploit</b> Decision to continue with producing identified venture ideas	<b>Decision-making and commercialization</b> Decision related to promotion and distribution
<b>Identification and design entrepreneurship</b>	<b>Pre-production</b> Sources, forms and development of venture ideas	<b>Production</b> Production technology, raw-material and organizing	<b>Post-production</b> Sales, promotion, distribution and after sales
<b>Modes of organizing</b>	<b>Modes of organizing</b> Strategy, organizing process	<b>Resource acquisition</b> Human, financial and social	<b>Outcomes</b> Initial outcomes

After interpreting the data from interviews with external actors, the researcher had a clearer picture of the market related dynamics, and the relation between design entrepreneurs and various external actors. As a result, the decision was made to quit data collection, since the researcher felt satisfied with the gained insight and experienced that the saturation was high enough. Consequently, it became essential to conduct a **reflective interpretation**, by comparing the interpretations from interviews with design entrepreneurs and external actors. This analysis strategy is something that Langley (1999) calls a synthesis strategy. In line with Steyaert (1997) the data was interpreted partially by preserving the process approach (process descriptions and citations), but in addition the reflective interpretations were transferred into selected conceptual models. The argument was that processes can and should be examined, by using many different analysis strategies (cf. Langley, 1999). As Eisenhardt (1989: 544) emphasizes: *an essential feature of theory building is comparison of the emergent concepts, theory, or hypothesis with the extant literature*. As presented in this study, there exist many conceptual process models, but they focus on some part of the process and most of them have not been validated empirically. Therefore, it was regarded as important to interpret, if and why underlying assumptions conflict with the findings in the limited number of empirical studies. In general, the interpretations supported the purposes of approaching new research venues by generating theory rather than testing it (cf. Eisenhardt, 1989). Consequently, the purpose was to contribute to a particular theoretical era, but data collection and interpretation were conducted by retaining theoretical flexibility throughout the process.

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The reflection suggested an identifiable pattern for explaining how identification and exploitation processes appear to interact in this specific context. The decision was made to focus at first on comparing findings concerning the process in itself, and thereafter, continue with interpreting findings related to the current status of design entrepreneurs competences and productivity, as well as, the needs of customers, suppliers and collaborators. This resulted in the possibility to incorporate decisions and activities, and to structure the reflective interpretation according to the presumed flow of an entrepreneurial process. In addition, it was possible to explain the influence of design entrepreneurs and external actors in a clear and distinct manner. As an outcome, it became evident that the process model originally presented by Bhave (1994) showed a resemblance with the findings in this study. This model was the only one that had been built based on empirical findings, and it was the only model to offer a detailed description of the relation between venture identification and exploitation. Nevertheless, insights from all reviewed process models were applied to interpret and build understanding concerning the entrepreneurial process. However, none of the models including Bhave (1994) emphasized ongoing decision-making along the process, or interaction between different involved actors along the entrepreneurial process. Therefore, it became relevant to build a conceptual model that followed broadly Bhave's (1994) guidelines, but incorporated findings relevant for the examined empirical context. Again a synthesis strategy (cf. Langley, 1999) was used to reflect over interpretations, and eventually in elaborating on the revised conceptual process model. The new conceptual model built on previous research and the findings from this study. Overall, the reflective interpretation assessed the explanatory power of the theoretical discussion in the given empirical context.

Finally, according to Eisenhardt (1989) and Charmaz (2006), the researcher must pay attention to when the empirical material is sufficient, as well as, when to stop interpreting between theory building and data analysis. In this study, the number of respondents and the means for data collection was only vaguely planned in advance, before each data collection round. The number of respondents was not limited in advance, nor was the options for means of data collection. Instead, the purpose of the researcher was to some extent plan ahead, but also to use all means in the given resource and time space to reach saturation. The researcher experienced that the interview data started to resemble the previous ones, at the end of both of the two data collection rounds. Similarly, the interpretations and reflective interpretation did not bring any new significant findings after the elaboration of the final conceptual process model. In that sense, it is believed that some form of saturation was reached. In addition, the triangulation of data from several different sources enriched the interpretation of research findings. However, it is difficult to guarantee that additional data collection would not raise any new issues concerning the complex and multifaceted process of entrepreneurship.

#### **4 ANALYSIS OF DESIGN ENTREPRENEURSHIP**

This chapter introduces the main summarizes from the empirical investigation, by first presenting how the preliminary process model was revised based on findings from design entrepreneur interviews. Thereafter, the chapter presents how the conceptual process model was revised based on a reflective interpretation of the findings from design entrepreneur and external actor interviews.

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#### 4.1. REVISION OF THE PRELIMINARY CONCEPTUAL PROCESS MODEL

Overall, it seems like the previous attempts to describe entrepreneurial processes are not overly extensive, but seem quite capable of explaining design entrepreneurship, in accordance with their original intentions. Nevertheless, the interpretations of design entrepreneur interviews indicated only some kind of overlap between identification and exploitation. The challenge remains to distinguish how identification and exploitation are actually interrelated. It could be possible to explain this relation by referring to certain explanatory factors used also by previous researchers, since it seems like the interaction between the two processes relates repeatedly to decisions-making and activities in various dynamic and complex situations. However, to quit empirical research here would leave us with many unanswered questions, and to continue by only focusing on design entrepreneurs would most likely only reveal one side of the story. The interpretations clearly indicate that design entrepreneurs work in close association with other external actors, who influence identification and selection of modes to organize, produce and launch venture ideas. Commonly, the venture ideas do not associate with entire organizational ventures, but more with the supply and demand of design related products and services.

Based on the research findings the researcher makes the decision to continue with examining external actors. Nevertheless, the referred entrepreneurial process related literature does not particularly emphasize the role of external actors, or the option that entrepreneurs are not willing to carry the responsibility of both identifying and exploiting new venture ideas. In order to improve our understanding of how identification and exploitation processes may be interrelated, we need to learn more regarding the direct influence of external actors on entrepreneurial processes. Consequently, two additional process models are introduced. These models are not originally created for entrepreneurship research purposes, but they appear to be helpful in clarifying decision-making, activities and the influence of various actors along the process. It is unquestionable that there exist a myriad of applicable process models, which address at least some particular element or phase of relevance for this particular study. Nevertheless, here the idea is by no means to cover all existing models from all kind of disciplines. Instead, the researcher has carefully selected these two models, which have also been used by previous researchers to describe similar phenomena (e.g. Von Stamm, 2003; Lindström et al., 2004; Tuulenmäki, 2004).

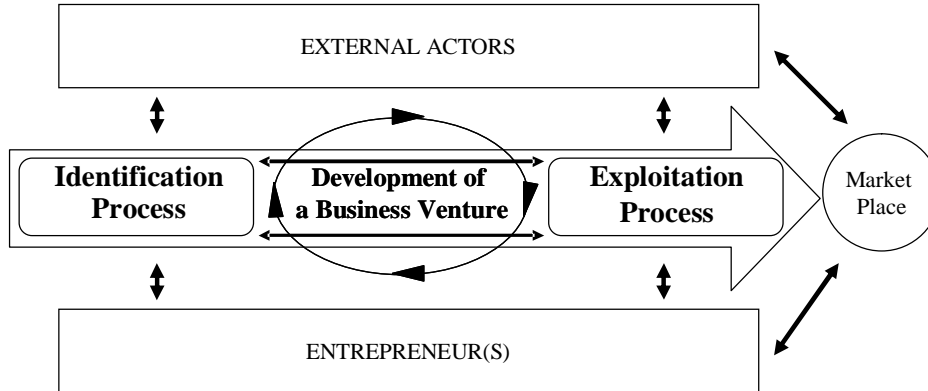
As a result, the two additional conceptual models are considered by the researcher as relevant for the continuance of this study. The first model builds on innovation policy and competitiveness literature. The model can prove beneficial for explaining the role of design entrepreneurs and other process participants in new venture creation and product development. In addition, the model addresses complex and diverse feed-back processes between activities and actors, which is something that previous researchers emphasize as truthful with the surrounding reality. For instance, Takeuchi and Nonaka (1986) calls for interaction along the product development process, in order to increase development speed, consistency and integrity of the product. Moreover, the stage-gate model builds on new product development process literature. The model can assist in explaining decision-making associated with new venture creation and/or product development processes. However, it is important to recall some of the criticism towards traditional stage-gate models. For instance, Tuulenmäki (2004) disapprove of stage-models, because they do not emphasize enough the differences between working in idea development and idea execution. Normally all gates are presented as equally important.

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Nevertheless, the decision to move from product development into production is completely different from other decision points along the process. Often such a decision involves considerable investments and some of them may be irreversible.

Previous entrepreneurial process research is acquainted with the influence of the environment on the process (e.g. Bhawe, 1994; Sarasvathy, 2001; Shane, 2003), but generally does not explain in detail how external actors interact with identification and exploitation. On the other hand, network (e.g. Johannisson, 2005) and resource related research (e.g. Aldrich, 1999; Davidsson & Honig, 2003) explain this relation, but does not generally combine it directly with entrepreneurial process models. Concerning the identified process models, Larson and Starr (1993) are the only ones to address on essential dyadic exchanges and networking activities. Their model focuses on organizational exchange, but is not particularly precise in explaining how it influences the progression of entrepreneurial processes. Consequently, the decision is made to continue by focusing more on the role of various external actors, and their direct influence on the interaction between identification and exploitation. As explained earlier, existing entrepreneurial process models do not significantly capture the direct influence and interaction of external parties. Therefore, a simplified version of the model presented by Clark and Guy (1997) is introduced to steer the research process onwards. Figure 13 sets forth the researchers conceptual interpretation, based on previous entrepreneurship research, design entrepreneur interviews, and the new theoretical insight. The figure encompasses these new insights concerning decision-making (the arrows in the model), and the influence of external actors (on the upper side of the model).



**Figure 3** The influence of external actors on entrepreneurial processes

The model shows how design entrepreneurs interact with the entrepreneurial process, both in the identification and exploitation process. In addition, it shows differently to the previously examined entrepreneurial process models, how external actors are actively influencing the entrepreneurial process. However, this is just how it may be in theory. The challenge of the following chapters is to justify the usage of a multidisciplinary approach to explain the interaction of identification and exploitation processes.

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## 4.2. REVISING THE CONCEPTUAL PROCESS MODEL

Interpreting the findings from design entrepreneur and external actor interviews support to some extent the general process structure and characteristics of Bhave's (1994) model. The original model illustrates venture idea identification, commitment to venture creation, modes of organizing and production, as well as, product or service exchange (supply and demand). However, the interpretations from this study suggest in line with Guy and Clark (1997), both complex and diverse sub-processes. In addition to feedback from customers and the market in general (cf. Bhave, 1994), the sub-processes involve ongoing persuasion between the entrepreneur(s) and various other involved actors. For instance, the design entrepreneur(s) may have inadequate competences or resources for a task at hand, and thus, there is a need to interact with customers, suppliers and collaborators, or someone representing the wider science and technology system. Another option is that the entrepreneur(s) represent the product development function in other actors' venture identification and exploitation processes. In that case, they need to interact with other involved actors, especially the purchaser of their specific competences. Feedback from customers causes complexity and diversity along the entire process, but so does the interaction and behaviour of various involved actors (e.g. entrepreneurs, customers, suppliers and collaborators) (cf. Clark & Guy, 1997).

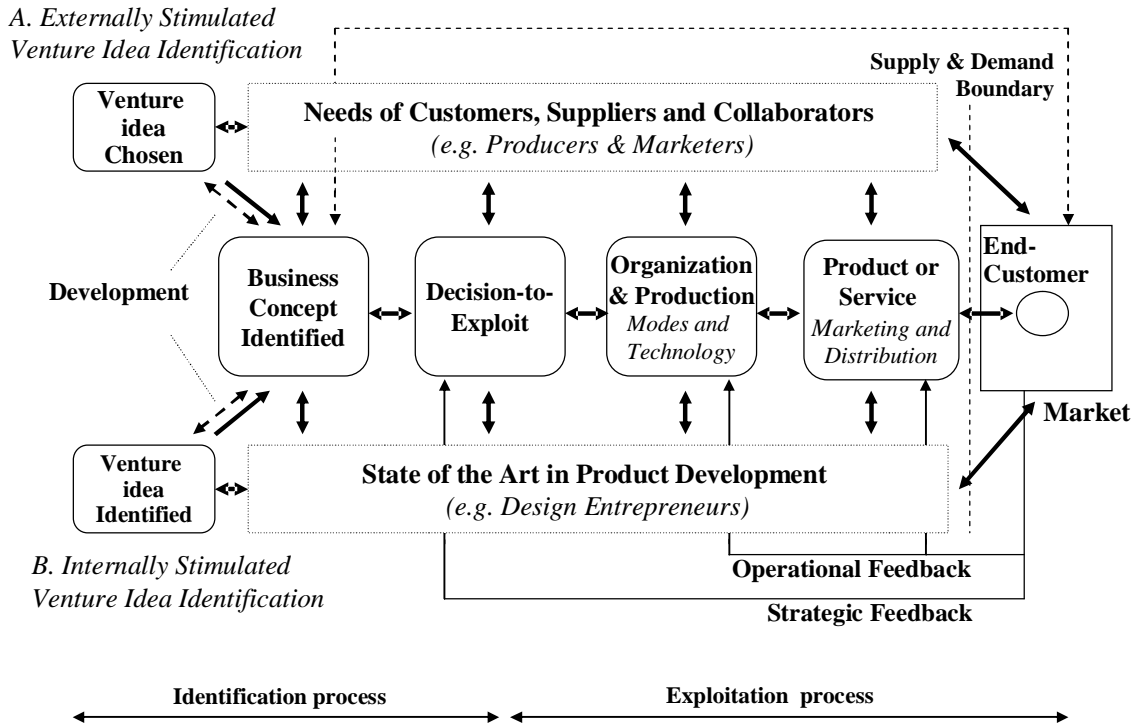
Consequently, this section integrates and expands key insights from the theoretical discussion in chapter 2, and the empirical investigation underlying this study. This section also develops and suggests a process model to describe the special features of entrepreneurship in the examined context. In line with this, the *process model of venture identification and exploitation*, put forth in figure 4, builds on previous research and interpretations from this study. It follows the structure and characteristics of the process model originally put forth by Bhave (1994). In addition, the model captures both venture idea identification (e.g. Shane & Venkataraman, 2000) and exploitation (Gartner, 1985), and the dynamic interaction between these two sub-processes (cf. Davidsson, 2005). The assumption is that the entrepreneur(s) and various external actors (i.e. customers, suppliers, and collaborators) interact and make decisions, which in turn advances the entrepreneurial process (cf. Guy & Clark, 1997). Consequently, the process model is interactive to its nature, which follows Bhave (1994), who states clearly that customer contacts provide feedback. This in turn makes the entrepreneur(s) and potentially involved external actors reconsider and adapt the business concept (strategic feedback), and moreover, the specific ways in which the concept is being realized (operational feedback).

Bhave (1994) is careful to state that in real life venture creation processes do not unfold linearly or in stages, due to feedback and persuasion. Similarly, the process model of venture identification and exploitation put forth below refers to the interaction between identification and exploitation, which are the two sub-processes of an aggregate entrepreneurial process. These two processes are assumed to interact via decisions and activities carried out by various involved actors. By focusing on them, it is possible to increase the overview of the interaction and distinctiveness of the aggregate entrepreneurial process. As shown in figure 4, the major modification to the original model put forth by Bhave (1994), concerns the activities and interaction of various actors along the duration of the venture identification and exploitation process. This alteration is in line with Guy and Clark (1997) and the findings from this study. More precisely, customers, suppliers and collaborators have various resources and requirements, which influence their behaviour and decisions in association to a given

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process. Similarly, the characteristics, competences and resources of the entrepreneur(s) influence their behaviour and decisions in association to a given process. This extension to the original model presented by Bhave (1994) is believed to show that the entrepreneurs and external actors interact constantly along the duration of the process. The role of external actors is not only to provide strategic or operative feedback (Bhave, 1994), but instead they are in control of larger parts of required resources. These are typically needed to set up production and market related exchange. Similarly, entrepreneurs may control competences and resources that are needed for venture idea identification and development of initial ideas into viable business concepts.



**Figure 4** Process model of venture identification and exploitation

As shown in the figure, the **identification process** refers to the sources and identification of venture ideas, which is similar to the venture idea stage (Bhave, 1994). According to this study and various previous researchers, it is possible to distinguish between two types of emerging venture ideas. For instance, OPM (2006) suggests that externally stimulated venture ideas are typically identified from a customer related demand. Bhave (1994) suggests that demand driven identification processes begin with the decision to start, which is followed by identification, filtration and selection among several initial venture ideas. On the hand, internally stimulated processes may start from a creative idea, or from identifying and fulfilling a self-experienced problem (Bhave, 1994; OPM, 2006). This idea may subsequently prove to be the potential basis for a venture idea. Both processes continue more or less creatively with venture idea development towards the identification of a business concept, which is based on the venture idea. The interpretations from this study suggest that venture ideas may emerge from creativity (i.e. internally), but they are often associated with identifying some kind of customer demand (i.e. externally), but they may also derive from a given material world or an existing production technology. Especially, own product developers may begin by working more creatively in the beginning, but even they are sooner or later

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forced to consider business and production related matters. Service providers operate typically in close interaction with their assigner, which normally implies a business and production mindset right from the beginning of the process.

After the business concept is identified, Bhave (1994) quits discussing the differences between the two types of processes. The findings in this study do not oppose on this point, but rather argues for precision when addressing the interaction of identification and exploitation processes. More precisely, the findings suggest that the ongoing process and especially, the interaction between identification and exploitation may advance rather differently, depending on the origins of the venture idea. In that sense, externally stimulated venture ideas have an identifiable demand, which may convince various actors to become involved in the entrepreneurial process. Similarly, the development of such ideas may imply that production technologies and distribution aspects are considered earlier, due to a market orientation. Interestingly, the findings suggest that entrepreneurs become involved later on in the process, in case the process is primarily driven by some external actor. In that case, the external actor may in fact identify the need, but the process requires the entrepreneurs' competences in order to develop the idea into a viable business concept. On the other hand, it is often necessary to identify available production technologies, distributors and a market demand, before other actors become interested to contribute in bringing internally stimulated venture ideas to the market. One could argue that internally stimulated ideas may face more obstacles in combining identification and exploitation processes together, than externally stimulated ideas. Despite their origins, all ventures ideas may become on the long run valuable for the involved actors, as well as, for the end-customers on the market. In fact, both kind of venture ideas can possibly be novel and signify a new-means end (cf. Shane, 2003). In any case, a new venture idea or addressing a new market niche indicates uncertainty along the entrepreneurial process. Especially, development of innovative venture ideas requires that decisions are made along the process, more interactively between the processes of identification and exploitation. This kind of continuous decision making is time consuming and challenging, since it requires that venture ideas are developed throughout the entrepreneurial process.

As shown in figure 4, the **decision to exploit** (cf. Venkataraman, 1997) is almost identical to the commitment to venture creation put forth by Bhave (1994). However, the findings from this study suggest that sometimes the decision is less significant or obvious, or it may at least be to some extent prolonged along the process. In any case, after the business concept is identified there is a need to become at least on some level committed to physical creation of the venture idea. Before making this commitment, creativity is commonly central and new ideas are prioritized. The goal may be to bring forth as many ideas as possible, or to enhance one specific one, and to find something worth to exploit. Typically there is a point along the process that implies some kind of a need to make investments and (irreversible) decisions to continue from mere identification to also include exploitation. The interaction between the two sub-processes may and is in fact likely to continue, but after the decision is made the advancement and development is likelier to occur more on the terms of available production technology, and marketing and distribution channels. Consequently, after that idea generation tends to decrease, and production and distribution related standards increase in importance. The decision implies a focus on organizing an appropriate mode, as well as, producing and distributing the selected venture idea on the market.

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The decision is usually linked with some kind of fixed costs, for instance, investments in production tools and promotion activities. Therefore, new ideas will typically introduce some kind of changes to the overall process, which in turn are bound to cause time delays and increase overall costs. Depending on the industry, the costs involved with identification and exploitation processes varies considerably. In the software industry the largest costs are associated with identification, but in more traditional production the largest costs are commonly associated with exploitation.

Consequently, the **exploitation process** refers to various modes for setting up the organization and production technology, which are needed for exploiting the business concept on the market. According to Davidsson (2005), exploitation involves the tangible actions needed for the creation of an organization, setting up production technology, and production, as well as, customer contacts and first sales. The interpretations from this study suggest that investments in production technology often involve significant financial costs and required competence, which the entrepreneurs do not normally possess. In addition, they lack time and viable resources to market on their own. At the same time, the existing marketing and distribution channels are normally rather selective in accepting new suppliers. This statement is possibly as valid for both service providers and own product designers. Nevertheless, it is possible to satisfy both external producers and marketers, but this requires that the entrepreneurs consider the venture ideas based on these parties production and business logic. In general, when selling services, entrepreneurs are able to focus on working and being responsible for exploiting their specific competence area. Own product developers are often forced to ensure that their identification process matches with the exploitation process, which may include several external actors. Consequently, a lot of time and resources are needed to organize the aggregate entrepreneurial process, either in small scale, or based more on volume in collaboration with others. The entrepreneur may decide to focus on working with one of the sub-processes, and let others take care of the other activities. For instance, they may sell or licence a venture idea, to be exploited by a customer, supplier or collaborator.

The process model of venture identification and exploitation presented above is faced to some extent with the same criticism as Bhave's (1994) empirically validated model. For instance, there is no systematic empirical evidence, which would directly test the process type described above (e.g. Davidsson, 2005). Nevertheless, the interpretations from this study seem to at least support a fit and interaction between the sub-processes of identification and exploitation, as well as between them and the key elements – the individual(s) and the environment (including external actors), as well as, the characteristics of the venture idea or business concept. In addition, it is likely that the two types of venture ideas presented above represent endpoints on continua. In reality, the emergence of venture ideas probably falls somewhere in between these two endpoints. The subsequent process displays a mix of behaviours in contrast with the stages presented originally by Bhave (1994). Furthermore, the two contrasted types of venture ideas suggest some kind of tension between customer driven and more planned, analytical and linear processes, and on the contrary, idea driven and more emergent, creative and iterative processes (Davidsson, 2005). Interpretations from findings in this study suggest that it might be less complicated for an entrepreneur to match and complete identification and exploitation processes, which are demand driven. However, as indicated earlier, this does not imply that processing such venture ideas would somehow be more recommendable over the other. In any case, the findings do not cover

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direct outcomes from the entrepreneurial process, which makes it even harder to assess their potential merits.

It is likely that Davidsson (2005) makes an important point, when arguing that internally stimulated processes have two distinctive disadvantages. Namely, questionable commitment to entrepreneurship on the part of the individual, and moreover, consideration of one venture idea rather than choosing the most promising one out of several. Nevertheless, it is likely that the entrepreneurs are committed and possess relevant competences in association to such venture ideas (e.g. Shane, 2003). In addition, by potentially solving a private problem they may actually find proof for at least some level of demand on the market. The findings from this study suggest that the entrepreneurs typically test their ideas first on themselves, by asking if they would be ready to obtain it. In addition, internally stimulated processes tend to start typically on small scale. Sometimes it is possible to set off by trialling between identifying options related to the venture idea, and exploiting their validity among potential external actors and end-customers. This ensures that the entrepreneur is able to reduce some of the associated risks with launching new ventures on the market. However, simultaneously they may become vulnerable of exposing their ideas to other actors on the markets.

## 5 CONCLUDING DISCUSSION

The researcher is confident that this study has accomplished its original aim, by finding answers to the stated questions and by reaching the contribution objectives that are presented in the next sub-section. Previous research on entrepreneurial processes remains mostly conceptual, and the small number of empirical studies focuses often on some particular phase of the process, rather than trying to grasp both the identification and initial exploitation of new emerging ventures. The findings from this study provide a comprehensive theoretical discussion based on entrepreneurship process literature, and interpretations from the empirical investigations carried out in this study. A few previous researchers have suggested that entrepreneurial processes are iterative, rather than sequential or linear to their nature. For instance, McKelvie and Wiklund (2004) and Davidsson (2005) describe the ongoing interaction between identification and exploitation, and they further emphasize that every entrepreneurial process is to some extent unique in its course. As a result, the interaction between identification and exploitation was to some extent expected by the researcher before collecting data. However, it was a surprise to find out that external actors are strongly involved and active in the decision-making along the process. More specifically, entrepreneurs may need assistance from external actors in carrying out the exploitation process, but it is as likely that external actors' need assistance from entrepreneurs related to the identification process. These findings and associated explanations may turn out to be significant explanations for why and how identification and exploitation occurs and are associated with each other along the process. Although, it is too early to state the real impact of this study, it is evident that it has implications for future entrepreneurial process related research.

By raising the specific research questions put forth previously, this study followed the logic of entrepreneurial process studies, where the elements and activities were typically linked and connected to the sub-processes of identification and exploitation. Consequently, this study made four major contributions to the specific field of research,

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by examining and comparing the explanatory power of previous research in the given empirical context:

Concerning the **first contribution**, the extensive literature review underlying this study did not recognize any other literature reviews that would to the same extent, and as systematically categorize and compare previous entrepreneurial process research and conceptual models. In addition, the literature review did not identify any previous empirical research that would identify and examine the explanatory power of several process models on the same research material. Consequently, this study categorized previous entrepreneurial process models according to two major streams of process related research, which is in line with suggestions made by previous researchers (e.g. Bruyat & Fayolle, 2002; Davidsson, 2003, 2004). Despite some conflicting elements, the assumption was that these two schools were adequate alone or in combination to explain process change and development (e.g. Van de Ven & Poole, 1995; Sarasvathy et al., 2003). The analysis was completed to receive an impression of the explanatory power of these previous process models in this empirical context, by confronting them with the interview data: to confirm or contradict, qualify or extend their concepts. Previous attempts to describe entrepreneurial processes were not found as overly extensive, but they seemed quite capable of explaining entrepreneurship, in accordance with their original intentions. One of the few empirically conceptualized models was presented by Bhawe (1994). This model captured identification and development of venture ideas, as well as, the commitment to exploit, and taking ideas to the market. Nevertheless, interpreting data from design entrepreneur interviews only indicated some kind of overlap between identification and exploitation, but the nature of the relationship became clearer first after conducting interviews with external actors. In any case, it appears as evident that entrepreneurship is not only about new organizational creation, but also about the identification and exploitation of other forms of venture ideas.

Following this, taking an entrepreneurial opportunity perspective implied that the unit of analysis was primarily the individual entrepreneur. Only one conceptual model introduced the possibility for multiple units of analysis, as was the case in this study (i.e. Shane, 2003). In addition, the primary cycles and motors of change appeared to be the entrepreneurial acts, decision-making, and entrepreneurial alertness. Other cycles or motors of change were the identification of venture ideas, entrepreneurial creativity and social networking. The opportunity based activities were grouped into three different categories: search, identification and development, as well as exploitation. These were experienced to explain particularly well the early identification activities associated with the analysed entrepreneurial processes. Furthermore, taking an entrepreneurial behavioural perspective implied that the unit of analysis was primarily the individual and/or the venture being created. It was also possible to focus on the industry, the network, or the environmental context of an organization, as the unit of analysis. The primary cycle and motor of change appeared to be entrepreneurial behaviour in new venture creation. Other cycles and motors of change were personal and organizational characteristics, as well as the environment. The behaviour based activities were grouped into three different categories: pre-venture activities, venture creation activities and post-venture creation activities. The categorization was justified, because it gave a unified structure for comparison and interpretation purposes, and it was experienced to explain particularly well activities associated with exploiting venture ideas.

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In line with previous research and based on results from this study, entrepreneurship is seen as a process that includes various activities carried out by a set of actors. However, in opposition to some previous research, for instance as identified by Van der Veen and Wakkee (2002), these activities are not primarily pursued by one individual. Instead, activities are often pursued in interaction with various actors along the process. As pointed out by Shane (2003), a ground breaking identification (i.e. discovery) is the only part of the process that may involve only one individual, but subsequent development and exploitation typically involves other actors as well. Nevertheless, these individuals' behaviour plays a central role for any kind of new venture creation (e.g. Casson, 1982), including the creation of new organizations (e.g. Gartner, 1985). Previous research that explains entrepreneurship as a process, typically identifies the influence from the surrounding environment, but ignores the direct involvement of customers, suppliers or collaborators in advancing entrepreneurial processes. Instead the focus is often on the various reasons for why some individuals are likelier than others to identify, collect resources, make necessary decisions and start exploiting venture ideas.

Concerning the **second contribution**, this study addressed the interaction between the sub-processes of identification and exploitation, in order to explain the relation between these seemingly divergent sub-processes of entrepreneurship. Interpreting and comparing research findings with previous research, suggest that one way to explain the interrelation between identification and exploitation is to refer to the continuous actions and decision-making along the duration of the process. These are assumed to take the aggregate entrepreneurial process back and forth between the sub-processes of identification and exploitation. More precisely, the research findings suggest that the interaction is less predictable and more vigorous, when initial venture ideas are somehow novel, and thus, their future outcomes are either challenging or even impossible to presume. Therefore, it becomes necessary to emerge step wisely and sometimes in random order, by identifying, developing, and at least partially assessing the unknown (and sometimes unknowable) market potential. Especially, when design entrepreneurs initiate their entrepreneurial processes, they often lack a clear focus and may commence from more or less creative expression, and thus, it is possible that the process commences first without a clear goal or business orientation. Such an advancement could be explained to occur via an ongoing and sometimes unidentifiable interaction between the identification of new means (smaller or larger), and sense making of these means, by trialling their validity either creatively or commercially.

In case, external actors become involved or the process actually originates from them, then it typically proceeds more methodically from identifying customer demand to product or service related exploitation on the markets. In that case, ground breaking venture ideas are potentially less likely, than when processes emerges from creativity and are subsequently matched with market related needs. For instance, Bhava (1994) identifies both externally stimulated and internally stimulated venture ideas. The findings support to some extent previous entrepreneurship research, which suggests that identification and exploitation are typically separated from each other with a concrete decision to exploit. This particular decision tends to involve some form of substantial investments and irreversible actions towards commitment of physical creation (e.g. Bhava, 1994). The identification process before and the exploitation process after this potentially major decision, are still connected and may continue to interact via feedback and also various actions, and decisions that are made by involved actors. However, for some reason, entrepreneurship literature often focuses primarily on the major decision, but puts less emphasis on smaller decisions and associated interactions. These again are

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discussed more in other fields of research. For instance, marketing literature is more concrete concerning various steps of taking initial ideas towards market related exploitation. Similarly, innovation related research could help entrepreneur researchers to understand associated decision-making and interaction between identification and exploitation (e.g. Clark & Guy, 1997; Cooper, 2000).

Consequently, the ongoing interaction could be explained by assuming that there exist complex and diverse feedback processes between various activities and actors (e.g. Takeuchi & Nonaka, 1986), which is something that previous entrepreneurship researchers seem to support (e.g. Bhave, 1994; Davidsson, 2005). Consequently, the identification and exploitation processes are assumed to be influenced by the entrepreneurs' relationships to customers, suppliers and collaborators, as well as, their potentially inadequate production or promotion related resources, which forces them to interact with various external actors (cf. Clark & Guy, 1997). Overall, the research findings are rich on material concerning interaction between various actors and their influence on the advancement of the process. Depending on who the original process initiator is, the decisions are often made in collaboration with various involved parties.

Moreover, concerning the **third contribution**, findings from this study emphasize that entrepreneurial processes are not merely influenced by the environment. In fact, external actors may actually carry out, or be involved in many associated activities and decisions. This finding is in line with entrepreneurship related research that emphasizes networking and various resources (e.g. Larson & Starr, 1993; Donckels & Lambrecht, 1997; Johannisson, 2000). However, entrepreneurship process related research often ignores the origins of resources, cooperation and collaboration between various parties. For instance within sociology, Bendor, Kramer & Swistak (1996) makes a conceptual contribution concerning cooperation under uncertainty. On the other hand Berthon and Hulbert (1999) argue from a strategic management perspective, that market orientation and innovation orientation are two distinct constructs, which can interact in an assisting or restraining fashion. Consequently, organizations are assumed to choose between isolation, following others, shaping the market, or interact (collaborate) with other actors (Berthon & Hulbert, 1999). Within entrepreneurship research, for instance, Chrisman and McMullan (2000) have examined how outside assistance might influence new venture performance. Moreover, Golden and Goldinger (1993) presents an explanatory model concerning cooperative alliances and competitive strategies in small manufacturing firms, which is somewhat in line with Human and Provan (1997), who explain the structure and outcomes from small firm strategic manufacturing networks. However, cooperative arrangements are more common in ventures with experienced entrepreneurs rather than in those with inexperienced entrepreneurs. This is likely to occur because experienced entrepreneurs are more knowledgeable about which skills the venture needs to augment through cooperative arrangements (Shepherd et al., 2000).

The empirical material clearly suggests that at least design entrepreneurs commonly need collaborative parties to fulfil at least the exploitation of their venture ideas. Although, many of the examined empirical models are quite relaxed on the modes for organizing entrepreneurial venture ideas, they commonly do not elaborate the modes and their practical implications in any greater detail. Consequently, existing entrepreneurial models lack an important feature, which would explain the influence of external actors in entrepreneurial processes. This is something that is better explained in network, marketing and inter-organizational literature. One of the challenges with taking into consideration external actors is the mere definition of an entrepreneurial

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process. Whose process is it, in case it involves different actors with varying degrees of involvement? An easy answer would be the process initiator, but the original process initiator is not always identifiable, or different parties experience the initiation from their own starting points. Another possibility is that the one who takes the product to market is seen as the primary process vendor, but in that case most processes would be the property of various distributors. Instead, in this study the interpretation is that each involved actor may experience a process as their own, even if they do not carry out all activities in fulfilling it. The level of involvement and outcomes varies, but still each actor influences the advancement and expects to receive some form of compensation for their input.

Finally, concerning the **fourth contribution**, industrial design and more specifically, design entrepreneurship was introduced as a new field of entrepreneurship research. The intension of this study was to shed light on the complex and multifaceted process of entrepreneurship, associated with industrial design in the Finnish context. The industry analysis identified an increasing interest among researchers to study the economic activity and distinctiveness of creative industries (e.g. OPM, 2006), and also to study business activities in association with industrial design (e.g. Piira & Järvinen, 2002; Salimäki et al., 2004). However, the limited number of studies concerning design entrepreneurship in Finland focus primarily on industrial design agencies, which offer design services to industrial client companies. The industry analysis found no sufficient statistics, or previous studies that consider the emergence of own business ideas among industrial designers. Instead, the major stream of research that covers associated issues was focusing primarily on handcrafting (e.g. Luutonen & Äyväri, 2002). As a result, the largest challenge was not to define how own product design among design entrepreneurs differ from handcrafting or industrial design service provision, but to find appropriate information on such activities in Finland. According to Kalhama (2007), there are no previous studies from Finland that deal with own product design among design entrepreneurs. Instead, previous Finnish industrial design related business research focused on design service provision, in association with industrial design agencies (e.g. Piira & Järvinen, 2002; Salimäki et al., 2004).

## 5.1. SUGGESTIONS FOR FUTURE RESEARCH AVENUES

The findings from this study indicate that there are many similarities, but also differences between entrepreneurial processes in various contexts. Therefore, the assumption is that research on the conceptual level, or findings from large and diverse samples may not be particularly successful in trying to explain entrepreneurial processes, which take place in different contexts. Instead, the suggestion is that future research is aware of the existing heterogeneity, and continues to examine entrepreneurial processes as highly context dependant. The interpretations from this study raised many different options for continuing empirical research. For instance, it could be possible to examine the relevance of the process model presented here in some other empirical context. Overall, there exist only limited understanding of the relations between entrepreneurs and external actors, in association with both identification and exploitation processes.

It could also be feasible to examine longitudinally the emergence and development of a number of entrepreneurial processes, by observing the associated behaviour of the entrepreneur(s), and their interaction with other involved actors. However, there might

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be potential challenges in determining when a selected process starts and finishes, and as importantly: when studying them should start and finish. The suggestion is that such a longitudinal study is preferably conducted, by combining both quantitative and qualitative methods within a larger research group. A longitudinal study is extremely resource consuming and involves evident risks, for instance, related to drop outs and different development phases among selected entrepreneurial processes.

Another option would be to further develop and examine the validity of entrepreneurial process models that are identified in this study and others. This can either take place on a conceptual level, but preferably by collecting and analysing empirical insights from various research contexts. In that sense, for instance, the findings from this study should be compared with previous and future research, in order to compare, confirm or contradict their explanatory power in some other research context.

In this study, the major units of analysis were the behaviour of individuals and the entrepreneurial process (i.e. identification and exploitation). In addition, this study examined the process elements (e.g. individual characteristics, the environment and the venture ideas) and their influence on behaviour and progression. The results were applicable on these levels of analysis, but future studies are required to understand the phenomenon on another level of analysis.

This study offers one of the first research contributions on design entrepreneurship, at least in Finland. This particular field involves many interesting venues for future entrepreneurship research, especially focusing on identification and exploitation processes. Consequently, there is a need to continue to study design service provision, but also to shed light on design entrepreneurs who design own products. This study contributes with qualitative data on these phenomena, and sets the ground for future entrepreneurship research associated with industrial design.

In case future researchers decide to continue with explicitly quantitative studies, they should remember the context dependency of entrepreneurial processes. Therefore, it would make sense to concentrate on a relatively narrow population and limit generalizations to that specific context. Another perhaps less advisable possibility is to focus on examining the interactions between certain key elements, with respect to the process outcomes in a larger sample. Preferably, research should combine quantitative and qualitative methods in a multi-method study, which focuses on a specific research context. This would bring richness to data and simultaneously allow comparison of differences between different contexts.

## **REFERENCES**

References from the author on request



## APPENDIX 1 ENTREPRENEURIAL PROCESS MODELS

### Identified entrepreneurial process models

**Table 4 Identification of entrepreneurial opportunities**

Name and author(s)	Unit of Analysis (multiple vs. single entities)	Cycles & Motors	Mode of Change (prescribed vs. constructive)	Processual Viewpoint
The entrepreneur and the initiation of new venture launch activities (Herron & Sapienza, 1992)	Individual	Decision making process: good outcomes will launch the venture.	Dissatisfaction (type & level) is influenced by aspiration based on values, context and personality traits. These in turn influence together with skills (based on aptitude and training) the search behaviour; discovery (industry context & strategy); equilibrium estimation (contributions-inducement)s. Good opportunities lead eventually to launch activities directed at developing an organizational structure in accordance with industry context and strategy.	Discovery process
A decision theory model for entrepreneurial acts (Campbell, 1992)	Individual	Entrepreneurial acts & decisions of self-employment via new venture creation	Creation of a firm, production of a new product or use of new technology or new organizational form	Allocative process
Entrepreneurial venture creation model (Bhave, 1994)	Individual	Entrepreneurial behavioural novelty in new venture creation	Iterative, nonlinear, feedback driven, conceptual and physical process: Opportunity recognition (stimulated), commitment to physical creation, set up of production technology, organization creation, product creation, linking with markets, and customer feedback.	Discovery process
The informational basis of entrepreneurial discovery (Fiet, 1996)	Individual	Entrepreneurial opportunity discovery and acquisition of information	Investments in information (specific information & previous experience), signal of venture opportunity, information channel, security arrangements, roles (risk bearer, innovator, risk bearer & innovator and risk arbitrageur) and discovery.	Discovery process
Individual-opportunity model (Shane & Venkataraman, 2000; Shane, 2003; Sarasvathy et al, 2003b)	Individual, process, venture or environment	Individual attributes (psychological & demographic factors) and Environment (industry & macro-environment) influence the entrepreneurial process.	Entrepreneurial opportunities: discovery, opportunity exploitation and execution (resource assembly, organizational design & strategy)	Discovery process
Alertness and the opportunity identification process (Gaglio & Katz, 2001)	Individual	Entrepreneurs alertness based on personality traits and prior knowledge	Alertness for novel, unusual or contrary information and guides processing : ignorance or discount (status quo: imitative or incremental opportunity) or alert (how to integration finding with existing or new means-end: innovative opportunities).	Discovery process
Entrepreneurial opportunity identification and development (Ardichvili, Cardozo & Ray, 2003)	Individual level (entrepreneurial alertness)	Entrepreneurs alertness based on personality traits, social networks and prior knowledge	Entrepreneurial alertness influences the core process: Perception, discovery & creation, development, evaluation (abortion, venture formation or subsequent business) of certain type of opportunity.	Discovery process
Creative effectuation model (Sarasvathy, 2001)	Individual	Given means, choice of effect driven by characteristics of actor and ability to discover and use contingencies.	Takes a set of means as given and focus on selecting between possible effects that can be created with that set of means.	Creative process
Creativity based model of entrepreneurial opportunity recognition (Lumpkin, Hill & Shrader, 2001)	Individual	Entrepreneurial creativity (excludes influence from contextual factors)	Preparation (deliberate or unintended), incubation, insight (eureka experience, problem solved or idea shared), evaluation and elaboration.	Creative process

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Table 5 New Venture Creation

Name and author(s)	Unit of Analysis (multiple vs. single entities)	Cycles & Motors	Mode of Change (prescribed vs. constructive)	Processual Viewpoint
<b>A model of new venture initiation: a discourse on rapacity and the independent entrepreneur (Webster, 1976)</b>	Individual and organization	Entrepreneurial rapacity and its inter-play with venture vulnerability.	Stages: pre-venture; era of team work, hard work and enthusiasm; financial jeopardy; product introduction; overdue payables, initial market success and revived hope; rapacity; re-negotiation or termination of venture	Behavioural process
<b>New venture creation model (Gartner, 1985)</b>	Individual and organization	Entrepreneurial behaviour in new venture creation.	Characteristics of the individual(s) starting the new venture; the organization which they create, the environment surrounding the new venture, and the process by which the new venture is started.	Behavioural process
<b>Moore's entrepreneurial process model (Moore, 1986; Bygrave, 1989, 1994)</b>	Individual and organization	Personal, innovation and organization characteristics, and environment.	Innovation is influenced by personal characteristics PS (creativity, information seeking behaviour & tolerance for ambiguity) and environment E (source of opportunity, support for creativity & personal environment). Implementation is influenced by PS (risk taking, job dissatisfaction or loss) and Innovation characteristics (product protection, organizational team & quality of resources) and E (incubator organization & organization culture). Growth is influenced by PS (education, experience & managerial ability), organizational characteristics (e.g. management practices) and environment (competition & environmental change).	Behavioural process
<b>An interactive model of new venture creation (Greenberger and Sexton, 1988)</b>	Individual	Interaction among a number of personal and social features.	Vision, personality and control desired are catalysts for the process, which influence individuals decisions (salience, self-perceptions, social support and control possessed). Together or alone these increase the likelihood for new venture initiation (decision to initiate a new venture).	Behavioural process
<b>Operation of entrepreneurial intentions (Bird &amp; Jelinek, 1988, Bird, 1988, 1992)</b>	(Individual) and organization	Entrepreneurial intentional behaviour and the environmental context.	Flexible focus, structuring resources, temporal agility, influencing others and behavioural flexibility influence venture creation	Behavioural process
<b>A model of organization formation (Learned, 1992)</b>	Individual and organization	Individual characteristics and behaviour	Propensity to found (traits & background); intention (situations); sensemaking; and decision (found or abandon)	Behavioural process
<b>A model of entrepreneurial socialization and organization formation (Starr and Fondas, 1992)</b>	(Individual) and organization	Organizational socialization (intra and inter-personal processes)	Organization formation is shaped by two stages: 1. anticipatory socialization (e.g. attitudes, expectations and information sources) and 2. New entrepreneur socialization (motivation, socializing agents & structural factors). The eventual outcome is organization formation, survival or discontinuance of new venture.	Behavioural process

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<b>Name and author(s)</b>	<b>Unit of Analysis (multiple vs. single entities)</b>	<b>Cycles &amp; Motors</b>	<b>Mode of Change (prescribed vs. constructive)</b>	<b>Processual Viewpoint</b>
<b>Creation corridor: environmental load and pre-organization information- processing ability (Hansen &amp; Allen, 1992)</b>	Organization	Environmental load and pre- organization information processing ability,	Information (load and diversity) influences the environmental load; Pre-organization (size, interconnectivity and frequency) influences pre- organization information processing ability; together these form an interaction effect that influences the likelihood of new organization creation.	Behavioural process
<b>A model of venture creation in new industries (VanderWerf, 1993)</b>	Organizations and industry	Information gathering and fund raising	Pool of potential entrants, their intentionality is influenced by attractiveness of industry, ability of individual ventures to compete and technical effort. Attractiveness of industry increases with functional capabilities and positive publicity, which in turn increases potential entrants. Existing companies in the industry are influenced by competition and market expansion, which in turn affects their financial performance and also positive publicity of industry.	Behavioural process
<b>A Network model of organization formation (Larson &amp; Starr, 1993)</b>	Networks and organizations	Dyadic exchanges and networking activities.	Focus on essential dyads (contracting, expanding, culling); convert dyadic ties to socioeconomic exchanges (Exploration and engagement); and layer the exchanges with multiple exchange processes (multiple functions, integration activities, organizational & individual levels of exchanges); network crystalization=organizational formation.	Behavioural process
<b>Environments for entrepreneurship development (Gnyawali &amp; Fogel, 1994)</b>	Environment, individuals and organizations	Environmental conditions, and entrepreneurs propensity and ability to enterprise	Opportunity (possibilities for new ventures to exist!) are influenced by government policies and procedures. The ability to enterprise (entrepreneurial & business skills) and propensity to enterprise (socio-economic factors) both influence the likelihood to enterprise and new venture creation. So does financial and non- financial assistance as well.	Behavioural process
<b>A cross-cultural cognitive model of new venture creation (Busenitz &amp; Lau, 1996)</b>	Individual and Environment	Cognition	Social context (social mobility, ecological niche & market conditions), cultural values (individualism, uncertainty avoidance, power distance, masculinity & time orientation) and personal variables (risk-taking, locus of control & achievement motivation) influence cognition: cognitive structure (schema: risk, control, start-up opportunity & benefits) and cognitive process (heuristics: availability, representation, overconfidence & anchoring) influence entrepreneurial start-up intention and venture creation decision.	Behavioural process

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## APPENDIX 2 OVERVIEW OF INTERVIEWS

**Table 6 Interviews underlying this study**

Used code	Interviewee(s)	Line of business	Employees (categories)	Interview date and time
<b>Preliminary discussions:</b>				
	Niku Oravainen (Lecturer) and Eeva Mäkinen (Project manager)	Further education		31.10.2005, 14.00-16.00
	Eeva Mäkinen (Project manager)	Further education		28.3.2006, 13.00-14.30
	Krister Ahlström (Senior Adviser)			29.3.2006, 17.00-18.00 (telephone)
	Miisa Suvisaari (CEO)	Strategic design agency		14.11.2006, 16.00-17.30
<b>Interviews with design entrepreneurs:</b>				
A	Design entrepreneur	Design services provision	1-4	3.3.2006, 11.00-14.00
B	Design entrepreneur	Design services provision	1-4	26.1.2006, 16.00-18.00
C	Design entrepreneur	Design services provision	1-4	8.3.2006, 10.00-13.00
D	Design entrepreneur	Own product development	1-4	25.1.2006, 10.00-12.30
E	Design entrepreneur	Own product development	1-4	1.3.2006, 15.00-17.30
F	Design entrepreneur	Design services provision	1-4	7.2.2006, 12.00-15.00
G	Design entrepreneur	Own product development	1-4	24.2.2006, 12.00-15.00
H	Design entrepreneur	Own product development	1-4	2.3.2006, 10.00-12.30
<b>Pilot interview:</b>				
Pilot	Account Manager, Partner and Program Manager	Industrial design agency	10-19	19.1.2007, 14.00-16.00
<b>Interviews with design advisors: advice and promotion</b>				
Ad1	Project Manager	Business incubator	1-4	24.1.2007, 11.00-14.00
Ad2	CEO	Support and promotion organization	10-19	23.2.2007, 9.30-11.40
<b>Interviews with design experts: field specific experts</b>				
De1	Creative Director, Partner	Industrial design agency	20-49	22.1.2007, 12.00-15.00
De2	Former Industrial Designer, Academic Researcher	University	250-499	15.3.2007, 9.30-12.30
<b>Interviews with marketing and communication: sales and promotion</b>				
Ma1	CEO, Owner	Design management agency	1-4	20.2.2007, 13.00-15.00
Ma2	COB, Owner	Design marketing company	1-4	16.3.2007, 15.00-17.00
Ma3	Creative Manager, Owner	Design strategy and PR agency	1-4	21.3.2007, 16.00-18.20
Ma4	CEO, Owner	Furniture designer and marketer	20-49	27.2.2007, 10.00-11.30
Ma5	CTO	Instrument developer and marketer	5-9	21.3.2007, 9.00-10.15
<b>Interviews with production: manufacturing and sub-contracting</b>				
Pr1	CEO, Owner	Subcontractor and own product manufacturer	50-99	21.2.2007, 10.00-12.30
Pr2	CEO, Owner	Subcontractor and own product manufacturer	5-9	22.2.2007, 14.00-15.30
Pr3	CEO, Owner	Subcontractor and own product manufacturer	50-99	15.3.2007, 10.00-12.30
Pr4	CEO, Owner	Own product manufacturer	50-99	20.3.2007, 14.00-17.00

The interviews started on the 25.1.2006 and ended on the 21.3.2007

The total interview time was 2997 minutes, appr. 50 hours.

Total transcribed pages was 234 (design entrepreneurs) + 360 (process participants)= 594 pages

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### APPENDIX 3 DESIGN ENTREPRENEURS PROCESS ACTIVITY DESCRIPTIONS (OVERALL 8 TABLES)

The applied variables in the design entrepreneurs' process descriptions are described more thoroughly in the research methods. *The table below shows as an example how each of the eight process models were analyzed.*

**Table 7 Process activity descriptions: Design entrepreneur C**

Activity description	Input	Output	Events	Element	Opportunity	Behaviour
C1 <b>Factory work</b>	Graduation from college	Desire to study and experience from working with plastics manufacturing	Practice work in a factory	Competence & experience	Sources	Pre-venture
C2 <b>Industrial design studies (4 years)</b>	Desire to learn about product design	B(Sc.) Industrial design, basic skills in working with machines, PCs and prototypes	Unsatisfaction with educational institution	Competence & experience	Sources	Pre-venture
C3 <b>Work practice in an industrial design agency</b>	Work practice	Building prototypes. Interest arose to apply for studies abroad	Discussion with a foreign colleague	Competence & experience	Sources	Pre-venture
C4 <b>Industrial design studies (2 years) abroad</b>	Acceptance to two of the best schools in Europe, chose the foreign	Theoretical knowledge, broad international contact network	Intensive studies	Competence & experience	Sources	Pre-venture
C5 <b>Project based work (1 year)</b>	Knew people in the design sector abroad, but not in Finland	Decides to stay abroad and work in various projects	One work opportunity led to the other	Decision-making	Identification & development	Venture creation
C6 <b>Freelancer for large design company</b>	Company seeks freelancers: benefit from previous plastics work experience	A couple of projects completed and rapid increase of assignments. No time to work for other companies any longer	Freelance work for the company	Mode of organizing & outcomes	Exploitation	Post-creation
C7 <b>Employment by the former client (five years)</b>	Rapidly growing order stock, desire from company to employ instead of freelance	Several different positions, last one design manager	Working in close cooperation with subcontractors globally	Competence & experience	Decision-making	Post-creation
C8 <b>Sabbatical year</b>	Too specific work tasks, not enough variation	Decision to quit the job, without any specific future plans: Freedom!	Consideration between money and freedom	Personality & Decision-making	Decision-making	Pre-venture
C9 <b>Decision of returning into freelancing</b>	Disslike of new work opportunities	Very unintentional decision, to work for a short period as self-employed	A few work interviews	Decision-making	Exploitation & Decision-making	Venture creation
C10 <b>Working as freelancer</b>	Product specifications from two major international clients	Product design that meets customer demand	Few months design work for creating a product	Mode of organizing & outcomes	Exploitation	Post-creation
C11 <b>Project in Finland</b>	Old foreign colleague needed help in project taking place in Finland	Satisfaction from working on own, could this be permanent after all?	Conduct a three month project	Opportunities & identification	Sources	Post-creation
C12 <b>Move to Finland</b>	"Could I live here?" Cheaper apartment and office rents	Move back to Finland	Continue to work towards foreign clients from Finland	Industry & institution	Exploitation	Post-creation
C13 <b>Studio in Helsinki, home and workshop in the countryside</b>	Desire to meet likeminded people	Shared studio, usage of a friends workshop	Conducts office work in the studio and prototyping in the workshop	Industry & institution	Sources	Post-creation

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<b>C14</b>	<b>New projects in Finland and abroad</b>	New opportunities via network, many ideas in the drawer from past years	Business by the hour and royalties. Much better than any employment could offer	Progression of many ideas simultaneously	Opportunities & identification	Identification & development & Exploitation	Post-creation
<b>C15</b>	<b>Promoting services in Finland</b>	Need to promote oneself. Benefit from old work as Design manager: contacts and references	A number of interesting projects	Discussions with colleagues and clients	Industry & institution	Exploitation	Post-creation
<b>C16</b>	<b>Business idea still vague</b>	Need to specify business idea, even if it could be possible to continue like this	Business potential, but comfort in bohemian lifestyle. Employees equals responsibility and capital	Consideration of suitable business model, risk related to investments and income	Mode of organizing & outcomes	Exploitation	Post-creation
<b>C17</b>	<b>More royalty products</b>	Continuance a challenge: need to find clients with volume production and royalty schemes	Stable basic level of income	Sell own product design	Opportunities & identification	Identification & development	Post-creation
<b>C18</b>	<b>Business planning</b>	Need for long term view	Challenge of not being committed to planning	Consideration, but no concrete actions	Mode of organizing & outcomes	Exploitation	Post-creation
<b>C19</b>	<b>Business idea 1: Link to international manufacturers</b>	Discussions with friend doing this. Established contacts, but risky to take time away from other projects	Cheaper production costs due to labor costs, and increased business efficiency	Link design directly with subcontractors, without middlemen: sell internationally	Opportunities & identification	Identification & development	Post-creation
<b>C20</b>	<b>Business idea 2: Developer of own design products</b>	Design and import of own and others products	Is it a desire to operate a money making business?	Assisted foreign colleague open imports to Finland	Opportunities & identification	Identification & development	Post-creation

## APPENDIX 4 ENTREPRENEURIAL PROCESS DESCRIPTIONS

The written process descriptions follow the design entrepreneurs' tabulated process activity descriptions put forth in *appendix 3*. The process elements and activities are documented in order of appearance, based firstly on the researcher's interpretation of the design entrepreneurs' own interpretation concerning themselves and their entrepreneurial processes. *The narrative below shows an example of how each of the eight processes was described in a chronological order.*

**Design entrepreneur C** started working in a factory straight after graduating from college. The hard and practical factory work gives *C* a desire to study, and also a thorough experience of plastic manufacturing. This is a skill, which proves important for *Cs* future career development (*C1*). In the early nineties, *C* has a desire to learn more about design, and decides to apply (and is accepted) to industrial design studies. Despite dissatisfaction towards the educational institution, *C* graduates as a B.Sc. in industrial design, and receives basic skills in working with machines, PCs and building prototypes (*C2*). During the studies *C* completes the compulsory work practice in a large domestic industrial design agency. The main task is construction of prototypes. After discussions with a foreign colleague, *Cs* interest arises to continue with studies abroad (*C*). Consequently, in the late nineties, *C* applies and is accepted to two of the best industrial design schools in Europe (one of them abroad). After consulting some field specific experts, *C* decides to move abroad. The two year long study period in industrial design is very intensive. It provides theoretical knowledge, but also a broad international contact network (*C4*). After graduating, *C* continues to work abroad for one year in various projects. The decision to stay abroad is made, because *C* knows people in the design sector abroad, but not to the same extent in Finland (*C5*).

After one year, *C* notices that a large foreign design company seeks freelancers. *C* decides to apply and is hired as a self-employed freelancer, partially due to previous plastics work experience and practice oriented industrial design education from Finland. At first a couple of projects are completed, and then the company increases rapidly the number of assignments. Suddenly, there is no time left to work with projects for other companies. There are no requests for exclusivity from the company side, but as it happens *C* is soon working solely as a freelancer for them (*C6*). Their order stock continues to grow rapidly, and after some time around year 2000, the company presents a desire to employ *C*, as an option to continue with a freelance relationship. Consequently, the decision of employment is made by *C*, even if the company would be satisfied also to continue as before. During the next five years *C* has several different positions within the company, the last one as one of the company's five design managers. During the years as an employee, *C* works in close relation with subcontractors all around the world (*C7*). In 2005, *C* decides that it is time to take a sabbatical year. The work includes too specific work tasks and not enough variation. *C* decides to resign without any plans for the future, except freedom in contrast with a previously stable income (*C8*). After applying for some other work opportunities, *C* decides to return to freelancing. It is a very unintentional decision, and the idea is just to work for some time as self-employed (*C9*). Soon *C* is working again as a freelancer for the former employer, as well as, another large foreign customer (*C10*). In addition, *C* starts to work as a freelancer in a project taking place in a Finland. Surprisingly, it is a former colleague from abroad, who is in charge of the project and needs *Cs* expertise in the project. *C* is getting a satisfaction from working again on own, with a range of projects and different tasks. *C* starts to wonder if it could become a permanent way of

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living (C11). Consequently, later on in 2005, C decides to move back to Finland, since as a freelancer it does not matter where products are being designed. In addition, the apartment and office rents are much cheaper in Finland, so C continues to work with the same customers from a studio located in Helsinki (C12). In 2006, C purchases with the spouse a country cottage, but the decision remains to work partly in Helsinki. C has a desire to meet and share ideas with likeminded people, which is not possible on the countryside (C13). The number of projects is increasing both in Finland and abroad, especially the international network brings new work opportunities. In addition, C has many own product related ideas in the drawers, which have piled up along the years. The business continues primarily as service provision and C is paid by the hour, but there is a desire to increase also royalty based incomes (i.e. own product design). The current self-employment situation is according to C much better than any employment could offer. It enables C to progress many ideas simultaneously (C14). However, C experiences an increasing need for self-promotion in Finland (C15). Nevertheless, the business idea remains vague, and C experiences a need to specify the business idea, even if it would be possible to continue like before. There is potential in business development, but C admits that the bohemian lifestyle is comfortable. Recruiting employees equals responsibilities and an increasing need for capital. In addition, when considering a suitable business model, a change from the current situation implies increasing risks related to investments and future income (C16). Building continuance is a challenge, and thus, there is a need to find clients with volume production, and clients that are willing to accept royalty schemes. An increasing number of royalty based products (i.e. own products) would ensure a stable basic income (C17). C identifies a need for business planning and a need for long term view, but it is not easy to become committed to planning (C18). In fact, C has identified two different future business ideas. One is to link industrial designers directly with international manufacturers, who could sell manufactured design without middlemen to regional distributors (C19). The other business idea is to become a developer of own design products, as well as an importer of others products (C20).

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