Abstract

Entrepreneurship is regarded as a vital factor in bringing about growth, but the problem for policy-makers is to decide how entrepreneurship is to be facilitated. Different steps in the entrepreneurial process have been identified and discussed but it is still difficult to understand how the entrepreneurial process works. Starting in entrepreneurship, defined as discovery, exploitation, and creation of opportunities through entrepreneurial action, we strive at identifying the important elements and processes that can explain how an opportunity evolves, develops and grows through cooperation in order to become a legitimate venture. We propose a general model of opportunity recognition, creation and exploitation processes for cooperative initiatives. For this purpose we use theories on entrepreneurship and social movement in an integrated framework. A qualitative case study of a collaborative networking initiative in Örnsköldsvik, Sweden is used to illustrate how the initiating actors, and later on the extended group of actors, acted to define and create their field of action, how they mobilized resources and how they built legitimacy.

Keywords: Entrepreneurship, networking, opportunity recognition, opportunity creation, opportunity exploitation, social movement.

Introduction

The development of entrepreneurship is often described as one of the single most important factors in bringing about growth, and with it prosperity and development. The problem for policy-makers is in deciding how
entrepreneurship is to be facilitated. Different steps in the entrepreneurial process have been identified by Shane and Venkataraman (2000) and Alvarez and Barney (2007), but it is still difficult to understand how the process itself works, what the influencing factors are and how these interact.

In this paper we focus on entrepreneurship defined as the discovery, evaluation and exploitation of future goods and services, focusing on the influence of individuals and opportunities (Eckhardt and Shane 2003; Shane and Venkataraman 2000; Alvarez and Barney 2007), as the creation and exploitation of opportunities through action (Alvarez and Barney 2007). Entrepreneurship is a process that occurs over time (Shane et al., 2003, pp. 270; Low and MacMillan 1988) with an episodic character (Shane and Venkataraman 2000). The first (Shane and Venkataraman 2000) and second (Alvarez and Barney 2007) definitions of entrepreneurship allow the opportunity exploitation process to be described as an example of a discovery or a creation process. However, the implications of these theories for the effectiveness of entrepreneurial action differ (Alvarez and Barney 2007, pp. 11). Opportunities may be of a reproducing or innovative character and can occur simultaneously or alternately in a venture - which calls for the process and activities in the venturing process to be focused (Segerlind 2009, pp. 35-36).

Opportunities may be recognized through information corridors or by means of cognitive properties (Shane and Venkataraman 2000) or be created in a process by entrepreneurs who act, receive a response and react according to elements in their environment (Alvarez and Barney 2007). While opportunity recognition is believed to be the first step in an entrepreneurial process, opportunity exploitation is thought to be the second step which may start in the nature of the opportunity and individual differences (Shane and Venkataraman 2000. pp. 222-224) or simply in the decision of someone to act (Alvarez and Barney 2007). The point of departure is, in other words, that opportunities, for example in the form of “structural holes” (Burt 1992) become visible and can be developed through human dialogue, action and interaction. Access to specific information is important to the development of opportunities. Such information often becomes available through interaction with peripheral actors who have different knowledge and other networks available to them (Granovetter 1973). Opportunity exploitation necessitates the presence of an opportunity that is observed and deemed to generate value, as well as the presence of actors who are willing to act (Shane and Venkataraman 2000, pp. 222-224). Opportunities can also be developed through entrepreneurs acting in interaction with those around them (Alvarez and Barney 2007). This interaction then legitimates the opportunity at the same time as it is being developed.

Dialogue and interaction can be differentiated in the entrepreneurial process: development from idea to concept is unclear, as are the factors that influence how resources, individuals and knowledge can be mobilised to finally share and legitimize a strategic business venture. The organically emerging entrepreneurial network can start in a network and also include interaction between actors from the private and public sectors. Model building that also includes processual factors is required to understand this process. Theories on social movement can assist in clarifying the entrepreneurial process, viewed from a strategic development perspective, as it has such a focus. Hambrick and Chen (2008) have developed a model on the process of an aspiring field encompassing differentiation, resource mobilization and legitimacy building that shows what factors interact for example when a new academic field is established (Hambrick and Chen 2008). The theory is action-oriented and presupposes interactivity between the factors mentioned. Our contribution to model building on entrepreneurial processes is to integrate theory on opportunity recognition (Shane and Venkataraman 2000) as a prerequisite to entrepreneurship, with theory on opportunity creation (Alcarez and Barney 2007) who discuss action linked to idea development with theories on social movement (Hambrick and Chen 2008). As a result, factors that greatly influence the entrepreneurial process can be identified and further light can be shed on how these interact.

Our study object is a collaborative initiative in Örnsköldsvik in the northern Sweden which arose in connection with the reorganization of the largest company in the town. A number of key actors wanted to keep skills and jobs in the town and initiated a network collaboration that led to the establishment of a company whose primary purpose was to facilitate development and entrepreneurship. Seeing an idea through from conception to realisation in this context poses a major entrepreneurial challenge of a kind that is rarely studied but often sought by politicians and administrative planners responsible for regional support measures.

Aim and research issues
Our aim is to explore and discuss how a group of actors can cooperate to reach a common goal – to facilitate a local process of recognition, creation and exploitation of opportunities. We use a case study and focus on how the initiating actors, and later on the extended group of actors, acted to define and create their field of action, how they mobilized resources and how they built legitimacy. Our intention is to outline a general model of opportunity recognition, creation and exploitation processes for cooperative initiatives. For this purpose we propose that theories on entrepreneurship and social movement are used and integrated.

Our question is: What are the important elements and processes that can explain how an idea may develop and grow through cooperation to a legitimate venture? In order to answer the question, we initially define entrepreneurial action and networking. Thereafter, we describe theories on opportunity recognition, opportunity creation, opportunity exploitation and social movement and how these theories may be integrated theoretically in a model. Theory on opportunity recognition is initially combined with theory on opportunity creation, and the integrated theory is thereafter combined with theory on social movement. This is followed by a presentation of method for data collection and analysis, a case description integrated with a discussion of the theoretical approach and the final conclusions.

**Theoretical framework**

**Entrepreneurial action and collective entrepreneurial action**

As a point of departure we assume that an entrepreneurial attitude is needed if opportunities are to be recognized and exploited (Johannisson and Mönstedt 1998). Furthermore, we assume that a context of business as well as socially related networks of entrepreneurial individuals provide a beneficial framework for processes aiming at organizing resources (Johannisson and Mönstedt 1998). Every firm exists within a complex business network of interactions between actors exchanging information, expertise, goods and services, payment and loans etc., defined as business networks that in particular are represented by the markets-as-networks framework, e.g. as described by Turnbull et al. (1996). In this theoretical realm, relationships are regarded as governed by both economic-rational and social factors (Henders, 1992). This framework stresses the importance of cooperative relationships for resource sharing, resource development, information access and innovation. The term “networking” refers to interaction in network contexts (Ford et al., 2003). Social networks constitute an infrastructure for trust between members and are thus a key to legitimacy building. They furthermore facilitate the emergence of collective entrepreneurial action as well as influencing strategy and performance of new organizational forms (Swaminathan and Wade 2000).

The entrepreneurial process implies selections at each step in the process. Decisions to take these steps will depend on the individuals’ access to resources as well as their willingness and motivation to make entrepreneurial decisions (Shane et al., 2003, pp. 270-71, 258). Entrepreneurial action is defined as any activity entrepreneurs might take to form and exploit opportunities (Shane et al 2003; Shane and Venkataaraman 2000; Alvarez and Barney 2007). It emerges as a collective process spurred by the presence of personal networks providing an infrastructure and shared beliefs that justify further action. A collective and network identity may be created through interactive processes by which members construct a common identity. Collective action may emerge (a) when there is focus on a problem that demands rectification and identification of responsible agents, (b) as a result of framing and planning, and (c) during acquisition of motives and reasons for collective action (Swaminathan and Wade 2000, pp. 15 and 21).

Apart from providing an infrastructure that promotes entrepreneurial networking and action, the presence of personal networks encourages accomplishment and affects the possibility of gaining institutional support through access to potential decision-makers (Swaminathan and Wade 2000). Personal networks denote networks of individuals related at a personal level and often precede business exchange relationships as they provide a receptive context for the initiation and evolution of economic exchange (Larson and Starr, 1993). The more trustful the relationship, the more sensitive information may be revealed; the more credible the source appears, the higher risk may be accepted in cooperative ventures. Local partners are, through personal networks, likely to receive redundant and overlapping information about individuals that can facilitate judgments of trustworthiness and opportunities (Shane, 2003).
We now move on to explore opportunity recognition, creation and exploitation further. Firstly, we identify vital elements as well as process-related characteristics from theories of opportunity recognition and opportunity creation and integrate them, and secondly we combine the integrated theory with the theory on social movement.

Opportunity recognition, opportunity creation and opportunity exploitation

Entrepreneurial opportunities may be defined as situations in which new goods, services, raw materials, markets and organizing methods can be introduced through the formation of new means, ends or means-ends relationships (Eckhardt and Shane 2003, pp. 336). They are regarded as discovered (Shane et al 2003; Shane and Venkataraman 2000; Kirtzner 1997; Alvarez and Barney 2007) or created (Alvarez and Barney 2007; Baker and Nelson 2005). Both theories acknowledge that opportunities exist due to competitive imperfections in a market, but they differ in their analysis of the origin of these imperfections (Alvarez and Barney 2007).

In discovery theory opportunities are considered to be objective phenomena not known to all parties at all times (Shane and Venkataraman 2000). The competitive imperfections that facilitate opportunity recognition “arise exogenously from changes (shocks) in technology, political and regulatory changes and social and demographic changes that may disrupt equilibrium in a market or industry”. In this perspective, the entrepreneurs bring the “agency to opportunity” by exploiting the chances through a systematic scanning of the environment to discover opportunities (Alvarez and Barney 2007, pp. 13; Shane et al 2003). Opportunity recognition occurs when someone discovers that a set of resources are not put to their best use (Shane et al. 2003). In order to make such a discovery Kirtzner (1997) emphasizes the need for an attitude of “alertness” among individuals and thus receptiveness to available but hitherto overlooked opportunities (Kirtzner 1997, pp. 72). Possession of prior information facilitates opportunity recognition, implying that individual stocks of information will create mental schemas and thus a framework enabling identification of new information that combined with prior complementary information might trigger opportunity recognition (Shane and Venkataraman 2000; Alvarez and Barney 2007). A cognitive property is furthermore needed to value opportunities, thus implying that people need to be able to identify new means-ends relationships generated by a given change and to be capable of seeing opportunities in situations where others tend to see risks (Shane and Venkataraman 2000 pp. 222).

Opportunity creation theory, on the other hand, assumes opportunities to be created, endogenously by the actions, reactions and enactments of entrepreneurs exploring ways to produce new goods or services. In this perspective entrepreneurs are the source of the opportunities, and they do not search; they act and interact with an environment that tests the veracity of their perceptions. Entrepreneurs are not initially regarded as significantly different from those who do not create opportunities as small variations in the environment may lead them to form and exploit an opportunity. However, Alvarez and Barney argue that these entrepreneurs, over time, may be positively reinforced in certain cognitive attributes like systematic overconfidence and willingness to generalize from small samples as described by Shane and Venkataraman (2000). The “seeds” of opportunities to produce new products etc. are not necessarily believed to lie in existing industries/markets (Alvarez and Barney 2007). Actions that start the creation process may be deliberate, intelligent or even random, and the opportunities cannot be understood until they exist which they do after being enacted. As entrepreneurs act upon their initial beliefs about opportunities and observe market responses, their beliefs are transformed reflecting the acquisition and creation of knowledge and information. They develop new beliefs about opportunities that build on what they learn in sequences of iterative actions, evaluation and reactions (Alvarez and Barney 2007). Opportunity creation theory suggests conditions facilitate the birth of new firms are a ultimate result of actions taken by the entrepreneurs to form and exploit opportunities (Alvarez and Barney 2007).

Segerlind (2009) argues that exploitation of an innovative opportunity will involve creation of new knowledge, but also discovery. In line with him we argue that a cognition of new knowledge as an opportunity requires that opportunities have to be discovered (Shane and Venkataraman 2000) but also that they are irrelevant unless someone takes advantage of them (Shane et al. 2003) or chooses to act (Alvarez and Barney 2007). The decision to act is a subjective (Shane and Venkataraman 2000) and iterative process (Alvarez and Barney 2007) that only a subset of the population is able to initiate (Kirtzner, 1973), as people vary widely in their ability and motivation to seize opportunities (Shane et al. 2003) and are influenced by different environment-related elements (Alvarez and Barney 2007). People who exploit opportunities, however, tend to frame information more positively and optimistically as they often perceive their chances of success as much
higher than they really are. They have a greater self-efficacy and more internal locus of control, as exploitation requires individuals that act in the scepticism of others (Shane and Venkataraman 2000).

The role of human agency is thus central as opportunity exploitation depends on willingness to act and on the decisions people make at the many steps along the way after discovery and positive evaluation of opportunities. Such decisions do relate to resource mobilization and design of mechanisms of exploitation (Shane et al. 2003). The entrepreneurial decision on opportunity exploitation is influenced by expectations of increased value (Shane and Venkataraman 2000) and the extent of this value is vital (Shane et al 2003) as the value of the opportunity will be weighted against the costs of generating that value. Access to financial backing, strong social ties to resource providers and differences in perceptions are elements identified to influence the decision of opportunity exploitation (Shane and Venkataraman 2000).

In summary, a set of actors representing different perspectives may supply information of a kind that in alert individuals may facilitate the discovery of new resource combinations or the discovery of resources not used to their full potential. Such information may be the starting point for entrepreneurial action – given that there is alertness, relevant cognitive property and willingness to act among the potential initiators. Action will then spur feedback which the initiators have to recognize in order to be able to evaluate and react. This is a reciprocal and conceptualizing process between opportunity recognition, opportunity creation and differentiation, during which the first step is taken towards opportunity exploitation given that the opportunity in question is expected to generate value. Access to resources and relationships to financial backers may influence the decision to explore an opportunity. However, the exploitation or effectuation process is still somewhat vague when it comes to explaining how people act to mobilize support, knowledge, resources and legitimacy for innovative and novel ventures.

Social movement theory
Collective, entrepreneurial opportunity recognition, creation and exploitation might be regarded as elements in a social movement towards an entrepreneurial venture. Hambrick and Chen (2008) argue that theories on social movement might be used to explain initiatives of an array of aggrieved groups.

In the following Hambrick and Chen’s (2008) model is described and linked to opportunity recognition, creation and exploitation.

Figure 1: From an Aspiring Community to an Academic Field: An Admittance-Seeking Social Movement (Hambrick and Chen, 2008, pp. 36).

Hambrick and Chen (2008) studied the development of the academic field of strategic management. We will apply this model to collective entrepreneurial action. The aspiring community is the movement that seeks admittance from other and related actors as they aim to fulfil a need identified but yet not approached. The next step is the process of differentiation, mobilization and legitimacy building which finally may result in higher likelihood and speed of acceptance.
Hambrick and Chen (2008) argue that differentiation implies the action of early proponents advocating that certain important phenomena (opportunities) are inadequately addressed by or fall outside the scope of, existing fields. This kind of action is due to the distinctive character of the phenomena and the intention not to threaten other actors in the community. Linking the element of differentiation to our integrated theory on opportunity recognition and creation we find that differentiation implies action through dialogue by early proponents. Their actions generate feedback, which initiates evaluation and discovery of new ways to act and adaptations to the environment given that it is perceived as valuable. During this process, portraying and conceptualizing the opportunity it will grow in importance and be affirmed as worthy, thus legitimized. The actors that are active in a differentiation process are likely to be “alert” and willing to act without having complete information. They may furthermore have access to specific and valuable information from prior networking that may spur the differentiation process, integrating political structures and social infrastructure (Hambrick and Chen 2008). Collective action frames and identities might be generated through a differentiation process that facilitates a bounded set of common interests (Swaminathan and Wade 2000).

Differentiation is thus an interactive process with certain prerequisites that include the first step in opportunity exploitation. The step is taken as initiators discover how to react according to a prior evaluation emanating from feedback on an opportunity. Opportunity exploitation starts in the decisions regarding resource mobilization and legitimacy building. Individuals that seem to be more likely to make such decisions often base these on access to financial backing. Such access may emanate from social ties to resource providers or knowledge on how to act to attain support of that kind.

Opportunity exploitation may furthermore be linked to mobilization as that is what happens when the initiator or initiators further into the differentiation process decide to react by approaching actors in the environment accessing vital resources.

Mobilization is the second element argued by Hambrick and Chen (2008) that determines the pace and success of social movement. It is described as “the process by which a group secures collective control over the resources needed for collective action” (p. 36). Mobilization comprises three different parts: political structures, shared interests and social infrastructure. Political structures emerge as a response to unfulfilled conditions in public agendas. These gain momentum during political and social instability and may include static components such as tradition and institutions as well as dynamic elements such as geopolitical or economic conditions (Hambrick and Chen 2008). In an opportunity-exploitation perspective this may be a matter of mobilizing political structures and access to public resources, information and support. Mobilization of resources and individuals may occur as a result of opportunity recognition, creation and differentiation if the exploitation fulfils an internal or external demand, provides profit, growth or contributes to knowledge development.

The second part of mobilization - shared interests - implies that the collective, in order to launch a social movement, needs to have a bounded set of common interests that will help define the group identity and solidify its membership and efforts. The shared interests need, however, to be limited in number and clearly articulated if progress is to be obtained.

Social infrastructure is about the collective’s ability to mobilize for a common objective, which depends on the existence of social ties between the early advocates as well as on access to fora for dialogue and social interaction. A substantial link is found between the strength of relations among key actors and the chance of success. Collective action will emerge more vigorously when key actors are socially interconnected also through a pre-existing social organization that may reduce costs of organizing (Hambrick and Chen 2008). If the interconnected actors complement each other, differentiation as well as mobilization and thus exploitation of an opportunity will be spurred as they represent different perspectives and interests that together may form a far more attractive concept.

By linking opportunity exploitation, in terms of being a result of an iterative process of opportunity recognition, creation and differentiation, to mobilization, we take the exploitation process further as the opportunities now are portrayed, tested, internally and externally communicated in a way that may spur support for political reasons. The presence of shared interests among the initiating actors is a vital success factor when it comes to mobilization, as is whether these are socially interconnected. When resources are mobilized opportunity exploitation is furthered, as is the differentiation of the opportunity that again will be
communicated in order to mobilize further resources. Swaminathan and Wade (2000) argue that social movements will grow and decline as resource levels fluctuate.

Legitimacy building is identified by Hambrick and Chen (2008) as the third essential element to admittance-seeking social movements, as the aim of these movements is to be accepted and able to work alongside other initiatives. The initiating actors will have to demonstrate legitimacy in order to attract and mobilize potential members, allies and resource providers. They need to appear qualified to spearhead the cause (Hambrick and Chen 2008). Shane and Venkataraman (2000) argue that access to financial backing and social relations to resource providers may further resource mobilization.

Hambrick and Chen (2008) divide legitimacy building into two major forms: persuasion and emulation. Persuasion is about the importance of a field (initiative, concept) to gain status by showing, through sound arguments and evidence, unique contributions to knowledge and society. Emulation is about adopting conventions from other fields in order to be accepted (Hambrick and Chen 2008). Legitimacy is furthermore achieved through the processes of differentiation and resource mobilization (Swaminathan and Wade 2000) of which the community, or the opportunity in our case, becomes and appears distinct and interesting.

Summing up, we find that there is reason to believe that opportunity exploitation and mobilization will need legitimacy in order to attract financial backing. Furthermore, financial backing at an early stage will legitimate further backing from other financiers. Resources will be mobilized according to the collective’s ability to present a differentiated, convincing and attractive concept that is feasible as it resembles a concept that is known to work.

In the following table elements from Shane and Venkataraman’s (2000) opportunity recognition approach are integrated with Álvarez and Barney’s (2007) concepts regarding opportunity creation that in turn is linked to Hambrick and Chen’s (2008) differentiation concept. A revised concept of opportunity exploitation is integrated into Hambrick and Chen’s (2008) mobilization and legitimacy building elements of social movement.

Table 1: Overview of selected concepts, theories and how they are integrated

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<th>Theories/concepts</th>
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<td>Opportunity Exploitation/Mobilization</td>
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<td>Opportunity Recognition/creation</td>
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Figure 2: An integrated model of entrepreneurial venturing based on Hambrick and Chen’s (2008) theory on social movement, complemented with theory on opportunity discovery according to Shane and Venkataraman (2000) and opportunity creation theory according to Álvarez and Barney (2007).
Differentiation
Opportunity recognition (discovery), alertness, prior information, cognitive frames, self efficacy (S&V), opportunity creation, action, interaction (A&B) discovery (S; E&H), evaluation (A&B), discovery (S&V), reaction (A&B).
Conceptualisation /differentiation (H&C, S&V) of an opportunity perceived as complementary to existing opportunities (H&C) that grow in importance during action, evaluation and reaction internal (A&B) and external with outside influential parties (H&C).

Mobilization
Opportunity exploitation – willingness to act, discovery of how to act (S&V), reaction to feedback e.g. decisions on resource mobilization (A&B), access to financial backing, social ties to resource providers (S&V).
Mobilization – political structures, shared interests and social infrastructure (H&C)

Legitimacy building
Mobilization – promote legitimacy building (S&V; S&W).
Emulation of conventions from adjacent fields (concepts) (H&C).
Persuasion – showing unique contribution to society (H&C).
Leaders convey their goals to be legitimate and demonstrate that they qualify to spearhead the cause (H&C). Leaders convey their position and social infrastructure (S&V).

Method
The present paper is based on a qualitative case study of the Processum Biorefinery initiative. The choice of case was dictated by our research team’s assignment, which is to pursue continuous evaluation on this network initiative. Data were collected using observations, interviews, reports and written sources such as information/marketing material, project applications and project decisions. 16 persons who have been of great significance to the development of the Processum Biorefinery initiative were interviewed. The interviews were taped and transcribed. A few additional interviews will be made.

The respondents were chosen in consultation with the CEO. The selection was governed by the role the various actors have played during the coming into being of the Processum Biorefinery initiative. They come from the founder groups, from the present Board, the political level in the municipality and from the level of officials, as well as from individual firms forming part of the Processum group and Umeå University. The interviews were conducted in groups or individually. Those of the respondents who were particularly significant to and involved in the development of Processum were interviewed separately, as it was judged that these interviews needed greater time. The CEO, the Chairman of the Board, process managers and the municipal commissioner belonged to this group. Other respondents were interviewed in a group as several of them were active during certain periods of the development of Processum. The purpose of the group interviews was to create the necessary conditions for a dialogue between the respondents that both stimulated memory and clarified the course of events. During the interviews one of the authors asked questions while the other was responsible for recording and taking notes. The interviews were then transcribed. Interviews conducted with the CEO in connection with the regional follow-up of work on growth (RTP – Regional Growth and Development Program) in 2004 and 2007 are also included as material for this study.

Observations were periodically made over the period 2005-2008 at various meetings. The material that emerged during the interviews and through observations is presented and analysed in accordance with the factors stated in Figure 2 and Table 1.

Case presentation, preliminary findings and discussion
The question to be answered in this paper is if the elements and process of entrepreneurship identified by Shane and Venkataraman (2008) and Alvarez and Barney (2007) can be integrated with and linked to Hambrick and Chen’s (2008) theory on social movement in order to explain how an idea may grow through cooperation to a legitimate venture.

In the following section this question is discussed through preliminary findings linked to the concept of the theoretical model (Figure 2, pp. 8). The case is partly reproduced chronologically but also iteratively as it follows the process in the model of Hambrick and Chen (2008).

Processum Biorefinery initiative
A large company – MoDo located in northern Sweden – reorganised its operations by focusing on its core business and selling off the other parts of its local business. The reorganization process caused concern among former staff members who believed it would lead to less job opportunities and a drain of resources from R&D. Some of the previous staff members - now in positions as senior and strategic managers, representing public and private organisations - came together and formed a stakeholder association in 2001 in order to discuss opportunities for coordination and synergies despite the new company boundaries. Their wish was to strengthen the region’s business sector and development potential. Over a period of one year a dialogue took place that resulted in a common target scenario, resource mobilization that in turn involved further actors from public sector. The association articulated ideas of cooperation, and in order to handle the exploitation of these a limited liability company was formed by fourteen local actors. A CEO was recruited and a board of directors appointed. However, the company is not traditional in terms of having goods or services for sale. The idea was rather to facilitate opportunity recognition, creation and exploitation among local actors and the role was to act as a catalyst for local and industry-related development and growth. In doing so, resource mobilization for potential projects, research and ventures became a key management task.

The company – Processum - was intended to operate as a science park. It was formalized in 2002 and mobilization of resources started at once – a process that emanated from a dialogue among the stakeholders and led to the recognition of a new opportunity: participation in a domestic and prestigious R&D competition for long-term-financing (8 years). Exploitation of this specific opportunity then became the overarching goal. Implementation, however, demanded further public and private resources and legitimacy in terms of close cooperation with the local university. Collaboration with the university legitimized the initiative and inspired other universities to cooperate. In 2008 the number of associated organisations had increased and the company won the R&D competition with its biorefinery vision.

The firm operates in a region that can be likened to an industrial district (Becattini 1991), as it has a long history and specific expertise with respect to processes and products based on wood raw material, such as ethanol. Its traditions appear to have provided meaning, identity and resources to its entrepreneurs who therefore could activate their environment more efficiently (Johannisson and Mönstedt 1998, pp. 116). The region is characterised by strong cohesion, an attitude of responsibility and initiative, and there is good access to production resources, technical expertise and raw materials for the development of biorefinery-related products. The companies are located in the same area, and staff and managers meet on a regular basis in a shared lunch-room, in other business settings and privately.

The group of actors studied in the case are all employees – some more prominent than others but all known to be energetic. As a collective, in a search for opportunities and ways to exploit these, they became entrepreneurial. The business environment of this network is not, however, equivalent to a typical market. The “customers” who are to be won over to the idea consist chiefly, to date, of researchers and potential financial backers as the ideas are often under development. Nor does the company that has been formed constitute a typical organisation; the board consists of partners who each represent a different company (partner) or another external stakeholder (local authority/university).

Differentiation
Cooperation to resolve a potential and difficult local industry and growth-related situation was the first opportunity to be recognized among the early proponents of the Processum Biorefinery initiative. Opportunity recognition was thus driven by an interest in identifying common arenas for interaction, continued growth, cooperation and concern that they all would be adversely affected if nothing was done in time. These were issues that were not being addressed by the municipality at the time, which can be likened to the situation
described by Hambrick and Chen (2008) in their case. There are a number of “desk projects” that no one to date has grasped, but also an alertness as described by Kirzner (1997) among the individuals in this group that emanated from their former experience, their deep knowledge of the field, their access to vital information and their shared interests in further development.

These individuals also possessed the cognitive properties to value opportunities as they had been, and still were, in leading positions and thus familiar with problem-solving. Their position furthermore enhanced self-efficacy and they were confident that they would discover opportunities that would make a difference, which coincides with Shane and Venkataraman’s (2000) theory on necessary conditions for opportunity recognition. The fact that they were all former colleagues means that they shared a common history as well as beliefs and attitudes related to development issues - shared beliefs argued by Hambrick and Chen (2008) to be vital to the differentiation process. The prior long-term interaction had generated social relationships between these early proponents and had thus established a social infrastructure constituting a basis for a potential venturing in line with Swaminathan and Wade (2000).

A dialogue was initiated in 2000 on collaboration and what this would consist of among some initiators. The initiators chose to act without having complete information on what the cooperation – which they viewed as an opportunity – would entail, which is in agreement with the theory of Alvarez and Barney (2007) on the process of opportunity creation. The focus initially was on practical functions such as sharing premises, receptions and library services. During the course of the talks the ambition level rose, and a first concept became the establishment of a ‘Teknikpark’ (technology park)1 which coincides with the theory of Alvarez and Barney (2007) on opportunity creation and Hambrick and Chen’s (2008) theory of differentiation.

We did not realise at the outset what the companies had in common. It was quite clear that the common denominator was process technology and technology based on wood, but it took about a year to make the strategy clear (Member of the board).

The first opportunity for cooperation was thus discovered, communicated, evaluated and reacted upon. A number of individuals acted and interacted in order to exploit the opportunity and thus mobilize further resources from investments in research – which in turn brought legitimacy and further resource mobilization. This is in line with Shane and Venkataraman’s (2008) and Swaminathan and Wade’s (2000) theories. The idea related to existing fields but fell outside their scope due to the focus on alternative and complementary techniques as in the case of Hambrick and Chen (2008). It still represented a potential for increased value that all of them could relate to as these individuals had the cognitive properties needed to value opportunities as described by Shane and Venkataraman (2000) and Alvarez and Barney (2007).

The initiators were employees in different organizations denoting differing perspectives. They were linked socially as they had worked together previously and were anchored in the same local tradition – there was, in other words, a social infrastructure akin to that described by Swaminathan and Wade (2000), which facilitated company establishment, as well as the work on conceptualization. The group of initiators had grown during the initial phase of opportunity recognition and differentiation process. Individuals from the municipal development department as well as the political “head” of the municipality were involved, spurring and supporting further action. The initiators possessed drive, were used to acting on ideas and were able to project an image of a potential value of sufficient magnitude, which is in agreement with the description in Shane and Venkataraman (2000) of individuals who have the ability to identify opportunities. Up to that time the initiators had financed the operation with their own resources:

We started at a quite modest level in company fees, it’s a case of creating trust and showing benefit, so that after a few years they could be raised. So it was a matter of selling to the companies and obtaining money for the activity (Member of the board).

The by-laws, articles of association and other formal rules for Processum Technology Park AB were adopted in the days leading up to Christmas 2002. Processum’s operations were principally financed by the municipality, the county administrative board and a private foundation. As the private foundation provided resources, the project was legitimized and consequently gained access to further resources, which is in

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1 A facility that can develop and exploit business concepts from existing and new stakeholders
Mobilization

The first assignment for the CEO in exploiting the opportunity was to find further financial backing. As representatives from the county and municipality were already associated stakeholders, information about funding and EU-related resources was available, as was “coaching” on how to apply for and obtain such grants. Funding was applied for from the stakeholders, the municipality, the county, and the European Union’s structural funds through Objective 1.

The chief executive in the County administration ensured that we had money from the structural funds during the first three years. He helped us to reach the target – with formalities on structural fund issues. Without this money it would have been difficult – the company would not have invested from their own pockets and the project would have collapsed (Member of the board).

Grants from the structural funds were conditioned by private co-financing, which was acquired from a local and highly reputable foundation (the Kempe Foundation\(^2\)). As a result of the grant being awarded, the project gained legitimacy, opening doors to other investigators, which is in accordance with the theories of Hambrick and Chen (2008); Swaminathan and Wade (2000) on the significance of legitimacy for mobilization of resources.

The reorganization of the big company caused a feeling of social instability, which according to Hambrick and Chen 2008 is a prerequisite for mobilization. There was a lack of research, coordination and existing knowledge and experience, as well as support for knowledge-intensive operations already established. There was a clear need for a platform that covered this, which caused the early proponents to act as described by Hambrick and Chen (2008) and in the form of a stake in agreement with Alvarez and Barney (2007).

Ideas then emerged on how we might create a basis for, and finance, such research by using public funding for this high-risk research. There was no scope in individual companies, and it is not easy to obtain public funding straight into individual firms, so we saw a need to obtain a platform (Member of the board).

The initiators were used to tackling problems, worked strategically and shared the interest of building a venture from which they all would benefit, in line with Hambrick and Chen (2008).

We have experience of development activity and it never runs entirely smoothly, so we were used to some things occasionally going off the rails. You manage to deal with setbacks and find solutions. When we sat thinking about solutions, we dared to think anew and came up with ideas - this is something I think can be difficult when you bring unknown people together (Former member of the board).

One of the members of the Board was also on the Board of Vinnova\(^3\) and consequently had first-hand information on the Vinnväxt\(^4\) competition, what was required, what support and resources were available, what contacts could be made and what areas of development and sectors were regarded as “hot”. In other words, there were individuals who had special information that met the conditions for opportunity recognition according to Shane and Venkataraman (2000). An investigation on a biocombine was conducted, and EU

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\(^2\) Provides financial aid to promote scientific research and other activities in northern Sweden.

\(^3\) VINNOVA (Swedish Government Agency for Innovation Systems)

\(^4\) VINNVÄXT is a programme that takes the form of a competition for regions. The aim is to promote sustainable growth by developing internationally competitive research and innovation environments in specific growth fields. The winning regions will receive funding of up to SEK 10 million per year for a period of 10 years. The objective is that the winners will become internationally competitive in their respective fields within this period. A prerequisite for the programme is the active participation of players from the private, public and research sectors and from the political sphere. VINNVÄXT also comprises a number of support activities such as seminars, training/education, the exchange of experience and the extension of knowledge/research.
Objective 1 funds were applied for and granted in March 2004. There was thus basic financing up to and including 2006. Co-financiers were the county administrative board, the member companies and EU Objective 1.

The Vinnväxt competition was carried out in three stages. The application procedure was extensive and entailed development of the existing social infrastructure through further actors from the university, the business community and the general public being involved in order to strengthen Processum's network and platform, as well as its legitimacy. By involving new actors, the differentiation of the concept gained new life as their “benefit” with participation too would be taken into account, opening up new opportunities and methods of implementation.

The process has included coaching from Vinnova: seminars and workshops in marketing and communication that have caused us to reflect a great deal. So the whole journey, regardless of the profit, has really meant a lot to us. We have had to scrutinize and formulate ourselves (Employee).

All the member firms were active and were expected to contribute with their network contacts, international contacts and contact creation for further resource mobilization. The application process for Vinnväxt thus came to represent a forum for the initiative, social interaction and mobilization in relation to this, which can be likened to the process relating to the establishment of strategic management as a field described in Hambrick and Chen (2003). The municipality was also clear in its support.

There is genuine interest from the municipality, which helps and supports indirectly a genuine wish to collaborate, a generosity and a wish to pull together. It is very familial, but deep down there must always be a mentality that permits and supports this (Member of the board).

On the other hand, a critical situation arose in 2005 as the operation was complex and difficult to run, and no clear results were obtained.

We thought that solving this would be quicker - but it takes longer than we thought (Employee).

It was difficult to get the group together, but also to get the member firms to commit themselves as they did not understand what awaited – they were so absorbed by their day-to-day work (County administrator).

It was also difficult to obtain energy in the business community endorsement and financing for day-to-day operation. Closing-down therefore came to be juxtaposed with development, and the member firms were asked to add depth to their commitment by making resources available, which they did. As a result of this, the annual membership fee was increased tenfold from a level of 0.2m Swedish crowns to 2.4m Swedish crowns. In addition to this, the members had to contribute time. This was a “critical event that created dynamism, increased presence and commitment” (Employee).

The University of Umeå reorganised its chemistry department in 2006. Two positions as professors were at its branch in Örnsköldsvik and recruitment took place in consultation with Processum, which created new conditions for the continued development work. Most of the targets set in 2003 had been achieved by the end of 2006. As for example, were 8 (target of 10) companies established, 4 (target of 2) research programmes initiated, 15 (target of 10) jobs preserved, 92 (target of 90) ideas and suggestions evaluated, of which 51 (target of 18) had undergone further development. 27 projects were in progress with 9 financing set-ups (status report 2006-2007).

The ties to the resource-providers (the member companies, the county, the municipality and the private foundation) gained strength during the first period of resource application (EU Objective 1), through interaction and differentiation of the opportunity in line with Shane and Venkataraman (2000) and Alvarez and Barney (2007). This process also provided anchoring and legitimacy for opportunity exploitation and resource mobilization and there was a willingness to act among the stakeholders as described by Shane et al. (2003), Hambrick and Chen 2008 and Alvarez and Barney (2007). Proximity to different resource providers was important, as it created the necessary basis for an understanding of the needs that would have to be met such as relations and commitment. This proximity developed over time under the direction of a CEO who had a “market approach, knew how the concept had to be packaged and presented, but who was also an
experienced process manager” (County administrator). This facilitated the financing work of the CEO, who fulfilled an important role in the process relating to the mobilisation of resources.

**Legitimacy building**
The initiators of Processum and the Biorefinery of the Future were well established representatives of industry who therefore neither needed to prove their ability nor seek further respect from those around them. They had the legitimacy required to drive the process according to Hambrick and Chen (2008). There was endorsement as well as understanding that they were acting both in their own interest and in the interest of others as they belonged to the place and its solidarity-based and supportive industrial culture.

The companies have been represented by their CEOs to a great extent – as well as research directors and so on – all very much capable of taking decisions (Board member).

The fact that regional growth work was in progress linked to the development of clusters and networks further raised legitimacy, as the initiative was regarded as being relevant and timely. Their purposes in other words were legitimate, and their ability to “spearhead” was well documented. Funding from the Kempe Foundation also created legitimacy in relation to other financiers.

He provided support in various ways with money but also by the fact that if he is with us it is much easier to approach the county administrative board. He also helped with the contacts with Umeå University (Board member).

The municipal commissioner was also involved for Processum by both acting as a “door opener” and actively supporting the initiative. The fact that a representative of the Board also sat on the Board of Vinnova was a further legitimacy-raising factor. When Umeå University decided to commit itself, it was a decision based on the prevailing local industrial tradition, the ability of the companies, the potential of the initiative, the response from the municipality and county administrative board and the experience of the Board and CEO. The university’s decision was crucial to the development of the Processum Biorefinery Initiative as it both created access to vital development expertise and legitimacy that attracted further actors and created respect at Vinnova. The lack of broad consensus in the business community was rectified in 2007 when Processum entered into cooperation with the network BioFuel Region, which pressed for fossil fuel to be replaced by biofuels and thus had links to the local ethanol producers.

The biorefinery’s operations were based on old proven and therefore “secure” industrial technology which was also considered to create unique environmentally attractive products – something which in itself may have strengthened the legitimacy of the concept in line with Hambrick and Chen (2008) among potential and existing financiers. There was, in other words, knowledge and previous experience available which reduced the sense of risk-taking. The concept then emerged through differentiation and resource mobilisation as a result of the collaboration between actors from the business sector, the public sector and the academic community.

**Conclusions**
Our intention is to outline an integrated and general model of opportunity recognition, creation, exploitation and social movement for cooperative, network and entrepreneurial initiatives. We have furthermore tested this model on a case – the development of the Processum Biorefinery initiative, in which a group of actors cooperated to reach a common goal - and facilitate entrepreneurship. The question to be answered concerns the important elements and processes that may explain how an idea may develop and grow through cooperation to a legitimate venture.

Neither the discovery theory of Shane and Venkataraman (2000) nor the creation theory of Alvarez and Barney (2007) separately demonstrate in full the process concerning the discovery and development of business ideas. Our conclusion is therefore that these theories need to be integrated in order to cover actual action when it comes to innovative opportunities. A further conclusion is that the entrepreneurial process will be clarified when these integrated theories are incorporated into the theory of social movement as described by
Hambrick and Chen (2008). Our arguments for the integrated and adapted model (Figure 2, pp. 9) are as follows:

The point of departure for the integrated model is entrepreneurial networking regarded in terms of collective entrepreneurship, which does not rule out the factors indicated having a corresponding impact on individual entrepreneurship, as innovative business ideas often need to undergo a process of differentiation, resource mobilisation and legitimacy building in accordance with Hambrick and Chen (2008). Our definition of the collective is the same as that of Hambrick and Chen (2008), which means that the actors identify themselves as part of a group, they interact and are familiar with each other and their activities. These combinations or initiatives may be formal or informal (pp. 34). The preconditions for the entrepreneurial process are clarified by assuming that the actors in the collective possess entrepreneurial capability and attitude, as described by Shane and Venkataraman (2000) and that they tend to act without complete information (Alvarez and Barney 2007), despite often having specific information (Shane and Venkataraman 2000).

According to discovery theory, collective and entrepreneurial actors discover opportunities on the basis of market deficiencies (Shane and Venkataraman 2000). Sociological theory has demonstrated that this can take place through peripheral network contacts (Granovetter 1973), and social movement theory contributes to emphasising that it may be areas of development that need to be handled (Hambrick and Chen 2008). The actors also act on the basis of changes in the world around, incomplete information and thus create opportunities (Alvarez and Barney 2007). Alvarez and Barney (2007) emphasise that this action causes feedback, evaluation and interaction, which supplements the description in discovery theory that this in turn generates the preconditions for the discovery of new opportunities (Shane and Venkataraman 2009). This may thus explain the reaction that creation theory discusses (Alvarez and Barney 2007). It is the recurring differentiation process described by the social movement theory (Hambrick and Chen 2008) that conceptualises the opportunity for the collective as well as for external actors by creating the preconditions for resource mobilisation and legitimacy building. As resources and legitimacy are supplied, development of the concept is further facilitated. We therefore argue that discovery (Shane and Venkataraman 2000) and creation (Alvarez and Barney 2007) are the elements that explain the character of action taken within differentiation in the social movement theory, which according to Hambrick and Chen (2008) is to lead to the idea being experienced as clear, valuable for external actors too and in demand.

The integrated model is illustrated by the case where there was a collective of actors from the start who were prepared to act without having complete information. However, they had in-depth knowledge of the industry whose R&D activity the cooperation was intended to "rescue", as they had been employed at MoDo. In other words, there were social relations between the initiators who also had an entrepreneurial attitude and were experienced, well-established decision-makers with self-confidence. The reorganisation of MoDo’s operation posed a "threat" which was felt to be so real that they initiated joint action, which was regarded as an opportunity. There were also a number of latent projects (opportunities) to be found in the minds or archives of the actors.

When these actors act, they do so on the basis of certain information. The opportunity that was discovered was that cooperation could be the solution. A dialogue was launched during which the initiators gave feedback to each other on suggestions and ideas. These were evaluated in the next stage of dialogue within the group, and new opportunities crystallise for continued collaboration, for example that the focus should be on chemistry and biorefinery on the basis of known technology. Within this area there was some knowledge, expertise and an industrial tradition of actors who were well established in the business community as well as in the public sector. On this basis the dialogue continued, and did so with more significant actors in the world around. The group grew, providing new information which was evaluated and then led to the discovery of how cooperation would be organised.

While social movement theory demonstrates what happens in a differentiation process (Hambrick and Chen 2008), integration with opportunity creation theory clarifies how and why this happens by describing the patterns of action of entrepreneurial actors (Alvarez and Barney 2007). Opportunity discovery and exploitation theory, as well as social movement theory, emphasise that when the actors take decisions for continued action, this is based on the willingness of actors to act, their access to financial backing and existing social relations with funders (Shane and Venkataraman 2000; Hambrick and Chen 2008). Social movement theory stresses that the actors at this stage regard themselves as a collective; they share interests and act on the basis of these in various foras. Their knowledge is in demand and they complement one another in accordance
with Hambrick and Chen (2008). Opportunity exploitation signifies entrepreneurial action, and our argument in favour of integrating theory on opportunity exploitation (Shane and Venkataraman 2000) with social movement theory (Hambrick and Chen 2008) is that opportunity exploitation presupposes and covers the mobilisation of resources. Mobilisation in turn presupposes demand for what is developed – internally and externally. Social movement theory emphasises that mobilisation creates legitimacy which further develops the concept/idea and generates new inflow of resources (Hambrick and Chen 2008). By integrating theory on social movement (Hambrick and Chen 2008) with theory on opportunity exploitation (Shane and Venkataraman 2000) we emphasise that mobilisation (for example of resources) is a consequence of the decision on opportunity exploitation and that mobilisation in itself increases the opportunity for legitimacy building as well as further conceptualisation. This is because funders for example like to assist with the conceptualisation process with the aim of fulfilling requirements for their own benefit in assisting.

This conclusion is illustrated by the case through the dialogue and interaction that was in progress between the initiators who were socially related, and later with actors in the world around over the course of a year, leading to the establishment of a technology park and to a win in the innovation system competition. The idea for participation, as well as information about procedure, opportunities for action and legitimacy for resource mobilisation came from a Board member who was also on the Board of Vinnova. In other words there was a proximity to political structures, capability for action and taking of responsibility among several actors. Social and geographical proximity between the initiators facilitated differentiation, mobilisation and legitimacy building.

We further argue that the differentiation process described in accordance with Hambrick and Chen’s (2008) theory on social movement strengthened by theory on opportunity discovery (Alvarez and Barney 2007) and theory on opportunity creation (Alvarez and Barney 2007; Alvarez and Barney 2007) creates the necessary basis for further action through dialogue on the idea of actors internal and external to the group (Alvarez and Barney 2007), which in turn generates interaction and adds new knowledge, expectations and opportunities that increase the uniqueness of the concepts and create clarity (Hambrick and Chen 2008). Social movement theory additionally emphasises that access to resources generates further legitimacy and with it what is required to obtain access to further resources (Swaminathan and Wade 2000; Hambrick and Chen 2008). The same theory also emphasises that the legitimacy of a concept increases if it resembles others implemented previously, if its representatives have legitimacy and if it is judged to be valuable from a development perspective – which is also an important factor for continued resource mobilisation (Hambrick and Chen 2008).

If we then go to the case, we see that exploitation required action by everyone involved in collaboration with actors in the world around. The first funds were committed by the initiators themselves, and as these were important representatives of the business community this created legitimacy prior to the mobilisation of resources from other grant-providers such as the Kempe Foundation. When the Kempe Foundation granted funds, this legitimised further earmarking of resources by the municipality, county administrative board and structural funds. The sources were accompanied by new requirements for the concept but also more and more influencing stakeholders, which increased the legitimacy and inflow of resources. Vinnväxt was a competition that had been held previously, which also increased legitimacy as it was judged to be capable of being implemented. The university’s decision to make a commitment to chemistry and development of the operation in Örnsköldsvik boosted legitimacy considerably by qualifying Processum as a knowledge platform in accordance with the instructions for the Vinnväxt competition.

We have attempted to create an integrated model which can explain more clearly the entrepreneurial process. Continued studies are, however, required to further verify the observations and propositions we made.

References


