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Biographical statements

D.Sc. (Tech.) Kyllikki Taipale-Erävala is a Post-Doctoral Researcher in the MicroENTRE research team at the Kerttu Saalasti Institute, University of Oulu, Finland. Her research expertise is competencies enabling business survival in SMEs in changing business environments. Additionally, she is interested in developing micro enterprises, innovation, business model development, knowledge management and advanced services. She has experience of SME entrepreneurship, industrial processes, in the field of training and education, and supervision of apprenticeships. Kaisa Henttonen, D.Sc. (Econ. and Bus. Adm.) is senior researcher and an organizational scholar, whose expertise areas are business aspects of circular economy, innovations, (academic) entrepreneurship and digitalisation. She has published in various international journals related to these themes. Kaisa has worked in adult, master's level and management education and been involved in and managed company R&D projects, Academy of Finland projects, TEKES projects and consulting as an entrepreneur for over ten years. She has also worked as an acting innovation management professor.

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Entrepreneurial competencies in successful innovative SMEs

1. Introduction

In the 2000s, the business environment has changed with increasing speed due to digitalization and globalization. Alongside technological and demographic changes, new laws and regulations have offered more entrepreneurial opportunities and thus more opportunities for entrepreneurs to exploit ideas in practice (Shane, 2003) - i.e. to innovate. Responding to external and internal changes by innovating new products, services and processes has become a key aspect for business survival, and

the strategic importance of innovations is growing. According to previous studies, the positive effect of innovation activities to overall firm performance is significant. The innovativeness of companies is dependent on factors such as R&D intensity and skilled workforce, i.e. education and individual competencies (Abazi-Alili et al., 2016). This study aims to identify the entrepreneurial competencies that are specific to those small and medium-sized enterprises (SMEs) that have successfully implemented innovations. According to earlier literature, entrepreneurial competencies have been studied widely and different dimensions have been found (Kolb, 1984; Chandler and Jansen, 1992; Lorrain et al., 1998; Man et al., 2002). Despite the broad range of literature, there still does not seem to be an agreement as to what entrepreneurial competences consist of. Therefore, this study firstly contributes to existing research by defining what the present entrepreneurial competencies in the literature are. In order to investigate how entrepreneurial competencies have changed in literature since the introduction of know-how-oriented competence views in 1980s, we conducted a literature review; this review defines the typical entrepreneurial competencies discussed in the literature between 2008 and 2014.

Secondly, the contribution of the study to existing research focuses more specifically on entrepreneurial competences in innovative SMEs. To our knowledge, there are only a few rare studies focusing on this issue (see Santadreu-Mascarell et al. (2013) for an exception). This lack of research is somewhat surprising because innovative SMEs are recognised to hold a crucial position as engines of growth (OECD, 2013) and as key drivers of innovation (European Commission, 2013). Innovative SMEs were selected by peer nomination by other entrepreneurs or local business development centres in the area. This selection was based on the proven ability to commercialize innovation, so a reputation as a developer of technology or processes was not enough. Thus, in this study, an innovative SME is defined as one that has implemented at least one innovation and brought it to the markets (Tiwari, 2008). This type of innovative firm is also considered successful in this study.

The main question is posed: *What kind of entrepreneurial competencies do SMEs that successfully implemented innovations have?* Furthermore, to gain a deeper understanding of innovative SMEs, we also studied the supporting question: how do the different innovation types relate to specific entrepreneurial competencies? To investigate these questions empirically, we conducted interviews in 13 SMEs, in the field of forest industry. As a theoretical background, we have used the entrepreneurial process model of Shane (2003), and its entrepreneurial phases to categorising the competencies in these entrepreneurial phases. Additionally, the entrepreneurial competencies found were classified based on the firms' innovation type (OECD, 2005).

As a summary of the results, the study first creates a template of typical entrepreneurial competencies (TTEC) based on the literature between 2008 and 2014. More specifically, the empirical findings of the study add to the literature the fact that in innovative SMEs, open-mindedness and a mental attitude that develops new trends and thoughts are highlighted, based on the individual competencies of both employees and managers. Additionally, the study highlights the importance of a purposeful public image competence and a two-way networking competence that creates beneficial co-operation with all partners. A comparison between TTEC and the empirical results indicated that TTEC are related to incremental innovations, whereas the findings from the studied innovative SMEs indicated specific entrepreneurial competencies focusing on radical innovations. When combining the competencies and the results of the firms' innovation type, the study concluded that extroversion is a common denominator as regards the competencies in innovative SMEs, but there were no notable differences between the competencies as related to the different types of innovation. Overall, the company-level extrovert competencies and the company's preparedness and pro-activeness in business operations are thus emphasized, as these qualities seem to have a significant influence on successfully implementing innovations.

This article is structured as follows. First, we introduce the concept of entrepreneurial competencies in SMEs. After this the previous literature on the general categories of entrepreneurial competencies and the exact competencies included in each category are presented. Then the methodology employed is described. Finally, the remaining part of the paper presents the empirical results and their analysis, the discussion, and the conclusions.

2. Previous research on entrepreneurial competencies

In the study, entrepreneurial competencies are considered to mean 'underlying characteristics such as generic specific knowledge, motives, traits, self-images, social roles, skills which result in venture birth, survival and/or growth' (Bird, 1995: 51). The 'underlying characteristics' mentioned are the personal features which then create organisational ones (Turner and Crawford, 1994). Personal competencies build up organisational competencies, and organisational competencies are composed of all the competencies of the firm's employees, including the management, project teams, and the project managers (Nurach et al., 2012). All these competencies contribute to the firm's performance. Thus the study approaches personal competencies (Turner and Crawford, 1994) without separating them from any professional position held within a firm, whilst also noticing that a firm's success is

formed by creating or adding value through the organisation of resources (Bird and Jelinek, 1988). Skilled workers have positive and considerable influence on firms' performance (Ramadani et al., 2017). In SMEs that have successfully implemented innovations – here called successful innovative SMEs - it is unlikely that one individual entrepreneur (see Herron and Robinson, 1993) possesses all of the competencies required to be able to turn an idea into a value creating firm.

Consequently, a team of entrepreneurs is often needed, so that in a small firm, members of the staff, other than the entrepreneur, may also possess entrepreneurial competencies and thus influence a firm's operation. Thus, the entrepreneurial competencies cover all business actions, from opportunity scanning via business development, to a firm's day-to-day operations including all the entrepreneurial phases of a firm. Shane (2003: 11, 12) introduced entrepreneurial phases in an entrepreneurial process model. In the entrepreneurial process, entrepreneurial opportunities can be scanned and discovered from different sources by entrepreneurial attributes leading to opportunity exploitation and execution. The entrepreneurial process model (Shane, 2003: 11, 12) was chosen to be used as a theoretical background for the study, because it combines all the entrepreneurial phases (opportunity, execution, and the firm's performance), when compared with other entrepreneurial process models (e.g. Stevenson and Jarillo, 1989).

Earlier literature on entrepreneurial competencies can be roughly divided into two stages; the concept has developed from emphasizing know-how-oriented competence and skills in the first stage in the 1980's (e.g. Hambrick and Crozier, 1985; Kolb, 1984; Milton, 1989) to stressing personal qualities and behaviour-related categorizations in the second stage in the 2000's (e.g. Pelletier, 2006; Gasse and d'Amours, 1993; Gasse, 2005; Gasse and Paracini, 2007).

To identify recent entrepreneurial competencies in the literature, the review included scientific full-text databases between the years 2008–2014. The review emphasizes broad coverage of the matter and thus excludes the recent narrower novelties (e.g. Liñán and Fayolle, 2015; Rudin et al., 2016). The details for all the articles included in the review are presented in Appendix 1. Focusing on innovative SMEs, we constructed an analytical framework for entrepreneurial competencies in the 2000s. We found approximately 240 articles with the keyword *entrepreneurial competencies* but no references to *innovative**. It appears that while there is a steadily growing literature on the broader general classifications of entrepreneurial competencies, studies on entrepreneurial competencies regarding innovative SMEs are rare. The typical entrepreneurial competencies presented in the literature in the 2000s were then identified. The literature identification was mainly focused on research data from developed countries, because of the used qualitative data from Finnish SMEs. To

limit the literature on mainly developed countries guarantees the similar economic environments, which thus strengthens the reliability of the study.

As a classification base, a modified model of the comprehensive entrepreneurial process is used (Shane, 2003), and the results of selected articles are presented in three categories (see Figure 1 below): entrepreneurial competencies related to the early, so called opportunity phases of entrepreneurship, competencies in the execution phase, and competencies in performance phase. Table 1 below combines the entrepreneurial phases with the entrepreneurial competencies found, but presents only those attributes which were found in at least three articles.

PLEASE INSERT FIGURE 1 HERE

Figure 1. Entrepreneurial competencies related to entrepreneurial process of Shane (2003:11)

This classification combines similar terms found in different sources. First, the following early entrepreneurial competencies are presented *in the opportunity phases* of the entrepreneurial process: scanning entrepreneurial opportunities, discovering opportunities from different sources by different entrepreneurial attributes, and making decisions about opportunity exploitation (see Shane, 2003). In the literature, this stream includes typical entrepreneurial competencies such as the terms related to opportunity (Hui et al., 2011; Man et al., 2008; Ahmad et al., 2010) meaning the ability to identify those goods or services that customers want. Some authors, like Morris et al. (2013) use the terms opportunity recognition and opportunity assessment. These terms are firstly used to recognise and perceive changed situations, and then evaluate and determine their relative attractiveness. Other authors use different terms for a similar content – opportunity recognition and its exploitation (Loué and Baronet, 2012), refinement competency (Rasmunssen et al., 2011), and opportunity seeking and initiative (Santandreu-Mascarell et al., 2013). Mitchelmore and Rowley (2010; 2013) use the term entrepreneurial competencies to mean similar opportunity competencies. Hui et al. (2011), in turn, add to the discussion on entrepreneurial learning competency by highlighting entrepreneurial education, lectures, and learning from entrepreneurs' experiences. When compared to the entrepreneurial know-how-oriented competency in the 1980's literature, the literature in the 2000's can be seen to have introduced future and motivation aspects. Hui et al. (2011) discuss entrepreneurial aspiration competency, Morris et al. (2013) conveying a compelling vision of the future, and Loué and Baronet (2012) highlight intuition and vision. When an opportunity is discovered, an entrepreneur must decide whether or not to exploit it. The risks may be enormous, and therefore Dimitratos et al.

(2014) and Santandreu-Mascarell et al. (2013) have recognised competencies such as risk-taking and risk management/mitigation (Morris et al., 2013).

Second, entrepreneurial competencies were categorised *in the execution phase*, where resources are assembled, organisations are formed, and a firm's strategy is finalized. Naturally, this phase includes strategic competencies (Ahmad et al., 2010; Man et al., 2008) and competencies related to resource leveraging / bootstrapping / integration (Man et al., 2008; Morris et al., 2013; Ahmad et al., 2010; Hui et al., 2011; Rasmussen et al., 2011). In the execution phase, an idea is converted into an innovation, and Morris et al. (2013) logically follow a path defining innovativeness as 'the ability to relate previously unrelated objects or variables to produce novel and appropriate or useful outcomes' (Morris et al., 2013). Man et al. (2008), in turn, has a slightly different definition mentioning innovative competence as the generation of new ideas based on problems and the exploration of new ideas. Morris et al. (2013) approach innovativeness from the point of creative problem solving / imaginativeness. Additionally, according to Dimitratos et al. (2014), innovativeness is connected to product offerings (new products and changes in product offerings), and Hui et al. (2011) consider innovation competency in emergency innovation events, e.g. in a business transition – and thus, mainly as problem solving.

Third, competencies needed *in the performance phase* are naturally related to the actual running of the business — business and management (Mitchelmore and Rowley, 2010; 2013) and leadership (Loué and Baronet, 2012). A firm has employees and customers; therefore, typical relationship competencies include human relationship competencies (Mitchelmore and Rowley, 2010, 2013; Hui et al., 2011; Loué and Baronet, 2012; Man et al., 2008; Ahmad et al., 2010). The abilities needed for business management are significant for a firm's success, but in addition some authors extend these relationships to include conceptuality: conceptual and relationship competencies (Mitchelmore and Rowley 2010), and conceptual competencies (Ahmad et al., 2010). In the 2000's, co-operation and networking has been highlighted in SMEs, and therefore the need for the increased networking that started in 1990's is included as well in competencies (Lans et al., 2011; Morris et al., 2013; Santandreu-Mascarell et al., 2013). More specifically, Dimitratos et al. (2014) see the need for networking as intra-multinational networking or extra-multinational networking. Working as a group in SME resembles community-based entrepreneurship, where human capital and networking together strongly affect joint business (Dana and Light, 2011). Global business skills and abilities rapidly become outdated. Therefore, learning competencies (Man et al., 2008) are generally discussed as meaning the overall learning from customers or competitors, (Dimitratos et al., 2014), learning more

of a company's own industry (Ahmad et al., 2010), and information seeking (Santandreu-Mascarell et al., 2013).

Table 1 below summarizes and presents the above discussed findings of the review on typical entrepreneurial competencies based on recent literature, i.e. that between 2008 and 2014. It contains also the entrepreneurial process phases described earlier in Figure 1 and competencies found in the literature focused on each phase, authors, and categories of competencies (attributes found in at least three articles). The categories of competencies form a template of typical entrepreneurial competencies (TTEC), which is used in Section 4 to report the analysed results of our empirical study on entrepreneurial competencies of innovative SMEs.

Table 1. Competencies found in the literature, positioned in the entrepreneurial process phases

PLEASE INSERT TABLE 1 HERE

Although the literature review focused on identifying the most recent and typical entrepreneurial competencies between 2008 and 2014, these findings were based mostly on similarities between the studied articles. However, some dissimilar definitions were found. For example, proactiveness was noted as a minor attribute (Dimitratos et al., 2014) and is defined as behaviour leading to being first in the markets and adopting a competitive posture. Loué and Baronet (2012) also highlight marketing and commercial competencies. Ethical competencies and familism were only mentioned by Ahmad et al. (2010).

3. Data and Methodology

In this paper, a qualitative research approach was chosen to give richness to the data collected and the findings made (Silverman, 2005). Also it allowed more context-specific analysis of Finnish forest industry in comparison to a survey (Dana and Dana, 2005). A case study methodology was chosen because it allows an extensive examination of a single instance of the phenomenon of interest to be made (Collis and Hussey, 2003). Given our objective of finding innovative entrepreneurial competencies, we chose a multiple-case study (13 case studies) as the research design. This research design was chosen because in multiple-case studies, only those competences that are replicated across

most or all of the cases are retained for analysis. Hence, the resulting conceptual framework or hypotheses are often more parsimonious and generalisable in comparison with single-case studies (Eisenhardt and Graebner, 2007). Each case is considered here as an independent experiment and an analytical unit on its own (Eisenhardt and Graebner, 2007; Yin, 2003). The unit of inquiry was the SME, and the interviewees were considered to be the key innovation experts embedded in the unit of analysis (Yin, 1994). Our objective is in understanding of the actors, here the interviewees as innovation experts, as ‘knowledgeable agents’ (Dana and Dumez, 2015) in their own operating environments.

3.1 Data collection

To ensure the validity of the findings, the selection of the case studies was a key concern. The innovative SMEs were peer-nominated by other entrepreneurs or local small business centres based on the SMEs’ proven ability to commercialize innovation. Additionally, an SME was considered appropriate for this study if it met all of the criteria summarized in Table 2. We used data saturation as a test of sufficiency. (Morse et al., 2002; Lincoln and Guba, 1985)

Table 2. Selection criteria for innovative SMEs

PLEASE INSERT TABLE 2 HERE

The number of required cases became clear as this study progressed because new entrepreneurial competencies stopped emerging from the data. We chose to study firms related to the Finnish forest industry because the forest industry is very important to the Finnish economy. This field has also suffered from structural changes, and new innovations are important for the survival of the industry e.g. due to the competitive pressure due to competition of foreign firms like in many other industries. (Gërguri-Rashiti et al., 2017) As a consequence of cost-cutting operations over the last several decades, forest industry production has moved to low-cost countries such as South America and China. Globally, other forest intensive countries such as Canada and Russia face similar situations. In Finland, the share of export for forest industry products decreased by 10 percent from 2000–2008. In 2013, it was 20 percent of Finland’s export (Finnish Customs, 2014). The forest industry needs new products, and thus it is justified to study firms that have already exploited new innovations. Therefore, Finnish forest industry firms provided an interesting context in which to study entrepreneurial competencies. The forest industry has traditionally been dominated by large corporations, but the majority of new innovations are started on a small scale by entrepreneurs because their skills and competencies allow them to discover and exploit opportunities (Shane, 2003).

Table 3 presents the innovation types in each firm studied. Using the classification of Oslo Manual (OECD, 2005), three main innovation types were recognised: a product (or service) innovation, a process innovation, and a marketing innovation. Being aware of the fact that innovations may be included simultaneously under several classifications, the table illustrates the most fitting classifications (OECD 2005, 53–56). Table 3 also shows which specific field in the forest industry the firms represent: property construction and surfacing, bio energy and environmental technology, and operations related to supply chains and production processes. Additionally, Table 3 lists the main business areas of the SMEs under study and their specifications from the interviews. The

Table 3. The specifications of the firms studied

PLEASE INSERT TABLE 3 HERE

Entrepreneurs interviewed for this study mainly held the position of managing director in their companies. There were two exceptions to this. In the first exception, the managers were both the managing director and the deputy managing director. In the second exception, both the managing director and the technology expert were interviewed. Within each firm, we used purposive sampling (Lincoln and Guba, 1985) to identify and select key informants who were most knowledgeable about the topic in question (Saunders et al., 2009). We specifically selected those entrepreneurs who created or were members of the team who created the SME, because they had knowledge about the management structure. In addition, most of these people were responsible for or involved with innovation and development activities in their companies. In those companies where they were not directly involved, we also interviewed a second person who was responsible for innovation and development activities. As is typical with case studies, the interview data were triangulated with other data (Yin, 2003). Triangulation is an attempt to ensure the most in-depth understanding of the research phenomenon possible (Denzin and Lincoln, 2000). We also collected secondary data (for example, information from company websites) relevant to each case.

Interviews were semi-structured, using a thematic and conversational approach, lasting between one and two hours. Each interviewee was made aware of the aim of the research. In addition to this, the interviewees were encouraged to talk about their experiences in their own way. The questions were repeated if necessary and iterative and circular questioning and discussion were also allowed. Further, there was ongoing clarification and verification of the information received during the interview. The questions concerned the company's development since its foundation. The interviewees were questioned about their background in the industry and their tasks within the SME to ensure that they

had directly experienced the phenomenon of interest. The interviews resulted in the life stories of the SMEs under study, and provided information about the competencies required in each phase of the company's life.

3.2 Data analysis

We analysed the data for each company using template analysis in order to identify and categorise the different types of innovative entrepreneurial competencies. Template analysis is one type of thematic analysis that balances a fairly high degree of structure in the process of analyzing qualitative data while also having enough flexibility to be adapted to the requirements of this study. (King, 2004) Our literature review (and the classification based on the review) was used as the first- and second-level coding frame. As this was a data-driven process, we also iteratively modified and complemented the coding frame according to our data. We not only looked for similar competencies, but also differences between the 13 cases in order to understand entrepreneurial competencies related to different innovations and different firms. Additionally, we used two tactics suggested by Yin (2003) to ensure the validity of the research. First, we used multiple sources of evidence, and second, we established a chain of evidence with the coding.

All the interviews were recorded and analysed with the help of ATLAS.ti software, which is specially tailored to qualitative data and explorative data analysis. The data analysis was based on a copy of taped transcripts which formed the database. Key themes from the cases were allowed to emerge naturally from the data. This further enabled connecting the themes with key themes generated from a previous literature review. Thus, the risk of subjective error or bias in the data analysis was decreased. Confidentiality was guaranteed as regards both the organisations and individuals; hence, the quotations are anonymous. The findings of the analysis are presented in the next section. They have been categorised according to the classification of findings from the data and are also illustrated by some of the codes from the 1607 Atlas.ti software.

4. Findings

4.1 Empirically identified competencies

In this section, an analysis of the findings is presented using the template of the typical entrepreneurial competencies (TTEC) that was introduced in Section 2. The categories of TTEC and the empirical study findings are combined and presented in Table 4 below. The first column presents the entrepreneurial process phases, the second the typical entrepreneurial competencies and the third

column presents the empirical study findings related to these categories. The text below elaborates on the results in each category and illustrates the answers with empirical quotations taken directly from the interview data.

Table 4. Typical entrepreneurial competencies and the study's empirical findings

PLEASE INSERT TABLE 4 HERE

4.1.1 Competencies in opportunity phases

Competencies in the opportunity phases seem to indicate that the SMEs studied have an open-minded mental attitude towards developing new ideas, and when an idea is defined, they have a clear target for achieving it.

Opportunity competencies

The opportunities competencies were recognised as competencies related to future trends in technology, customership, legislation, and systematic continuous environmental scanning behaviour for innovation. Entrepreneurial opportunities exist everywhere, so scanning the environment is important for the conceptualization of development trends and for following general trends, legislation reform, and the behavioural changes of the customers. Opportunities may arise, for example, from green wave technology and customer wishes, which demand that a firm possess the ability to develop and innovate an idea into a practical product or service. Future products and services may currently be unimaginable, but the mental attitude of being open minded is crucial. As one technology expert stated (Case 12): 'We do have ideas and a desire to make applications and experiments for the joy of doing it; we do not miss people who say it is not possible'. The analysis recognised that innovative ability must be built into a firm's operations in order for innovation possibilities to be identified all of the time; for example, one respondent noted that: 'Basic business must be managed, but a little bit is going on all the time for the excitement; do not stop to that bustle' (Case 6). In the beginning stages, idea generation may take a long time, and the results might be invisible. In some firms ideas have needed years to mature, as noted by one managing director (Case 7): 'This innovation has been developed from the year 2002'.

Vision/seeing the future

As vision/seeing the future competencies, clear vision and goal setting skills for many years into the future were identified as being important; so, too, was knowing one's own position as well as the industry's position and the competitors' positions. In the SMEs studied, goal setting skills were focused on the future, and such a course requires a very strong vision for product development. The path of a new technical innovation can be winding but, as one respondent noted, 'The direction was always clear as a crystal' (Case 4). The firms had clear growth targets, and they actively sought new business ideas outside the firm, in order to refine and thereby grow the business.

Risk taking

Risk taking was recognised as an awareness of existing risks, not as a competence, although some firms were aware of expansion risks, as noted in the following responses: 'We know the risks in internationalization' (Case 9), and 'The growth has its own risks' (Case 10). New business ideas are controlled, and are synchronized with the day-to-day operations, as indicated by the following response: 'We know what we do and why we do as we do' (Case 3). An awareness of existing risks may be due to the study approach that was used, as we researched established innovative SMEs and most of them had already exploited their innovation as regards the markets, and as they had quite stable customer relationships they no longer faced major financial threats.

4.1.2 Competencies in the execution phase

The competencies in an execution phase are integrated with opportunity competencies in the execution phase. The innovative SMEs executed incremental innovations - i.e. innovative firms are already prepared in the opportunity phases to implement a desired idea into an innovation, and the necessary competencies are connected to idea development and goal-orientation.

Strategy and resource assembling

Competencies related to SME strategies and resource assembling were covered in the opportunity phases, and thus a part of the opportunity competencies. This seems to indicate the necessity for the preparation and careful consideration of an idea; the strategy and resource assembling have already been decided when the idea is first approved, in order to develop it into an innovation.

Innovative competencies

In the TTEC framework, the innovative competencies are mainly focused on renewing already existing products or services—that is to say—incremental innovations. Most of the empirically studied SMEs had exploited radical innovations, and these innovations had even changed regulations and laws. In the studied SMEs, the innovation competencies are covered in the opportunity competencies, i.e. those firms that have been goal-oriented and, thus, have exploited an idea according to their plan, and introduced it into the market.

4.1.3 Competencies in performance phase

The performance phase defines whether the innovation is successful or not. The innovative SMEs highlighted various skills and capabilities for the successful implementation of innovation. Competencies in the opportunity and execution phases are focused on considering and implementing an idea into an innovation, but the competencies in the performance phase will dictate the success of the innovation. The empirical findings increase knowledge regarding the competences needed for building a purposeful public image to guide SMEs publicity, a networking openness and an attitude of co-operating beneficially with all partners. Additionally, the SMEs studied expressed a high-level of individual competencies in both the employees and managers, which are necessary to develop and implement radical innovations.

Business management competencies

The business management competencies identified included: financial and budgeting skills, business operational skills, development ability as a part of daily life (as a thought pattern), managerial experience, and the ability to preview the requisite resources and implement requirements into acquisition and development situations. As a part of the marketing skills, purposeful public image skills were highlighted. The interviewed managers pointed out that marketing skills, and especially public image skills, were proactive functional competencies. The firms deliberately controlled their public image, and guided their publicity. Publicity was managed as a part of the company's management, and as part of management development. The management's actions shape the firm's image to help the firm stand out in the external environment as an innovative, leading, and prominently figured firm, as described by the managing director in Case 8: 'The outside brand is in shape; we set limits in our outside actions and we increase, in purpose, our coverage by our development actions'. This innovative image results in more customers, as noted in the following response: 'Our healthy growth brings work from customers' (Case 11). Marketing and public image skills are common in all SMEs; however, according to our analysis they are not purposefully emphasized. As an addition to resource management, new brave attitudes and competencies are

needed. Acquisition and development of resources do not automatically mean new resources, but with new thoughts and with new acquisition skills, the existing resources may be organized in a proper way to respond to different situations, as noted by the following comments: ‘We have an inside procedure to sustain the interest and overcome frustration; what’s next?’ (Case 6) and ‘Developing demands changes in attitude and mind set’ (Case 8)

Human relationship competencies

The findings in this category include typical human relationship competencies, such as skills related to hiring and knowledge of human nature, interpersonal skills, the ability to manage customers and conceptual competencies. The analysis shows that human capital and individual capabilities are required at all organisational levels. Human capital and individual capabilities are very important in small companies, where every person at every organisational level must take a wider view and see himself or herself as being an essential part of the firm, and realize that their job’s impacts on the jobs of others. With regard to the need for employees to acquire various skills, possess the attitude to take on many duties, and view the firm’s situation as a whole, one respondent noted: ‘An organisation must be a single unit, and competencies must be in the whole firm; our competence is built into the whole firm’ (Case 10). Moreover, control over the entirety of the firm is also emphasized: ‘Competence is formed of the dominance of totality; an individual must know the importance of one’s work to the work of others; we know challenges in the whole firm’s chain’ (Case 2). Technical skills, creativity, and work attitude are a firm’s individual capital. The lack of or weakness in some individual competencies is also recognised. Individual capabilities are required from the personnel, but managers demand the same from themselves. Based on their former experiences, managers are more confident as regards their talents to lead a firm. Based on their experiences in prior jobs, managers also have a wider perspective on their industry; they crystallize experience as a special skill and know-how in small firms.

Innovative firms have high performance in industrial skills; they are, therefore, able to develop products that may change laws and regulations: ‘Our innovation changes regulations’ (Case 4). In this scenario, the product developed was highly technical and it had an impact on many laws or regulations to such an extent that the product causes re-regulation within the industry. These businesses are at their peak because of their high level of industrial skills and the tacit knowledge found within the company: ‘In technology we are at the top of the pile’ (Case 13). To maintain a high position in the face of competitors, the price compared to competitors is tested systematically:

‘Competitors do not reach up to our level, we know our rate’ (Case 8). A new mind set and motivation are needed: ‘Change in thinking is needed, we want to develop industry’ (Case 5).

Networking competencies

The firms studied included small firms with limited resources; ‘We search for networking partners in product development to support our skills, competencies and language skills’, (Case 13). The manager’s own skills were also recognised and identified: ‘We concentrate on core competencies; the rest was sought outside the company’ (Case 3). However, where skills were inadequate, businesses sought to secure resources from networking partners. A firm at the peak of its industry may have to look for partners abroad: ‘In own industry, we lack skills and knowledge; we look for them abroad, sometimes over long distances’ (Case 4).

Learning and information seeking competencies

The study analysis indicated that the firms’ had a highly qualified, deep, and wide familiarity with the industry, based on considering new ideas and requirements, a thorough familiarity with the market and customer needs, as well as familiarity with their processes. Excellence in practical market and acquiring competitor information means that prices can be increased; the price can be adjusted to the businesses own requirements, as ‘Special products may be costly’ (Case 1).

4.2 Competencies related to innovation types

In order to study the relationships between entrepreneurial competencies and innovation types, we used generally-accepted classifications from the OECD (OECD, 2005; Tiwari, 2008) where the types of innovations are the following: product innovation (a significantly improved good or service), process innovation (a significantly improved production or delivery method), marketing innovation (a new marketing method involving significant changes in product design or packaging, product placement, product promotion, or pricing), and organisational innovation. The literature on innovation examine the fact that when innovating a product innovation, new products with a closer fit to a firm’s competencies tend to be more successful (Danneels, 2002). Leiponen (1996) found that product and process innovation tend to be associated with different competencies, related to education and firm-specific work experience. The above-mentioned competencies are presented in a relationship in order to renew and to develop internal competencies, and are focused on general capabilities. However, this study focuses on entrepreneurial competencies instead of the general capabilities present in a firm.

The specific empirical findings, in the entrepreneurial phases, were observed to be related to the innovation types (Table 5) based on the classification of Oslo Manual (OECD 2005, 53–56). The firms identified their type of product/service innovation and process innovation (see Table 3). An open-minded mental attitude towards developing new ideas was expressed in all the innovative SMEs regardless of the innovation type. A purposeful public image competence was indicated by firms presenting product or service innovation and process innovation. Networking openness and an attitude of beneficial co-operation with all partners was illustrated by all the studied SMEs. The highlighting of the individual competencies of employees and managers was mainly demonstrated in the marketing and process innovation firms, where the employee turnover is based on the employees' ability to meet a customer needs instead of producing a particular product. Developing friendly attitudes was embedded in all firms. When comparing the study results to the innovation types made by the firms, open-mindedness and a co-operative attitude were the two competencies that dominated. The results demonstrate that the typical traits of innovative SMEs are open-mindedness and the development of a friendly mentality and co-operative attitude.

Table 5. Specific entrepreneurial competencies related to innovation types

PLEASE INSERT TABLE 5 HERE

As a summary of Section 4, it can be concluded that entrepreneurial competencies in innovative SMEs are dominated in the opportunity phases by preparation, determination, and orderliness (i.e. proactiveness) to achieve the desired goal. Certain attributes of open-mindedness were indicated in the performance phase and in co-operation related to actors in external environments, such as in relationships with the media and partners in networks. When the typical entrepreneurial competencies in the literature (TTEC) and the empirical data of innovative SMEs are compared, there seems to be a significant difference in the execution phase; a determination guides innovative SMEs so that they execute and proceed according to their vision. TTEC, in turn, indicated a stronger emphasis on innovative and strategy competencies, which means a longer innovation process, and thus longer execution. When comparing the innovation types and the specific entrepreneurial competencies found empirically, it can be concluded that there are no notable differences between different innovation types and the entrepreneurial competencies found in innovative SMEs.

5. Discussion

The study explored entrepreneurial competencies in successfully innovative small and medium-sized companies and identified what these competencies consisted of. The discussion follows the phases of

the entrepreneurial process (Shane, 2003) namely the early, opportunity phases of entrepreneurship, the competencies in the execution phase, and the competencies needed in performance (see Figure 1). Firstly, we found that in comparison with the TTEC framework in the opportunity phase, the opportunity competencies identified included similar issues, such as scanning for entrepreneurial opportunities (Mitchelmore and Rowley, 2010) in order to identify goods and services customers need (Ahmad et al., 2010) in changing business environments (Morris et al., 2013). In the analysis, future trend competencies were emphasized, which aimed at acquiring new technological opportunities, a systematic, continuous, 360 degree scanning of the external environment and taking time to be mentally oriented to external factors outside of one's own business. Thus, the difference between TTEC and the study analysis is that SMEs that have successfully implemented innovations operate based on their own objectives; acquiring new business opportunities from e.g. legislation, and thus developing new technology as well as serving customers with completely novel products without waiting for requests from customers. The ability to be open-minded and having a mental attitude which encourages the development of entirely new trends and thoughts - might be similar to proactiveness (Dimitratos et al., 2014). This was recognised as a minority attribute in the literature and is defined as a behaviour of being first in the markets and adopting a competitive posture. Innovative SMEs are thus very motivated to notice incredible and obscure business possibilities in order to develop their business.

Additionally, in the opportunity phase, in the vision/seeing of the future, the analysis introduces a similar increase in the visioning trend that has been seen since the 1980's (Mitchelmore and Rowley, 2013; Morris et al., 2013). The innovative SMEs have clear and strong visions and goals for many years; they are required to operate according to these visions (Hui et al., 2011), and are additionally aware of their firm's position in the markets. The firms' operations are clear and focused on achieving the desired goal; therefore there seems little space for intuition (Loué and Baronet, 2012). The greatest difference between TTEC and the study findings appeared in risk taking. Although risk taking was highly acknowledged in the literature (Dimitratos et al., 2014; Santandreu-Mascarell et al., 2013; Morris et al., 2013) the firms studied had an awareness of risks, but the risk-taking was not highlighted as a necessary competence in the analysis, mainly because of the innovative SMEs in the research had already established themselves in business.

Secondly, in the execution phase, an idea is converted into an innovation. As concluded earlier, the term innovativeness is used in the template to mean both creative problem solving (Hui et al., 2011; Morris et al., 2013) and, to some degree, exploring new ideas (Man et al., 2008). Dimitratos (2014) connected innovation competency to product offerings—that is to say—incremental innovations. The

analysis indicated that innovative SMEs combine innovative competencies into opportunity competencies, and thus the findings do not support TTEC. Moreover, the difference between earlier studies and this study can be found in the different context of the innovativeness: innovative competence refers to incremental innovativeness, refreshing the products/services. In innovative SMEs, radical innovation (and in turn innovativeness) is combined with opportunity competencies, basing on a desire to develop novel products or services.

Thirdly, in the business performance phase, the competencies define how successful an innovation becomes. Therefore, competencies in innovative SMEs focusing on every-day business operations and finance (Mitchelmore and Rowley, 2010; 2013; Loué and Baronet, 2012) are crucial. The findings highlighted development ability, and furthermore determined that a development-friendly mind set was a necessary part of daily business life. This development-friendly attitude was already identified in business environmental scanning in order to observe new rising trends. In addition, the findings stressed up-to-date individual competencies regardless of the persons' position in the company. The findings indicated that human capital and individual capability requirements were important at all organisational levels. The literature commonly discusses human relationships and related competencies as being the responsibility of the managers, but empirically in SMEs everyone is part of the human capital and individual capabilities (Dana and Light, 2011), and must possess the attitude that they can take on many duties, and thus possess an overall view of the firm's situation. The organisations' skills are based on individual skills (Nurach et al., 2012; Ramadani et al., 2017; Turner and Crawford, 1994), thus individual skills and competencies are highlighted as influencing the firm's performance.

The study determines the standard of competencies, and the TTEC describes the sources for updating: learning competencies as being learned from customers and competitors (Dimitratos et al., 2014), learning about one's own field and updating skills and knowledge (Ahmad et al., 2010; Man et al., 2008), and information seeking (Santandreu-Mascarell et al., 2013). A particular standard of competencies is understandable because the firms have mainly exploited radical innovations where individual skills must be updated to reach the level required for the development-friendly mind set. As an interesting part of marketing competencies, the empirical research introduced a purposeful public image competence, which was not discussed earlier in this form in the literature. Although Loué and Baronet (2012) mention marketing and commercial competencies as a minor entrepreneurial competence, a purposeful public image competence was highlighted as a novelty in the successfully innovative SMEs, and a tool to accelerate penetration to the markets.

Networking competencies were illustrated in TTEC as intra-multinational networking/extra-multinational networking i.e. the co-operation between internal and external firm activities (Dimitratos et al., 2014), and social interaction skills (Morris et al., 2013). All TTEC networking competencies based on the literature focus on a single firm's needs, or are firm-oriented. The content of our study in networking is different; co-operation works both ways, benefitting both partners acquiring the beneficial business power, financial skills, and other skills they lacking. At a practical level, networking often starts from an idea development in co-operation with universities, subcontractors, and customers. Networking is even based on very sensitive areas such as idea development, product generation and financing, and the findings illustrate that an open-minded attitude, courage and strong confidence in one's partners are important traits. As one novel addition to the literature, the study introduces a two-way networking competence which expresses an attitude of co-operating beneficially with all partners. These type of networks are sometimes referred to in the organisational literature as reciprocal networks (Brass et al., 2004), and network competence related to these networks seems to be an essential part of the capabilities of successful innovative companies. Thus, consideration for other company's strengthens the trust between various partners.

6. Conclusions

The study focuses on the entrepreneurial competencies recognised in SMEs that have successfully implemented innovations. Firstly, a template of typical recent entrepreneurial competencies (TTEC) was created based on scientific literature from 2008-2014. Empirical data was collected using a qualitative research approach, and interview data from 13 innovative Finnish forest industry firms was gathered. The data was analysed through TTEC, and the main empirical findings present the entrepreneurial competencies used in successfully innovative SMEs: 1) An open-minded ability and a mental attitude enabling the development of entirely new trends and thoughts - based on the individual competencies of employees and managers with a development friendly mind set, 2) a purposeful public image competence, and 3) a two-way networking competence with the attitude of co-operating beneficially with all partners. These skills mentioned together with the open attitude advance the current understanding of entrepreneurial competencies by bringing novel extrovert-oriented aspects into the discussion of competences, especially in successfully innovative SMEs. Usually extroversion is only combined with individual traits (Marjani et al., 2013; Garcia and Moradi, 2012; Baron, 2002), but the study showed that extroversion also covers actions at an organisational level.

When combining the study results and the results of the firms' innovation types it can be concluded that extroversion is a common denominator in the competencies. Earlier literature, in the 1980s stressed skill-based entrepreneurial competencies, and studies conducted in the 1990s added behaviour-based competencies. This study offers a new view of SMEs in the 2000s, highlighting the importance of a firm's extrovert competencies and its ability to engage in continuous opportunity scanning, explore ideas, exploit opportunities, and support a mentality that fosters continuous development.

7. Implications and future research

The study is conceptual by nature, and does not therefore offer implications to be put straight into practice, but some assumptions may be presented as to how the study results can be utilized. The study emphasizes the importance of company-level extrovert competencies. This means that even during the protected idea generation and start-up phases, successful SMEs have an open attitude towards networking. The study has implications for firms and their expectations of economic development, as well as for public actors working with SMEs. Although the research data from innovative Finnish SMEs is limited, the results can assist global firms that want to develop their entrepreneurial competencies in an effort to achieve greater success in innovation exploitation and business. In training, the behaviour-based aspects of competencies in skill-based training should be more acknowledged. In education, the importance of a development-friendly mind-set should be stressed in syllabuses, in order to emphasize the opportunities entrepreneurship will offer to students.

Several possible future research directions can be identified based on the work presented here. First, this study has some limitations, such as the limited number of interviewees. We interviewed one to two key informants from each company. The interviewees were chosen because they were responsible for innovation and development activities in their companies and they were also involved in daily management activities. However, future research could widen our approach from the daily management level to the stakeholder level. This could be done by developing a stakeholder-based competence framework for innovative SMEs. Additionally, the study focuses solely on the Finnish forest industry-related business and innovative SMEs in that context. The results might be different in other countries and industries. Additionally, a very interesting context question would be to compare entrepreneurial competencies between developing and developed countries. The growing interest in researching entrepreneurship and entrepreneurial competencies in developing countries (e.g. Agarwa and Lenka, 2017; Orhei et al., 2015; Schøtt, 2017) and comparing this with the results

from developed countries would bring important information of entrepreneurial competencies needed in opportunity, execution and performance phases.

Second area of further research could be a comparative qualitative study of competencies in innovative SMEs that have successfully developed radical innovations as well as a qualitative study of firms that have developed incremental innovations. The results of this study indicate that competencies like extrovert traits combined with networking readiness bring about radical innovations. Third possible area of further interest could be to investigate in detail the networking competencies, which seem to be essential for innovative SME companies. The research could especially concentrate on reciprocal relationships and networks based on mutual benefits and learning extension.

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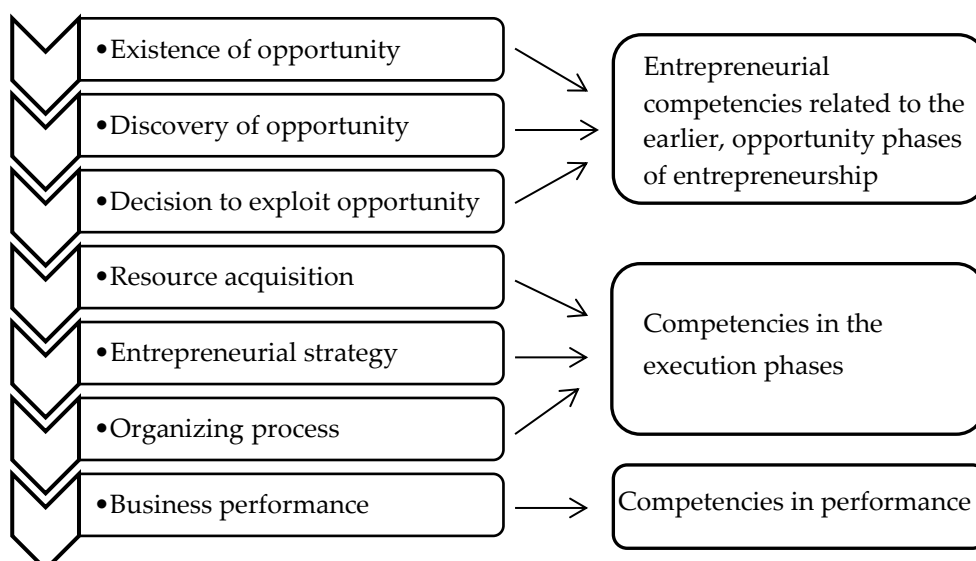


Figure 1. Entrepreneurial competencies related to entrepreneurial process of Shane (2003: 11)

Table 1. Competencies found in the literature, positioned in the entrepreneurial process phases

Entrepreneurial process phases	Competencies found in the literature	Author(s)	Competency category
Opportunity phases	Abilities related to opportunity identification	Hui et al., 2011; Man et al., 2008; Ahmad et al., 2010	Opportunity competencies
	Opportunity recognition and assessment	Morris et al., 2013	
	Opportunity recognition and its exploitation	Loué and Baronet, 2012	
	Refinement competency	Rasmunssen et al., 2011	
	Opportunity seeking and initiative,	Santandreu-Mascarell et al., 2013	
	Entrepreneurial competencies (focusing on opportunity)	Mitchelmore and Rowley, 2010; 2013	
	Entrepreneurial aspiration competency	Hui et al., 2011	Vision / seeking the future
	Conveying and compelling, vision/seeing the future	Morris et al., 2013	
	Intuition and vision	Loué and Baronet, 2012	
	Risk-taking	Dimitratos et al., 2014; Santandreu-Mascarell et al., 2013	Risk-taking

	Risk management/mitigation	Morris et al., 2013	
Execution phase	Strategic competencies Competencies related resource leveraging / bootstrapping / integration	Ahmad et al., 2010; Man et al., 2008 Man et al., 2008; Morris et al., 2013; Ahmad et al., 2010; Hui et al., 2011	Strategy and resource assembling
	Innovativeness, problem solving / imaginativeness Innovative competencies Creating new products offerings Emergency innovation, transition	Morris et al., 2013 Man et al., 2008 Dimitratos et al., 2014 Hui et al., 2011	Innovative competencies
Performance	Business and management Leadership	Mitchelmore and Rowley, 2010, 2013 Loué and Baronet, 2012	Business management
	Human relationship competencies	(Mitchelmore and Rowley, 2010, 2013; Hui et al., 2011; Loué and Baronet, 2012; Man et al., 2008; Ahmad et al., 2010	Human relationship
	Networking	Lans et al., 2011; Morris et al., 2013; Santandreu-Mascarell et al., 2013;	Networking

	Intra-multinational / extra-multinational networking	Dimitratos et al., 2014	
	Learning competencies Information seeking	Man et al., 2008, Dimitratos et al., 2014, Ahmad et al., 2010 Santandreu- Mascarell et al., 2013	Learning and information seeking competencies

Table 2. Selection criteria for innovative SMEs

Number	Criteria for innovativeness
1	It had introduced new products or significantly improved products, production processes, and/or services into markets.
2	Other companies in the field or local small business centre identified it to be innovative.
3	It has successfully commercialised innovation.

Table 3. The specifications of firms studied

Innovation type	Case number	Main business of the company	Interviewed persons and length of interview	Specific field of forest industry
Product or service innovation	1	Coloured wood producer	Managing director 1h5min	Property construction and surfacing
	3	RFID-tag producer and solution provider	Technology director 1h	Supply chains and production processes
	4	Construction of low-energy buildings	Managing director 1h9min	Property construction and surfacing
	5	Insulation-board producer	Managing director 1h10min	Property construction and surfacing
	7	Producer of an environmental friendly power source	Managing director 1h	Bio energy and environmental technology
	9	Parquet and wood product producer	Managing director and deputy managing director 1h	Property construction and surfacing
	12	Wood finishing products producer	Managing director and technology expert 2h	Property construction and surfacing
Process innovation	2	Bio-fuel producer	Managing director 1h13min	Bio energy and environmental technology
	8	Supplier of waste solutions	Managing director 1h54min	

		(including machinery)		
	11	Bio energy software systems supplier	Managing director 45min	Bio energy and environmental technology
	13	Stainless steel packaging machine producer	Managing director 1h27min	Supply chains and production processes
Marketing innovation	6	Provider of digital printing solutions	Managing director 1h21min	Supply chains and production processes
	10	Process engineering office	Managing director 45min	Supply chains and production processes

Table 4. Typical entrepreneurial competencies and the study's empirical findings

Entrepreneurial process phases	TTEC Typical entrepreneurial competencies	Entrepreneurial competencies found in innovative SMEs
Opportunity phases	Opportunity competencies	<p>Future trend competencies in technology, customership, legislation, and environmental systematic continuous scanning behaviour for innovation opportunities</p> <p>An open-minded ability and mental attitude for entirely new trends and thoughts</p> <p>Long-lasting development and innovative ability and the patience to wait for results</p>
	Vision/seeing the future	Clear vision and goal setting skills for many years into the future and knowing one's own position as well as the industry's position and the competitors' positions
	Risk taking	Awareness of risks

Execution phase	Strategy and resource assembling	Similar to the opportunity competencies
	Innovative competencies (refers mainly to problem solving and incremental innovation)	Similar to the opportunity competencies
Performance phase	Business management competencies	Financial and budgeting skills, business operational skills, development ability as a part of daily life (like a thought pattern) Managerial experience, competence to preview requisite resources and the ability to fit requirements into acquisition and development situations, marketing and purposeful public image skills when marketing
	Human relationship competencies	Human capital and individual capability requirements are important at all organisational levels, skills related to hiring and knowledge of human nature, interpersonal skills, the ability to manage customers and conceptual competencies
	Networking competencies	Networking skills
	Learning and information seeking competencies	Highly qualified, deep and wide familiarity with industry based on the consideration of new ideas and desires thorough familiarity with the market and customer needs, and their processes

Table 5. Specific entrepreneurial competencies related to innovation types

Innovation types	Specific entrepreneurial competencies
Product or service innovation	Open-minded mental attitude for developing new ideas
	Purposeful public image competence
	Networking openness and an attitude of beneficial co-operation with all partners
Process innovation	Open-minded mental attitude for developing new ideas
	Purposeful public image competence
	Networking openness and an attitude of beneficial co-operation with all partners
	The highlighting of the individual competencies of employees and managers
Marketing innovation	Open-minded mental attitude for developing new ideas
	Networking openness and an attitude of beneficial co-operation with all partners
	The highlighting of the individual competencies of employees and managers

Appendix 1. The specifications of review articles.

Authors	Year	Content	Methodology	Context	Country/city	Industry	Extra information
Man et al.	2008	Opportunity competencies; Relationship competencies; Analytical competencies; Innovative competencies; Operational competencies; Human competencies; Strategic competencies; Commitment competencies; Learning competencies; Personal strength competencies	Questionnaire (N=153)	SME owner/managers	Hong Kong	wholesale trade and IT services	
Ahmad et al.	2010	Strategic; conceptual; opportunity; relationship; learning; personal; ethical; familism	Questionnaire (N=212)	SME owner-founders	Malaysia	Service sector (84,9%)	
Mitchelmore and Rowley	2010	Entrepreneurial competencies; Business	Literature review		Various	Various	

		and management competencies; Human relations competencies; Conceptual and relationship competencies					
Hui et al.	2011	Opportunity competency, relationship competency, resources integration competency, innovation competency, entrepreneurial aspiration competency, entrepreneurial perseverance competency, and entrepreneurial learning competency	Behavioral Event Interview (N = 12)	College students	China	Engineering, real estate development, exhibition, catering, education, consultation, software and clothing	
Lans et al.	2011	‘Analysing’, ‘pursuing’ and ‘networking’	Questionnaire (N=348)	Small firm owner-managers	Netherlands	Agri-food sector	
Rasmussen et al.	2011	Opportunity refinement competency; Leveraging competency; Championing competency	Longitudinal study (4 spin-offs)	The study follows the creation and early growth of four university	UK and Norway	Software, medicine, electro-mechanical	

				spin-offs (academic entrepreneurs)			
Loué and Baronet	2012	Opportunity recognition and exploitation; financial management; human resources management; marketing and commercial activities; leadership, self- discipline; marketing and monitoring; intuition and vision	Interviews (N=29) and questionnaire (N=2700)	Entrepreneurs in French speaking countries	France, Canada and Algeria	Services, manufacturing, retail, technology	Skill-based approach
Mitchelmore and Rowley	2013	Four main clusters of competencies were identified: personal and relationship, business and management, entrepreneurial, and human relations competencies	A questionnaire- based survey (N=210)	Women entrepreneurs	England and Wales	78% in the services sector	
Morris et al.	2013	Opportunity Recognition; Opportunity Assessment; Risk Management/Mitigation;	Delphi study	A panel composed of 20 distinguished entrepreneurs	Various	Technology, manufacturing, and service companies	

		Conveying a Compelling Vision/Seeing the Future; Tenacity/Perseverance; Creative Problem Solving; Resource Leveraging/Bootstrapping; Guerrilla Skills; Value Creation with New Products, Services, Business Models; Ability to Maintain Focus Yet Adapt; Resilience; Self-Efficacy; Building and Using Networks		and the other composed of 20 leading entrepreneurship educators.		(entrepreneurs panel)	
Santandreu-Mascarell et al.	2013	Persuasion and networking; Opportunity seeking and initiative; Information seeking; Risk taking; Independence and self-confidence; and Commitment to the work contract.	Empirical study, two groups	SME employees and entrepreneurs in innovative companies	Not announced		Characteristics in employees, which are related to entrepreneurs' characteristics

Dimitratos et al.	2014	Innovativeness, risk-taking, proactiveness, learning, intra-multinational networking, extra-multinational networking and autonomy	Empirical study (N=260)	Multinational enterprise subsidiaries	European (namely Dutch, French and German), US and Japanese subsidiaries operating in UK		Mainly entrepreneurial orientated
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