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Entrepreneurial Networks: Exploring the Role of Social Capital

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Abstract. *Purpose* Start-ups and small and medium-sized enterprises (SMEs) face a liability of smallness (Bruderl and Schussler, 1990) associated with a limited resource endowment. Entrepreneurs often turn to their social networks for overcoming this liability. Therefore it is important to understand how entrepreneurs categorize their relational embeddedness in a network and how actors in entrepreneurial networks grant access to resources. The motivation behind this research is to shed further light on entrepreneurial network management processes. Thus, investigating actors of strategic importance for entrepreneurial ventures highlights how entrepreneurs secure resource access from social networks. *Design/methodology/approach* A qualitative approach is adopted for this investigation using an interview guideline containing open-ended questions. The transcribed interviews were analyzed applying the qualitative method GABEK (GAnzheitliche BEwältigung von Komplexität – holistic processing of complexity). GABEK is based on philosophical theories about understanding, explaining, learning, and the perception of Gestalten (Zelger, 1999). *Findings* The entrepreneurs testify to a number of different network partners who provide them with the appropriate resources they need for their business activities. The network itself and the process of networking play key roles through which entrepreneurs mainly access advice, information, knowledge and expertise, as well as backup in the form of business contacts, finances, or emotional support. Stronger ties are created with people they are familiar with and with closer customers, experts, and representatives of diverse institutions who have specific expertise. For the entrepreneurs trust plays a central role and is strongly related to the intensity of personal relationships. Primarily trust is based on the experiences and word-of-mouth recommendations of their network partners. *Research limitations/implications* The research delivers a deeper insight into the understanding of entrepreneurial network management processes. Because of the qualitative nature of the study, it allows no generalization. Additionally, the interviewee selection may have an influence on the results, as the majority of businesses are SMEs. Important implications can be drawn for entrepreneurs, economic policy actors, and network managers and their institutions about the role of networks, how networks work and how entrepreneurs use them for business activity. The research results have shown that trust-creating initiatives are of utmost relevance to fostering successful business networks.

Keywords: entrepreneurship, social capital, social networks, embeddedness, trust, resource access.

1. Introduction

Entrepreneurs seize opportunities by recombining resources innovatively and thus often create new markets (Schumpeter, 1934, Shane, 2003). Entrepreneurial opportunities are defined as situations when the recombination of resources enables the entrepreneur to yield a profit and generate a new means-ends framework (Shane, 2003; Shane and Venkataraman, 2000). The access to resources, such as information, is therefore a precondition for exploitation by entrepreneurs (Aldrich and Martinez, 2001; Birley, 1985; Greve and Salaff, 2003; Hayek, 1936; Schumpeter, 1934; Shane, 2003). Organizations such as small and medium-sized enterprises and entrepreneurial ventures are seen as bundles of tangible and intangible resources (Wernerfelt, 1984; Bergmann Lichtenstein and Brush, 2001). Generally speaking, resources can be categorized as physical, human, financial, social, technological, and organizational (Bergmann Lichtenstein and Brush, 2001; Coviello and Cox, 2006; Brush et al., 2001). Furthermore, the complexity of a resource influences its potential in terms of transformability and combinability, or its capacity to yield a unique advantage (Brush et al., 2001). Complex resources are intangible, systematic, and knowledge-based, whereas simple resources are tangible, discrete, and property-based (Brush et al., 2001; Penrose, 2009). According to Bergmann Lichtenstein and Brush (2001), intangible resources are the most salient in the early stages of new ventures.

The distribution and mobility of resources are imperfect among ventures within industries (Coviello and Cox, 2006). Entrepreneurs need to overcome this imperfection in resource distribution and mobility by accessing and mobilizing resources salient for their venture. Networks and social relationships have been identified as sources granting access to resources not possessed by the entrepreneur (Birley, 1985; Jack, 2005; Jack, 2010; Jack and Anderson, 2002; Lechner and Dowling, 2003; Sengupta, 2011). Networking is one of the domains constituting entrepreneurial competence (Lans et al., 2011). Zhang (2010) concludes that the majority of entrepreneurs prefer social networks compared to markets for resource acquisition. Entrepreneurs and potential entrepreneurs use social networks and show a tendency towards intensifying them when they plan further expansions, investments or new ventures (Renzulli et al., 2000). Resources embedded in social networks are referred to as social capital (Adler and Kwon, 1999; Coleman, 1988; Greve and Salaff, 2003; Lin, 1999). Finally, entrepreneurial growth is facilitated through strategic networking practices (Anderson et al., 2010). The entrepreneur needs to identify actors in his/her network in possession of resources salient for the entrepreneurial venture. Therefore, Anderson et al. (2007) conclude that entrepreneurship is performed through social relations, social interaction, and social networks. As a consequence, it is important to understand actor-resource relationships in entrepreneurial network in order to derive implications for entrepreneurship.

Furthermore, this study elaborates as to how entrepreneurs interpret and relate network actors to certain reasons or purposes. Especially in the early years of (small) businesses development, timely access to certain resources is crucial. With the help of qualitative research the authors will describe how entrepreneurs perceive social relations and resource access. Therefore, the analysis supports entrepreneurs to critically analyse their engagement in certain networks. This paper aims at exploring entrepreneurial networks and illustrating how these actors deal with resources, actors, and relationships constituting this network.

The following section reviews relevant literature in the field of entrepreneurial networks and social capital, and derives research questions for this investigation of entrepreneurial resource access. The qualitative study will be presented afterwards. Narrative interviews were analyzed with the help of the qualitative analysis tool GABEK (GAnzheitliche BEwältigung von Komplexität – holistic processing of complexity) (Zelger, 1999). The results focus on the analysis of entrepreneurial networks (actors and processes), as well as on the role of trust in these networks. After the results are discussed in light of existing literature, the paper concludes with limitations, managerial implications and an outlook for further research.

2. Theoretical Background

Davidsson and Honig (2003) showed that being a member of a business network positively affects start-up processes. Furthermore, entrepreneurs rely on various network types when establishing and managing their business. Social networks, reputational networks, co-opetition networks, marketing networks as well as knowledge, innovation, and technology networks or co-operative technology networks, all show importance in facilitating a venture's performance (Lechner and Dowling, 2003, Lechner et al., 2008). Ownership of resources is therefore no prerequisite for gaining access to salient resources, since entrepreneurial networks provide opportunities for obtaining resources held by other network actors (Barney, 1991; Birley, 1985; Jack, 2005; Jack, 2010; Jarillo, 1989; Jenssen and Koenig, 2002; Lechner et al., 2008). Thus, network theory extends the resource-based view by emphasizing the importance of external relationships for the firm's resource endowment (Lee et al., 2001; Coviello and Cox, 2006). Granovetter (1985) refers to the concept embeddedness of economic action in social structure. Gulati (1998) differentiates relational and structural embeddedness. Relational embeddedness refers to direct cohesive ties that serve as a mechanism to gain fine-grained information. As a result, the actors possess more common information and knowledge of each other. Structural embeddedness focuses on the informational value of the structural position of these partners who use the network. Gulati (1998) argued that "information travels not only through proximate ties in networks, but through the structure of the network itself" (Gulati, 1998, p. 296).

The content of a relationship, the governance of a relationship, and the pattern of a network emerging from crosscutting ties are key areas for explaining network development (Hoang and Antoncic, 2003). Network content refers to the role of interpersonal and interorganizational relationships granting access to resources, but also to the reputational and signaling effects of relationships. The governance of networks is strongly characterized by social phenomena like power, trust, and influence rather than legal issues. Those elements, often underestimated, have a big role in creating cost advantages for entrepreneurs. The structure of a network is "defined as the pattern of relationships that are engendered from the direct and indirect ties between actors" (Hoang and Antoncic, 2003, p. 166). In this respect, the position of the actors in the network as well as the size of the network has an impact on the flow of resources and on the entrepreneurial outcomes (Bourdieu, 1986; Burt, 1992; Burt, 2001; Coleman, 1988; Hansen, 1995).

Resources embedded in social networks are referred to as social capital (Lin, 1999; Lin et al., 2001; Nahapiet and Ghoshal, 1998). Coviello and Cox (2006) extend the aforementioned categories of resources by including social capital. Social capital corresponds to all those resources that an actor can access and mobilize by activating actors embedded in the social network. Therefore, the particularity of social capital lies in the distinct combination of individual and social aspects when controlling and accessing resources. Social capital encompasses two aspects: The resources of individual actors in the network and the performance of the entire network as a whole (Esser, 2008). The entrepreneurial stock of social capital increases throughout different growth stages of new ventures (Coviello and Cox, 2006). In this respect, Batjargal and Liu (2004) discovered that social capital has significant effects on accessing financial resources. Indirect and direct social ties act as a source of information for investors, reducing uncertainty in venture capital decisions and enabling entrepreneurs without sufficient financial resources to pursue business opportunities (Shane and Cable, 2002).

Nahapiet and Ghosal (1998) highlighted three dimensions of social capital critical for a better understanding of entrepreneurship. To facilitate the creation of new ventures, structural, relational, and cognitive aspects of social capital are crucial. These three dimensions are strongly interrelated, still emphasizing different aspects of social capital by concentrating upon distinct components of social networks (Liao and Welsch, 2005; Nahapiet and Ghoshal, 1998).

The structural dimension of social capital refers to the sum of actors the entrepreneur is able to reach in order to access resources critical to the entrepreneurial venture. Furthermore, the overall network constitution and architecture are addressed in this dimension. Cooperative behaviour and the development of new forms of association and innovation are supported (Nahapiet and Ghoshal, 1998; Liao and Welsch, 2005). Entrepreneurial networks consist of various structural holes and the entrepreneur is characterized by the ability to overcome these structural holes (Burt, 2001). Thus, it is of major importance for the entrepreneur to know about the indirect ties, and thus resources, that are within reach (Greve, 1995; Jack, 2005; Kim and Aldrich, 2005). Hallen (2008) explored initial network positions from which future ties evolve. The history of individuals at organizations, the accomplishments of the organization, and past ties and status of the organization are important for the initial network position (Hallen, 2008).

The relational aspect of social capital refers to the particular personal relationships the entrepreneur has established with other actors. Particularly relational characteristics, e.g. trust, are important in this respect (Anderson and Jack, 2002; Larson, 1992; Uzzi, 1997). Especially in small businesses where networking is often the role of the business owner (Birley et al., 1990) his/her personal networks are relevant sources of a firm's competitive advantage (Ostgaard and Birley, 1994).

The third dimension of social capital – cognitive – refers to resources enforcing a common view and action and includes shared norms, values and beliefs (Nahapiet and Ghoshal, 1998). Coleman (1988) argues that a norm exists when the socially defined right to control an action is held not by the actor, but others. A shared system of meanings and language facilitates the exchange of information, learning, and knowledge creation (De Carolis and Saparito, 2006). Tsai and Goshal (1998) indicated that the three dimensions of social interaction have a significant positive effect on the exchange and combination of resources, using the example of a large multinational electronics company. However, sources of social capital can vary according to the business growth phase (Roomi, 2009).

The research at hand concentrates on the relational aspects of social capital using a network perspective on social capital. This perspective "stresses the importance of vertical as well as horizontal associations between people and of relations within and among such organizational entities as community groups and firms" (Woolcock and Narayan, 2000, p. 230). Anderson and Jack (2002) identified six stages in the process of generating social capital: Encountering (an)other, exploring affinities, identifying communalities, establishing congruencies, and discovering potential, leading to sharing social capital (Anderson and Jack, 2002). Relationships between actors in a network determine their agency and therefore might lead to quite different reactions of actors taking similar structural positions in a network (Nahapiet and Ghoshal, 1998). Granovetter (1983) discusses concepts of strong and weak ties in a similar vein, concluding an actor has "strong" and "weak" ties. The core of an actor's network is comprised of strong ties. Members of the network core are likely to know each other due to the strong linkages connecting them. Attitudes and values of actors connected by strong ties are similar (Granovetter, 1983). This phenomenon of relationships inhering characteristics and value propositions is referred to as homophily (Kim and Aldrich, 2005). Weak ties are looser connections between two actors and thus often connect different network cores with each other. Weak ties are referred to as "bridging", strong ties as "bonding" social capital (Adler and Kroon, 2002). Tie strength is determined by the frequency of contact, the emotional intensity, trust, and the reciprocity of a relationship (Granovetter, 1983; Kim & Aldrich, 2005). Recent research has analyzed that there are differences between certain entrepreneurial/manager characteristics and the dominance and quality of network ties; for instance, strong ties play a more important role in the growth stage of businesses and women use social capital more successfully in certain stages of the business life-cycle (Roomi, 2009).

Hite (2003) explored different patterns of relationally embedded network ties by distinguishing among competency, hollow, and personal embeddedness. Competency embeddedness is established upon a history of dyadic interaction providing business value through familiarity. Hollow embeddedness is based upon the actors' social capital regarding a third party's recommendation. And personal embeddedness is rooted in personal knowledge and affective characteristics of the relationship. According to Hite (2003) fully embedded ties incorporating all three dimensions demonstrate the greatest degree of embeddedness, leading to greater reliance through a broader range of trust. "Trust is the precursor to resource acquisition, knowledge combination, and exchange" (Liao and Welsch, 2005, p. 350). In this respect, trust acts as an important mechanism of network governance when it comes to resource access (Jack, 2005; Larson, 1992; Liao and Welsch, 2005; Hite, 2005; Uzzi, 1997). Trust has been conceptualized as a willingness to be vulnerable as well as confident beliefs that another will behave in a beneficial manner (Rousseau et al., 1998).

Lewis and Weigert (1985) differentiate between a cognitive, emotional, and behavioural dimension of trust. The cognitive dimension is based upon familiarity and experience regarding persons and institutions. The emotional aspect of trust refers to affective characteristics like friendship and love and therefore provides complementarity to the cognitive base. The behavioural form of trust "is to act if the uncertain future actions of others were indeed certain in circumstances wherein the violation of these expectations results in negative consequences for those involved" (Lewis and Weigert, 1985, p. 971). Trust is built upon norms of equity and the utilitarian roots of being trustworthy referring to the benefit of repeated exchanges (Ring and van de Ven, 1992; Ven and Gordon, 1984). Furthermore, reputation, reciprocity, and mutual interdependence are means of network governance by acting as control and coordination mechanisms in building up exchange relationships between enterprises forming alliances (Larson, 1992). The establishment and maintenance of strong linkages are characterized by an extensive consumption of time and energy (Lechner and Dowling, 2003). Thus, as the willingness to share resources increases with tie strength, connecting to the right actors possessing the right resources is crucial for managing entrepreneurial networks in a time-efficient and cost-effective way.

The content and scope of a network is normally wide, leading to numerous actors being involved. Greve (1995) identifies two categories of actors according to their personal background. On the one hand, the type and/or strength of the relationship (family, friends, work relations, etc.) are of importance, and on the other hand, personal characteristics emphasizing the potential use in terms of resource access are critical (Greve, 1995). Ties to distributors, suppliers, competitors, or customer organizations can be important as channels of information and know-how (Brown and Butler, 1995). Family members are especially helpful at particular points in starting a business (Greve and Salaff 2003; Jack, 2005). Further research emphasizes the role employees play in regional small and medium-sized enterprise (SME) settings by granting access to human resources and regional specific information (Jack, 2005).

Summing up, research on social networks and social capital has mostly concentrated upon the different dimensions (see Table 1) associated with these concepts. For instance, research in an entrepreneurial context has investigated content aspects of social networks by investigating the use of different network types (e.g. Lechner and Dowling, 2003; Lechner et al., 2008). With regard to network governance, aspects of tie strength - such as trust - have been of interest (e.g. Larsen, 1992). Research on network structure has focused on measures such as size, degree, etc. (e.g. Hansen, 1995).

Research on social capital in an entrepreneurship context presents a similar picture. For instance, Anderson and Jack (2002) emphasized the cognitive aspects of social capital (values, rules and norms) in building entrepreneurial social capital. Other research on relational aspects has concentrated on how entrepreneurs embed their ties and what role aspects of trust play (e.g. Anderson and Jack, 2002; Hite, 2003; Strobl, 2014). Research on the structural dimension of social capital has, for instance, investigated structural holes and network closure (Burt, 1992; Burt, 2001).

Table 1: Dimensions of social networks and social capital (Source: Own illustration)

Theoretical Concept	**Dimensions**		
Social Networks	Content Resource and network types	Governance Trust, embeddedness, power, tie strength	Pattern Structures and patterns, tie strength, structural holes
Social Capital	Cognitive Shared values, norms and rules	Relational Trust, embeddedness, power, tie strength	Structural Actors, patterns, resources

The different dimensions of social capital and social networks are highly interrelated though (Hoang and Antoncic, 2003). This study therefore seeks to build on these findings and to investigate how entrepreneurs conceptualize and build their social networks and social capital. In this respect, this study focuses on the interplay of the dimensions of social networks and social capital. Thus, the research at hand seeks to answer the following research questions:

- What kinds of actors in entrepreneurial networks grant access to what kinds of resources?
- How do entrepreneurs categorize their relational embeddedness in the network context?
- How does trust relate to the different forms of relational embeddedness?

The subsequent section will outline the methodology used to investigate the research questions.

3. Methodology

In order to understand strategic motives and behaviours of entrepreneurs during the process of resource access, methods generating rich and detailed data are absolutely essential. Because the topic of interest is related to understanding rather than measuring and representing soft issues involved in entrepreneurial network management, the authors decided to follow a qualitative approach (Anderson and Jack, 2002). In this line of argumentation, various scholars propose qualitative approaches in studying entrepreneurial networks (Jack et al., 2008; Anderson and Jack, 2002; Coviello and Cox, 2006; Lechner and Dowling, 2003) to study the context and complexity of the phenomenon (Cassell et al., 2006). For example, fundamental work in the context of qualitative research was done by Jack (2005) and Jack et al. (2004) with the objective to identify the influencing factors of the operation and function of networks, the role of networks, and how entrepreneurs use and activate them for business activity. Jack (2005) identified the dependency between access and provision and intensity of ties. Different forms of ties provide different forms of resources. Entrepreneurs create strong ties with people with whom they are familiar, such as links to family, personal acquaintances (e.g., friends, former colleagues, customers) and employees (Jack, 2005). It can be summarized that different relationships are attributed to different network functions (e.g., suppliers with specific information or competitors with general market conditions) (Jack et al., 2004).

For this investigation of entrepreneurial networks, the authors were interested in the entrepreneur's experiences with and perceptions of networks. The chosen qualitative approach allows a systemic view of these networks and will identify different and relevant variables as well as their links (Gummesson, 2006) from the entrepreneurs' points of view. The authors conducted qualitative guideline interviews with 15 entrepreneurs in Tyrol, Austria. The sample was not selected regarding the probability distribution, but on a selected set of criteria related to the research topic (Strauss and Corbin, 1990). The interviews were carried out in the German language. Guideline interviews facilitate the assessment of motives of agency by granting the interviewer some flexibility in the formulation and sequence of questions (Gläser and Laudel, 2009). Furthermore, this procedure allows the interviewee to answer specific questions openly, thereby enriching the obtained data by bringing up new aspects. The interviewer's assignment in this respect is to navigate the interview (Atteslander and Cromm, 2003). The interview guideline was structured as follows: in the first section, the interviewee was asked to describe his/her venture and its history. Section two explored which persons played a crucial role for the venture and why. Section three investigated the entrepreneurial relationships by asking how ties had been established, how they are maintained, and what makes them viable. In addition, general data concerning the entrepreneur and the venture was collected, e.g. reports, newsletters, homepages, etc. Overall, the guidelines covered questions regarding the start-up process, the entrepreneurial network, network actors, required resources, ties, and general data concerning the entrepreneur and the entrepreneurial venture. The interviews were conducted in December 2009 and January 2010. The average duration was 45 minutes.

A purposive sampling strategy was followed seeking the maximum variation of dimensions describing the entrepreneurial population in Tyrol (Austria) (Patton, 2002) based on age, education, duration of entrepreneurial activity, industry, and number of employees, since these dimensions are crucial for the characteristics of the entrepreneurs' social networks according to the literature (see Table 2). Thus, the goal of the purposive sampling strategy was to find general mechanisms and structures describing entrepreneurial networks in Tyrol which are not restricted to industry-specific or demographic aspects. Furthermore, the selection of participants for the survey followed two additional criteria:

- The entrepreneurs and businesses were chosen according to the definition of small and medium-sized enterprises of the European Commission (2014), excluding businesses employing more than 249 employees.

- The company domicile of the entrepreneurs and businesses included in the survey had to be in Tyrol, Austria.

As a first step, 23 entrepreneurs with the aforementioned characteristics were contacted by e-mail and asked to participate in the research project. For the purpose of information, a brief description of the aims of the study was attached.

Eventually, 15 respondents agreed to participate in the study. Table 2 summarizes the information about the sample.

Table 2: Sample information (Source: Own illustration)

	Age	Gender	Education	Year of start-up	Industry	Employees
B01	48	Female	Degree in Business Management	2002	Consulting	0
B02	40	Male	Degree in Business Management	2008	Consulting	1 + Cooperating Partners
B03	31	Male	Degree in Business Management	2008	Mechatronic and Medical Technology	5
B04	62	Male	Plumber	1991	Construction	5
B05	45	Male	Degree in Physics	1996	Mechatronic	18
B06	48	Female	Secondary School	2001	Art and Multi Media	4
B07	52	Male	Polytechnic	2001	Electrical Engineering	2 + Cooperating Partners
B08	47	Male	Degree in Electrical Engineering	2008	Electrical Engineering and Renewable Energy	2
B09	43	Male	Mechanical Engineer	2002	Sanitarian Auxiliary Equipment	90
B10	40	Male	Doctoral Degree in Physics	1999	IT	86
B11	45	Male	Degree in Business Management	1995	Solar and Photovoltaic	5
B12	34	Male	Degree in Process Engineering	2007	Power Plant Technology	3
B13	42	Male	Secondary School	1989	Pharmaceutical	6
B14	42	Male	Doctoral Degree in Chemistry	1998	Pharmaceutical	6
B15	45	Male	Degree in Physics	2004	Construction	0

The transcribed interviews were analyzed applying the qualitative method GABEK (GAnzheitliche BEwältigung von Komplexität) which allows a holistic processing of complexity. GABEK is based on philosophical theories about understanding, explaining, learning, and the perception of Gestalten (Zelger, 2007). The theory of "Wahrnehmungsgestalten" (perceptive appearances) by Stumpf (1939) was transferred into a *Theory of Linguistic Gestalten* by Zelger (1999). GABEK allows a transparent organization of knowledge based on the natural processing of language. For analyzing the transcripts, a rule-based network of data is developed, taking both syntax and semantics into account (Zelger, 1999). The computer software *WinRelan* (Windows Relation Analysis) supports this process of analysis by systematizing unordered, but potentially significant, knowledge of members of interest groups, organizations, cultures or societies. This implementation allows researchers to analyze large unstructured texts based on everyday language. Notes, texts, quotations or areas of knowledge are condensed into transparent meaning nets, serving as a basis for the ongoing analysis. The deep structure enables the researcher to identify relations, evaluate options, set objectives, and recognize trends (Zelger et al., 2011). Based on the specific philosophical concept of comprehension and explanation (Zelger and Oberprantacher, 2002), the verbal information is represented as a formal indexing system, which can be used to represent linguistic knowledge in different forms.

For the representation of the linguistic knowledge, different representation styles may be used in order to acquire deep insights into the topic investigated:

- Association graphs based on verbal information within a social context transfer conceptual structures into mind maps of associations.

- Gestalten trees visualize linguistic Gestalten resulting from meaningful text groups containing three to nine text units that are coherent and fulfil syntactic and semantic rules and measures.

- Cause/effect graphs present causal assumptions inherent in the data.

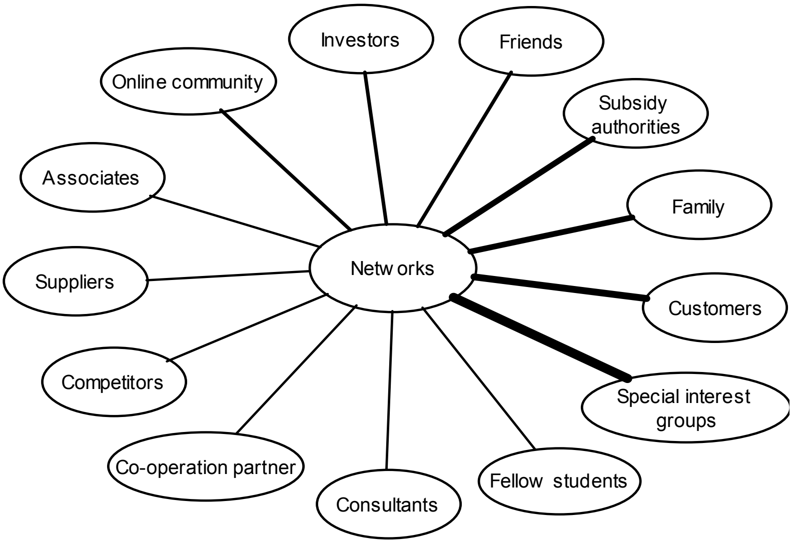
For a better understanding of the findings, the presentation of the results is accompanied by short descriptions of the methodological procedures.

4. Findings

4.1. Entrepreneurial Networks and Resource Access

At the beginning, we analyzed the textual data concerning the types of entrepreneurial networks and which kinds of resource access are connected with those different networks. First, an overview of the most relevant network partners is presented. In this step of the analysis, network partners that are connected much more frequently compared to other selected terms are filtered from the interview texts. This representation takes place with the help of an association graph expressing the interviewee's associations with the investigated phenomenon. The characteristics associated with the term "networks" are presented in Figure 1. Each linkage of the term is tied to the interviews by at least three texts. The bold printed lines represent the strongest connections between the notions.

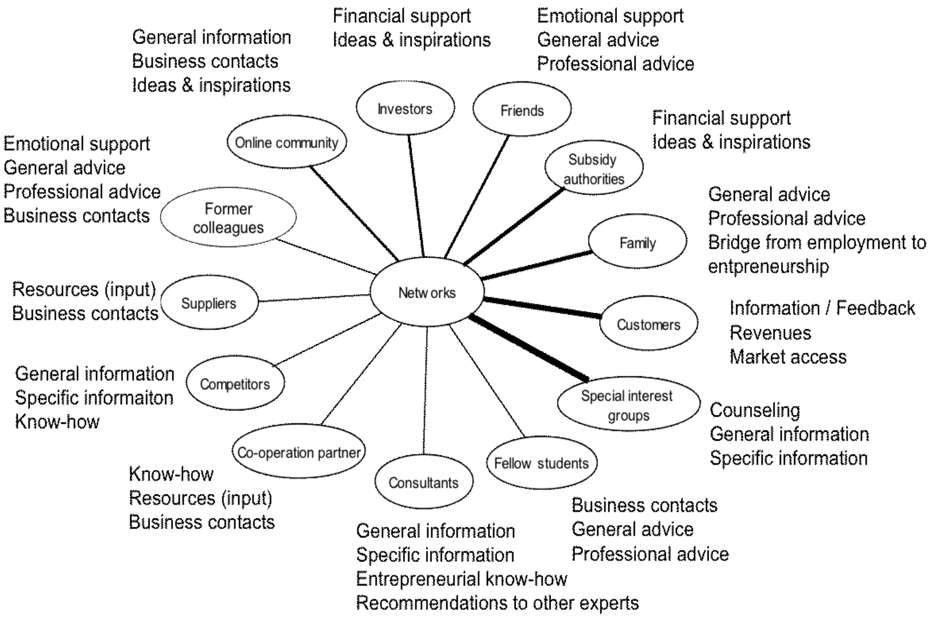
Figure 1: Association graph for “Networks” (Source: Own illustration)



Entrepreneurs associate the term “networks” with a number of different actors relevant to starting and doing business. These relationships are classified into groups of stronger and weaker ties. On the one hand, entrepreneurs share closer personal relationships with actors such as family, friends or fellow students. On the other hand, the interviewed entrepreneurs have named business relationships that are important for them. Customers, special interest groups, and subsidy authorities are named as the most important groups. Ties associated with the concept of network are most often a mixture of stronger ties (e.g., family and friends, customers, special interest groups, subsidy authorities, investors and online communities) and weaker ties (e.g. former colleagues, competitors, suppliers, co-operation partners, fellow students or consultants).

In the next step, we analyzed the text with the objective of finding which kinds of resources the entrepreneurs access from the networks. The identified resources are attributed to each network partner and are presented in Figure 2.

Figure 2: Association graph for "Networks" and "Resources" (Source: Own illustration)



Among the stronger ties, special interest groups, such as the Austrian Federal Economic Chamber, trade offices or professional associations, dispense useful information and specific know-how about important questions with regard to entrepreneurial activities. Customers, in addition to market access and revenues, are seen as useful sources for information about products and services through their feedback for quality improvements. The family serves as a group that gives not only general advice but also professional advice - the latter coming from family members who possess special, professional experience (e.g., a father who acts as manager or a mother as lawyer). Family support in bridging the time from employment to entrepreneurship is seen by most respondents as essential (for example, financial penalties in the early years generally require the support of a spouse or parents). Investors and subsidy authorities provide entrepreneurs with financial support, ideas and inspirations for their businesses. General and professional advice is given by friends and former colleagues, as well as fellow students; the latter two also count as significant sources of important business contacts. These business contacts are also related to other network partners such as online communities, suppliers, co-operation partners and consultants. The entrepreneurs also benefit from different forms of practical knowledge by consultants (e.g. business strategies), co-operation partners (e.g. process know-how) or competitors (e.g., quality know-how). Because of their integration into the value chain, suppliers as well as co-operation partners provide resources in the form of input variables. Finally, information as an intangible resource also plays a central role in the context of online communities, consultants and competitors.

It can be summarized that high significance is given to business contacts both for access to information relevant for the entrepreneurial activity as well as special know-how dependent upon the expertise of the network partners. Family, friends, fellow students and former colleagues are those persons who give the entrepreneurs general and professional advice. One interesting result is the emotional support primarily given by friends and former colleagues, not by the family. This fact can be explained in light of the perceived level of risk to family members with regard to a higher danger of losing one's livelihood by failing.

4.2. Relational embeddedness and trust

Questions as to how entrepreneurs categorize their relational embeddedness in the network context and to the role trust plays will be answered with the help of a Gestalten tree and a cause/effect relation graph. The Gestalten tree presents the most important topics discussed during the interviews. Figure 3 presents those topics that are of relevance to entrepreneurs concerning networks. It is the result of a cluster analysis using the method D2.[1] All concepts and meanings on the highest level of the Gestalten tree are derived from more complex details of the lower levels. On the highest level, at the left-hand side, we therefore find the most general results. Each Gestalt can be traced back to the original statements of the lower levels of the Gestalten tree.

1. The D2 method (squared Euclidean distance) clusters text units according to their resemblance in content. Thus, variance between the units is decreased. As a result, clusters comprise text units that are similar to each other but different to text units of other clusters. The researchers check the automatically derived clusters.

Figure 3: Gestalten tree "Networks" (Source: Own illustration)

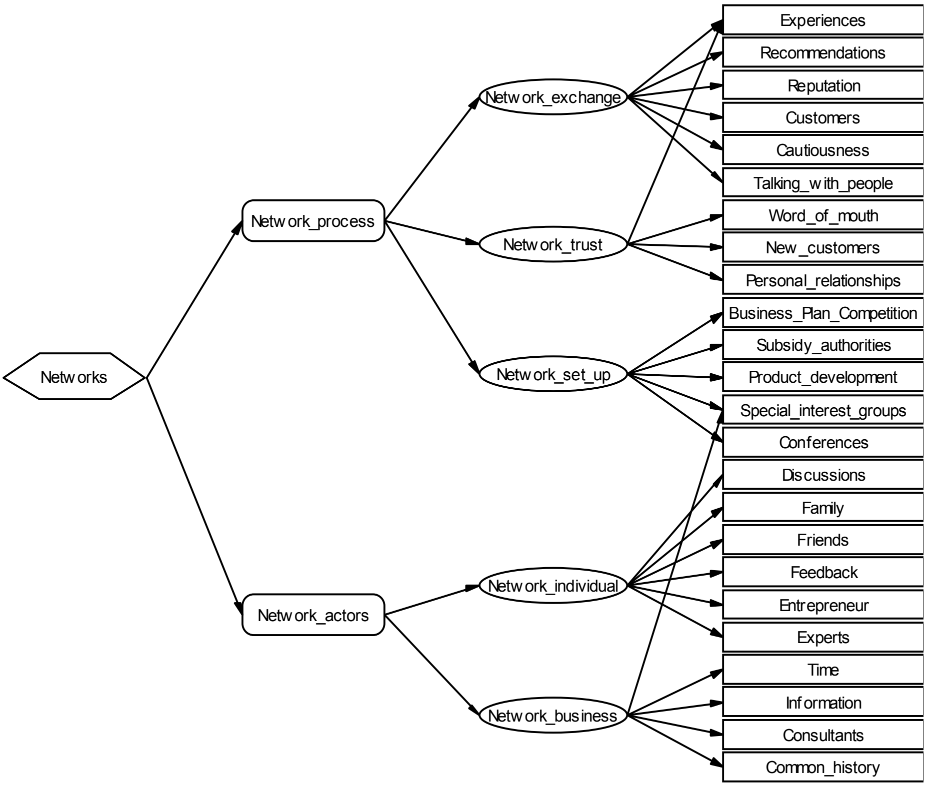


Figure 3 shows different levels of relevancy for the entrepreneurs concerning networks. Networks are the result of network processes and actors. Network processes refer to exchange, trust, and network set-up. Network actors are people or institutions that are separated into personal and business networks; from the entrepreneurs' points of view, they fulfil different roles and tasks. Some concepts of the lower levels of the Gestalten tree refer to more than one higher-level meaning. For instance, *experiences* (for a detailed explanation see the following paragraphs) are closely associated with *network exchange* and *network trust*. In the next step we present the summarized second- and third-order levels of the Gestalten tree to present the relational embeddedness in the context of network processes and network actors.

4.3. Network Process

Network processes refer to all phenomena and mechanisms involved in managing, setting up, and maintaining the entrepreneurial network. In this respect, entrepreneurs distinguish between the three concepts of *network exchange*, *network trust,* and *network set-up*. *Network exchange* encompasses aspects crucial in accessing social resources as well as outcomes derived from resource flows in the social network. In this respect, *experiences*, *recommendations*, *reputation*, *customers*, *cautiousness,* and *talking to people* are of importance.

- *Experiences:* Past own and external experiences are an important source of information for entrepreneurs. For instance, one entrepreneur reported sharing past experiences with fellow entrepreneurs concerning employing different working time models for his employees. Experiences are associated with the accumulation of knowledge based upon interactions with the entrepreneurial network. This concept therefore also emphasizes the history of the entrepreneurial network.

- *Recommendations* function as door-openers to indirect social ties and enhance access to social capital. Therefore, entrepreneurs seek contacts spreading recommendations and thereby opening-up business opportunities.

- *Reputation* refers to the standing of the entrepreneur in the marketplace. This concept is based upon trust rooted in entrepreneurial credibility and competence. High levels of reputation ease resource access and opportunity recognition.

- *Customers* of course are an important entrepreneurial association regarding exchange in social networks. This is especially true for customer relationships crucial for the relationships to other suppliers. In this respect, the entrepreneurial network is accessed as soon as the products or services have been created in cooperation with other network partners. Therefore, the reliability of cooperation partners is crucial. Trust plays a prominent role in this context.

- *Cautiousness* in managing entrepreneurial networks is very important. Sensitive issues are not shared with everybody. Furthermore, entrepreneurs seek balanced relationships regarding social debt, thereby avoiding dependencies and securing autonomy of agency.

- *Talking with people*: Communication is perceived as the foundation of successful entrepreneurial venturing. Resource access and opportunity recognition are based upon communication between the entrepreneur and his social network. In this respect, communication is important for setting up and maintaining social relationships. Face-to-face communication is perceived as most vital to success establishing relationships.

Network trust is discussed with regard to past *experiences* (for an explanation see the section on *network exchange*), *word-of-mouth*, *new customers,* and *personal relationships*. Word-of-mouth is seen as the most important source of embeddedness, as it speaks to the spread of reputation regarding quality and diminishes advertising expenses. Therefore, word-of-mouth is especially important during the start-up phase, when access to financial resources is mostly difficult. Network trust yields new customers by granting credibility and quality. Personal relationships to other network actors are important for gaining network trust. Sharing commonalities (e.g., interests like sports) facilitates the establishment of network trust between two parties. Evaluations and feedback from a relationship built on network trust are perceived as being relevant for business. These exchanges are treated confidentially.

Network set-up refers to important aspects and processes regarding the configuration of the entrepreneurial network. The network set-up is dependent upon actors like *subsidy authorities* and *special interest groups* and specific channels of tie management like *business plan competitions*, the processes of *product development*, and *conferences*.

- *Business plan competitions* spread new ideas and offer the opportunity to establish new relationships. A diversified audience is drawn to such events, enabling meeting up with various entrepreneurial characters. In this respect, business plan competitions offer opportunities for exchanging experiences and sharing resources.

- *Subsidy authorities* are important for venture implementation. These institutions grant access to financial resources, know-how, and social capital.

- *Product development:* External input is very important in product development. Customers, as well as family and friends, are reported to take a prominent role in this respect. Furthermore, joint product development processes help to strengthen relationships and to establish common aims between network actors.

- *Special interest groups:* Special interest groups such as the Chamber of Commerce or industry associations support entrepreneurs in establishing their business and facilitate development. Furthermore, some of these groups act as industrial lobbies. Events organized by these special interest groups enable the entrepreneur to establish relationships with other companies.

- *Conferences*, conventions, meetings or the participation in joint working groups are opportunities for networking. This is especially true for industry-specific contacts. Entrepreneurs report that technological information in particular can be accessed in these circumstances, enabling the entrepreneur to stay up-to-date with technology issues.

4.4. Network Actors

Network actors are divided into individual networks and business networks. This distinction refers to two different sources of connections. While individual ties have been established apart from the venture, business ties have been established due to the venture. Therefore, individual ties are mostly perceived as stronger than business ties. Furthermore, different resources are ascribed to different groups. The *individual network* refers to relationships existing apart from the entrepreneurial venture, but also activated when necessary for entrepreneurial reasons. The following concepts are discussed in this context.

- *Discussions:* Family and friends are often referred to as the “inner circle”. The inner circle is mostly incorporated in discussions concerning entrepreneurial intentions. Most of all confidential information and issues are debated. These discussion groups are only open to very strong ties.

- *Family:* The family represents a safe harbor for the entrepreneur by granting different kinds of support, such as moral or financial.

- *Friends:* Friends help in overcoming barriers and, are regarded as strong ties especially in granting moral and emotional support.

- *Feedback:* The feedback, especially from family and friends, helps the entrepreneur apply different perspectives, distinguishing the possible from the impossible. Therefore, feedback opens up new approaches for further development.

- *Entrepreneur:* Being an entrepreneur is associated with a huge amount of stress and debit. Heavy workloads and time-related pressures may negatively affect relationships with individual ties. For the entrepreneur it is of major importance that individual ties, especially those of the family, back the entrepreneur and his venture.

- *Experts:* They are often recruited from the individual part of the network by contacting colleagues from school or former employment. This procedure guarantees a certain amount of trust and confidentiality. These experts enable the entrepreneur to solve very specific problems at the time they occur.

Network business refers to relationships primarily established in the course of the entrepreneurial activity. Theses ties have been set up following a clear entrepreneurial agenda. The following concepts are associated with the business part of the network.

- *Special interest groups:* These groups (for a detailed explanation see the section *network set-up*) are clearly assigned to the business section of the network. Membership in these groups is partially obligatory.

- *Time:* Setting up and maintaining viable business contacts granting access to resources or opportunities is perceived to be a very sophisticated and time-consuming activity.

- *Information:* The most important resource provided by business ties is information. Fellow entrepreneurs or managers are mentioned in this respect. This is especially important in knowledge- and technology-intensive industries.

- *Consultants:* They provide important knowledge transfers with regard to setting the business up professionally and in the course of specific issues demanding precise problem-solving capabilities. The tasks and roles assigned to consultants are clear-cut. Furthermore, the timing of activating these ties is carefully planned.

- *Common history:* Sharing a common history or experiences facilitates the establishment of business ties. Furthermore, tie history is the foundation for sharing social capital.

The holistic perspective of the Gestalten tree allows for an in-depth view of how entrepreneurs are embedded in the relational context and referred actions. The category *network process* delivers useful knowledge for entrepreneurs about the objectives of network exchange (e.g., exchange of experiences, reputation). The results also highlight the importance of interacting with people. For this reason, entrepreneurs have to take an active role in networking. The category *network set-up* refers to the start-up phase for entrepreneurs and emphasizes certain institutions with which entrepreneurs should start networks to promote their products or services.

The *trust* perspective refers to personal relationships and the fact that entrepreneurs primarily trust the experiences and word-of-mouth recommendations of network partners. The network actors distinguish between individual networks, in which closer ties such as families and friends are of relevance, and personal contacts to other experts or entrepreneurs with whom the entrepreneurs have discussions and get feedback on different levels (e.g., professional or general advice). The business network is associated with the fact that these relationships are time-intensive but important for information exchange. The consultants and special interest groups are network partners who positively influence business development because of their expertise and organization of events bringing entrepreneurs together.

Additionally, the authors were interested in the role of trust and its favorable effects. The cause/effect relations are the results of experiences over time or of discussions of people. Based on the coding of causal relations, the researcher can generate causal network graphics with *WinRelan*. The coding process leads to the description of complex cause-effect relations. If, in the text, a causal opinion is identified, then the assumed influence is listed. A variable can lead to an increase or a decrease in an influenced variable (Zelger and Oberprantacher, 2002). Figure 4 presents favorable increasing effects of trust. All related linkages between the different keywords are named at least four times in different text. An interplay can be observed between *trust* and *reference*. The graphic is extended in order to present the linkages between reference, word-of-mouth, contacts, information, and support. Between contacts and information an additional interplay is identified.

Figure 4: Causal Net Graphic "Trust" (Source: Own illustration)

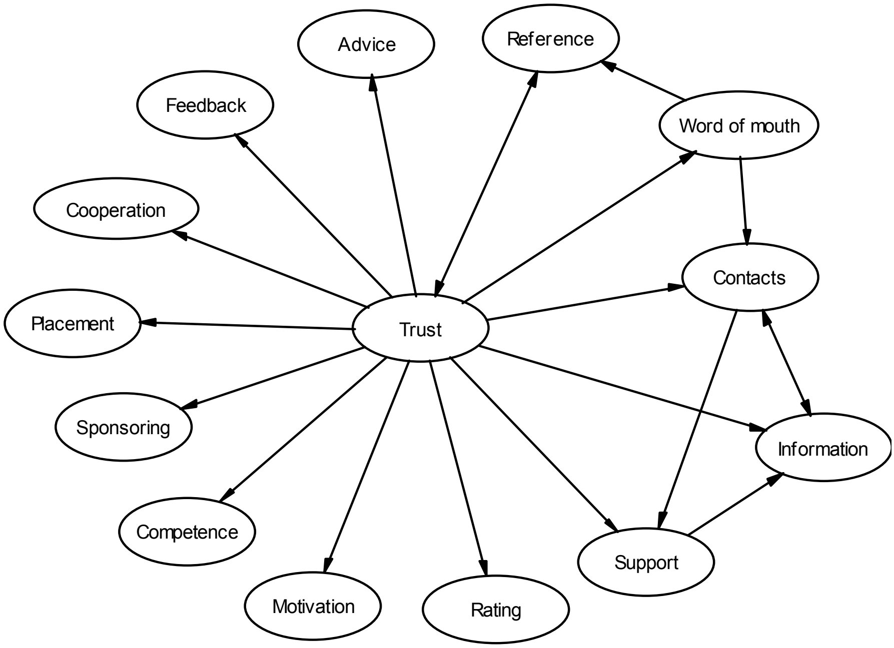


Figure 4 emphasizes that the trust inherent in a relationship is central when accessing social resources such as advice, feedback, sponsoring, motivation or information. The reciprocal relationship between references and trust is interesting. Actors only act as references if they trust each other and vice versa. In this respect, trust has to be established in order to facilitate reputation and word-of-mouth growth. Word-of-mouth, in turn, facilitates network contacts to act as references. Contacts are enhanced and further support yielded. Additionally, increasing contacts leads to access to information and vice versa. Figure 4 summarizes these relationships.

Some original statements that underline the interplay in Figure 4:

B10: *Personal trust is an important aspect. A contact is only of value if you trust someone.*
I34: *Personal relationships are relevant to me because the exchange of information and comments is essential for an entrepreneur. Sometimes it is necessary to talk with someone about things that are confidential.*
N51: *Okay. For me mutual trust is very important. I have asked a fellow student to work for my company. I know him well and, for an internal cooperation, the human factor has to be conformed. The character must be all right.*
M52: *If you know someone and he or she recommends me a person, a basic trust already exists. The network plays a central role. If a partner – whom I trust –*

recommends me to someone, he or she tells me the truth and I can count on his or her opinion.
A17: *I have gained the experience that, the more popular you are or the more trust you have built around your network, the easier you can realize things, the easier you receive money, and the easier you are recommended to others.*
B02: *I take the feedback from persons of the inner circle more seriously. This has nothing to do with their market experience. They are more capable because of their ratings. It depends on the topic.*
E41: *In the case of certain services and products, trust is essential. The more the customers trust you, the more they will advise you. The people must trust your competence as specialist.*
B04: *The contact to others. You know someone, this person knows another person. It works via word-of-mouth; you did a good performance, and they recommend you.*

Trust is an integrated component of entrepreneurial activities. Whom entrepreneurs trust has to do with the intensity of personal relationships or the entrepreneurs´ evaluation of expertise and know-how with network partners. As noted in the results presented, we have identified closer ties with family members and friends, that is, personal relationships. In the case of other network partners (e.g., consultants and special interest groups) trust based on personal relationships is replaced by expertise and know-how. Finally, if there is no personal relationship or expertise, the entrepreneurs experiences and word-of-mouth network partners.

5. Discussion

The findings of our study have shown that entrepreneurs clearly distinguish between network actors and resource access. Processes incorporate knowledge and information exchange, network creation or set-up, also trust, which can be interpreted as a lubricant to keep processes running (Anderson and Jack, 2002). As Figure 1 has shown, the entrepreneurs rely on networks encompassing a multitude of different actors. In line with Casson and Della Giusta (2007) different types of entrepreneurial networks facilitate different purposes. Entrepreneurs categorize the actors according to the reason behind the establishment of the tie. This distinction derived from data seems different than that from literature. Many authors simply differentiate between strong and weak ties (Granovetter, 1983; Jack, 2005); others between formal and informal ties (Birley, 1985; Bhattacharyya, 2010). The classification at hand seems to incorporate both views. In this respect, networks are divided into an individual and business part (see also Figure 3). Individual ties have been established without economic reasoning, but are still accessed for the entrepreneurial venture when possible. This is especially true for resources that have been identified as feedback, general/professional advice, or general discussions regarding the venture. Figure 1 gives an overview of the intensity of ties such as family or friends (the latter network also emotional support). Emotional support is a resource that is also provided by former colleagues. But, in contrast to friends, they are not associated as strong tie. Jack et al. (2004) have identified emotional support as an important network function of families. The fact that emotional support is not attributed to families in this study can be argued as being due to a higher perceived risk sensitivity of family members that is not as high in the case of friends and former colleagues. For this reason entrepreneurs perceive their families as more critical and fault-finding as compared to others, and that can lead to pressure and negative feelings.

Contrary to Jack (2005), employees were not addressed by the interviewees as having a role as network partners; although they might play an important role for the reputation and regional embeddedness of small and medium-sized enterprises (Peters and Siller, 2014). The missing consideration of employees as network partners may depend on how entrepreneurs view themselves in the business context. Because of the structure of small and medium-sized enterprises, the entrepreneurs take over many activities, tasks and responsibilities. This can be one reason for being more external-orientated concerning network partners. A further consequence of the smaller size is the given family atmosphere (Ritchie, 1993). Scott et al. (1989) argue that business owners define their firm as result of their own creation. In this regard, the owner sees employees as subordinates to the owner's view of what is best for the firm.

Business ties are established during entrepreneurial activity following a clear economic agenda that seeks to strengthen the entrepreneur. In line with the findings from Moyes (2012) and Jack (2005), the entrepreneurs mainly access information, know-how, expertise and various forms of support through the network itself and the process of networking. Bowey and Easton (2007) found that resource access acts as an incentive for tie establishment. The business network is crucial for gathering information, opportunities and/or industry-specific political influence.

It was also identified that some strong ties are mostly related to people the entrepreneurs know because of a common history (e.g., family, friends, former colleagues or students). Jack (2010) confirms that the build-up of successful networks is an evolutionary process. Establishing and maintaining the business part of the network is perceived as being very time consuming. This also refers to the homophily of ties (Kim and Aldrich, 2005). Shared similar norms and values might be less distinct in business ties. This might be important due to the fact that some relationships need to be maintained because of the position and/or reputation of a specific actor. The data at hand reports that sharing a common history and experiences helps overcome this liability. Therefore, ties from the business part of a network can become a component of the individual part, if the ongoing interaction leads to an emotional base. This supports findings by Jack (2010) that entrepreneurial networks shift from a more calculative structure to an affective one. This transition is facilitated by a growing number of shared experiences and the development of common norms and values facilitating the formation of trust, hence, enhancing the emotional foundation of the relationship.

The level of confidentiality seems to decide whether the accessed tie is an individual or business one. The findings highlight strong bonding with family and friends. These strong ties need to back the entrepreneurial venture in order not to act to impede it (Jack, 2005). Thus, these ties turn out to be more informal and strong. While the foundation of the individual part of the network is rather to be found in personal embeddedness (Hite, 2003) relating to the affective dimensions of trust (Lewis and Weigert, 1985), the base of the business part of the network is mostly rather hollow, or sustains competency embeddedness (Hite, 2003) relating to the behavioural dimension of trust (Lewis and Weigert, 1985). Competency embeddedness rooted in a history of dyadic interaction is important for individual and business ties. According to the data the cognitive dimension of trust plays a major role for accessing resources. Furthermore, the importance of sharing a past experience is emphasized for maintaining and establishing relationships. This experience relates to Hite's (2003) concept of competency embeddedness, which obtains its value from a history of dyadic interaction. The following quote indicates this relationship:

B31: *The network with people you share because of a common educational background, for example, fellow students, is a network of its own you can rely on. They take similar roads through life and have similar statuses. One helps each other in setting up everything.*

The authors therefore propose a strong relationship between competency embeddedness and cognitive trust. Furthermore, cognitive trust is related to personal embeddedness as the following quote demonstrates:

F37: *If I have a friend, it's something completely different, I do have a personal relationship with him and meet him regularly to exchange ideas, knowledge and information. And there are some people you only meet twice a year, but they are not so important to me compared to my friend.*

A further proposition is that resource access needs cognitive trust as a precondition for the establishment of personal or competency embeddedness. Hollow embeddedness can be interpreted as a lubricant for resource access, but does not seem to be sufficient on its own. The following quote emphasizes this proposition:

E39: *I made the experience that the more established you are or the more trust you have built up, the easier you can solve all issues—the easier you find sponsorships, to get recommended or whatever*.

Trust is an assumption for the maintenance of a viable relationship (Larson, 1992, Uzzi, 1996, Uzzi, 1997). For effectively establishing trust, keeping the relationship personal is very important. In this line of argumentation, establishing relationships using intermediaries like online social networks is sensed as being problematic due to a lack of control and transparency. In order to activate social networks enabling a flow of resources, trust plays a major role (see Figure 3 and Figure 4). Trust facilitates further enhancement of entrepreneurial networks by strengthening support, spreading reputation, and enlarging social capital through references. The more dimensions of trust a relationship is rooted in, the easier the access.

6. Conclusions

The objective of the study was to extend our understanding about network actors and networking processes. We have formulated three areas of research: *First*, we were interested in which kinds of entrepreneurial networks grant access to what kinds of resources. *Second*, we analyzed how entrepreneurs classify their relational embeddedness in the network context. *Third*, we investigated into the role of trust in conjunction with different forms of relational embeddedness.

The research highlighted a number of interesting aspects, which can be of importance for business network management. The understanding of actor-resource relationships in entrepreneurial networks is of high relevance for new business ventures as well as small and medium-sized firms because of limited resources. The entrepreneurs have to be aware of the importance of networks in gaining resources for their business activities. The networks are based on social relations and interactions and ask for proactive actions from entrepreneurs in promoting information and knowledge exchange with network partners.

For public institutions that foster the creation of regional clusters or for other public bodies who try to initiate strong networks (e.g. associations created to bundle the interests of industry members, such as chambers of commerce or non-profit initiatives), it is of utmost importance to understand that individuals strictly distinguish between network actors and processes.

While trust is the key factor for maintaining network processes, network managers focus on trust-creating initiatives instead of solely technical or structural measures. Every network has its individual or business dimension: however, family members or friends are very important actors influencing the success or output of networks overall. Further research should investigate under which circumstances private contacts improve the quality or evaluation of business networks. Business networks might be evaluated through private actors who then act as mediators of the overall network-actor composition.

Obviously, experience plays a major role when individuals discuss network exchange patterns and network trust (also see Welter, 2012). While networks' set-up patterns can be interpreted as "network formation variables", exchange and trust creation are those factors keeping the network alive and developing. However, some variables such as "conferences" play a role in both network exchange and network set-up. Further research should clearly investigate which forms (e.g., formal and open platforms such as conferences, or informal networks) and circumstances (e.g., a network formed under a commonly perceived situation of competitive pressure) of network creation are of higher importance for the overall evaluation of networks. These forms may be drastically influenced by technology innovations and therefore might change in nature. Major future research questions should address the question as to whether experience or reputation of individuals influences their patterns of network exchange and their perception of trust within the network.

Also, the findings of this exploratory survey partially support the reviewed literature. For example, Hite's (2003) concept of embedded network ties delivers a vital framework for investigating entrepreneurial networks. The entrepreneurs participating in this investigation hardly report fully embedded network ties drawing on all three dimensions of embeddedness. Rather, different actors are rooted in different dimensions of embeddedness. Therefore, this investigation reveals that there is great scope for entrepreneurs to optimize their entrepreneurial network. Cognitive trust enabling the entrepreneur to predict and evaluate tie performance as a precondition for a viable relationship. Entrepreneurs should seek to foster hollow and competency embeddedness in the individual part of the network as well as personal embeddedness in the business part. In this respect, the trust base of the relationship is enlarged and resource access enhanced. Furthermore, entrepreneurs should clearly investigate their network, distinguishing what kinds of resources they access from which actors. This would enhance the flow of resources from the whole network and further ease network maintenance and establishment. In this respect, future research should further investigate the antecedents of trust and embeddedness of ties.

The study at hand is of a qualitative nature and allows no generalization, but provides a deep insight into the process of entrepreneurial network management. This procedure rather describes networks instead of measuring them. The selection of interviewees strongly influences the presented results: the majority of businesses are small and medium-sized and some of them are family businesses. The interviewee situations varied strongly as these interviews took place at their business and in hotels and were sometimes interrupted by colleagues and employees. Qualitative research facilitates the development of a theoretical foundation. Quantitative methods reveal network structures, defined as patterns of relationships between directly and indirectly connected actors (Hoang and

Antoncic, 2003). Future research should try to adopt a multi-method approach by integrating qualitative and quantitative tools of research.

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