

The Personal Network of the Owner-Manager of a Small Family Firm: The Crucial Role of the Spouse

Tina Bratkovič
Boštjan Antončič
Mitja Ruzzier

The paper investigates the personal network of an entrepreneur that owns a small family venture. The aim of the present paper is to examine the role of the spouse in the family firm's networking. The research results show that the entrepreneur's wife has a significant influence on the family firm's network performing. She is present in all cliques that are formed in the entrepreneur's network, which allows her to obtain information from different sources, and to influence the decision making process in the network. She is also well connected with other network members, and is crucial in the resource-information acquisition process for the entrepreneur's firm. Furthermore, her central position in the network's structure gives her the power to reach other network members more quickly. She can reach other persons at shorter path distances than the entrepreneur or other members, and is therefore an important information provider for the entrepreneur's network. The key contribution of this paper is the finding that the spouse can be as important as or even more important than the entrepreneur in the resource and information provision for the firm.

Key Words: entrepreneur, personal network, family firm,
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Introduction

The entrepreneur's personal success and the success of their firms are often attributed to personal relationships or social networks. Burt (1992; 1997) referred to social networks as a form of social capital comparable

Tina Bratkovič is an Assistant at the Faculty of Management Koper, University of Primorska, Slovenia.

Dr Boštjan Antončič is a Professor at the Faculty of Management Koper, University of Primorska, Slovenia.

Dr Mitja Ruzzier is an Assistant Professor at the Faculty of Management Koper, University of Primorska, Slovenia.

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to human capital. While human capital can be considered as the range of valuable skills and knowledge a person has accumulated over time, Meyerson (2000, 289) defined social capital as 'the array of valuable relationships someone has accumulated over time' that gives a person access to the valuable resources embedded in their personal relationships (Lin 1982). The role of networks in the activities of individuals and organizations has its foundation in the idea of embeddedness (Granovetter 1992). Social networks have the ability to facilitate or constrain the activities of persons who are embedded in the network. Network perspective can be important for entrepreneurs (individual level) and their firms (organizational level) (Antončič 1999; Hoang and Antončič 2003; Ruzzier and Antončič 2007). Personal networks consist of persons with whom an entrepreneur has direct relations (Dubini and Aldrich 1991), and are considered to be more than the sum of individual connections that form the network (Aldrich and Zimmer 1986). Different sub-networks can represent the overall social network based on the content of ties (Brass 1992).

The paper investigates the issue of personal networking of an entrepreneur who owns a small family venture. The aim of the paper, and its key research contribution, is to examine the role of the spouse in the family firm's networking. Principal goals of the paper are to present structural characteristics of the entrepreneur's personal network, separately analyze the characteristics of the entrepreneur's personal sub-networks (resource acquisition network, information acquisition network, network of friends), and examine the role of the spouse in the family firm's networking.

In the following sections theoretical foundations are presented, research methods are described, findings are discussed and conclusions are drawn.

Theory

The entrepreneur, when seeking to achieve his personal and career goals, is in constant interaction with the environment. Therefore, the entrepreneur can not be treated as a rational decision maker isolated from others. Daily the entrepreneur has contacts with his or her family members, friends, employees, business partners, advisers, etc. These persons form the entrepreneur's personal network, which is considered to be one of the most important sources for the entrepreneur's firm. Through his or her personal network the entrepreneur has the access to many valuable resources (material, financial, human), information, advice and

emotional support. Particularly the entrepreneur's relatives are considered to be the most trustworthy network members.

A research into the business elite in Antwerp during the first half of the nineteenth century brings some evidences about the great influence of family members in entrepreneurship. The relatives played a key role in business life, and therefore were often present in the entrepreneur's personal network. The main reasons could be their skills, preparedness to work, and willingness to invest their capital. By having family members in the personal network the risk of doing business is reduced, and also the transaction costs are reduced. Further, family members are trustworthy, and they usually share the same culture and ethic at work (Rose 1995). Prior (1986) emphasizes that by marrying local girls the migrants became embedded in local business networks, which facilitated both their assimilation and the development of their careers. Hall (1992) affirms that through his wife the entrepreneur can expand his personal and business contacts, and therefore has access to a greater amount of information. Quite obviously, having family members in the personal network brings some advantages to the entrepreneur and his or her firm. The research question asking if there are some differences in performance among firms that include a greater number of family members and those that do not has attracted the attention of many researchers.

With regard to the above, in the past decade there have been conducted many studies about family business, some of them on copreneurship (Barnett and Barnett 1988; Smith 2000; Tompson and Tompson 2000; De Bruin and Lewis 2004; Millman and Martin 2007) and on the performance differences between family firms and non-family firms (Reid et al. 1999; Reid and Adams 2001; Brunninge and Nordqvist 2004; Ibrahim et al. 2004; Kotey 2005; Perez de Lema and Durendez 2007).

Several differences in performance characteristics between family firms and non-family firms have been identified (Ibrahim et al. 2004; Kotey 2005). For example, family firms have the benefits of higher gross margins and benefits from the support of the informal system, which is not a characteristic of larger firms or non-family firms (Kotey 2005). Further, a considerable number of family firms is lifestyle-firms. The main purpose of a lifestyle firm are to support the family (Reid et al. 1999). Other characteristics of family firms are family ownership, the involvement of family members in the decision making process, informal management style, and a considerable number of family members employed in the firm (Kotey 2005). An important quality of family firms

is thus the network of family contacts, which represents a useful source of information (Hoy and Verser 1994 in Cromie and O'Sullivan 1999). The family involvement in a firm has therefore a strong influence on the firm's performance and organizational behavior (Cromie and O'Sullivan 1999). The latter is evident from the management style of family firm's owners, which beside the firm's objectives takes into consideration also the family needs and objectives. Management style is therefore more informal (Daily and Dollinger 1993 in Kotey 2005). As a result, family firms tend to have a dual identity, which is present in the strategic decision making process. Firstly, there is a tendency to serve the family needs, and secondly a tendency to serve the business goals (Ibrahim et al. 2004). On the other hand, family firms frequently adopt more conservative strategies, particularly in the early stage of their life cycle. Frequently, family firms tend to maintain tight control of the strategic decision-making process within the family unit. As a result, in order to maintain the control within the family members, the owners often restrict the firm's growth and employment. Another characteristic of family firm's managers is smaller devotion to strategic planning and human resource management. Selecting and compensating employees in family firms are more complicated than in non-family firms, mainly due to the overlap of business and family needs (Perez de Lema and Durendez 2007; Reid and Adams 2001).

There is some evidence that family members of family firms are more privileged at work in comparison to non family personnel. With regard to their constant exposure to the family business they have a greater understanding of the business, and therefore have some advantages in developing their career (Cromie and O'Sullivan 1999). Furthermore, there is a greater commitment to the family culture. There is also evidence of less rigorous criteria to evaluate the performance of family members as employees (Kets de Vries 1993 in Cromie and O'Sullivan 1999). On the other hand, family members involved in the family business are supposed to make some sacrifices. In particular, the involvement of both the entrepreneur and his spouse takes a lot of their time, which could be otherwise spent with their families. Therefore, there exists a conflict between business interests and family interests (Liang and Dunn 2002). Further, family members are exposed to some risks. For example, the uncertainty of future income, the fear of losing capital, and as a result the higher stress among the family members (Scarborough and Zimmerer 1999 in Liang and Dunn 2002).

Another research area that has attracted the interest of many researchers is the involvement of women in entrepreneurship. Their high involvement in the sphere of business, particularly at the end of the twentieth century, brought many studies (Brindley 2005; Moore, Grunberg, and Greenberg 2005; Loscocco and Smith-Hunter 2004; Winn 2004; Orhan and Scott 2001; Cromie and O'Sullivan 1999). Nowadays women family members in family firms are taking more management responsibilities than ever. According to their skills and experiences they successfully complement the owner manager's skills. There is evidence of benefits associated with working in a more female dominated environment and also with having a female supervisor; there is a higher level of social support at work, job autonomy, less depression and lower levels of work – to – family conflict (Moore, Grunberg, and Greenberg 2005). Further, women managers in family firms are more successful in coordinating their family and business life, and have some privileges in developing their career inside a family firm than outside. The reason may be the absence of gender discrimination in the family firm, which could be otherwise present on the labor market. Therefore, women who are managers in their own family firms have advantages compared to woman managers in non-family firms (Cromie and O'Sullivan 1999). There is also evidence that women engaged in home-based business ownership experience less work – to – family conflict than women who are not engaged in home-based business ownership (Loscocco and Smith-Hunter 2004).

With regard to the involvement of both husband and wife in entrepreneurship, different researchers have started to direct their attention to family business, in particular to copreneurs and copreneurship (Barnett and Barnett 1988; Smith 2000; Tompson and Tompson 2000; Fitzgerald and Muske 2002; De Bruin and Lewis 2004). In these research studies family business is defined as business owned or managed by one or more family members (De Bruin and Lewis 2004), while copreneurship as a kind of entrepreneurship in which couples share the ownership in a business, and try to manage both the business relationship and the personal relationship. The latter requires a lot of devotion and sacrifices from both of them. Without regard to this research, De Bruin and Lewis (2004) stress the fact that familial entrepreneurship is under-researched and therefore there does exist the need for future research.

With this study we wish to examine the role of the spouse in the entrepreneur's personal network. By analyzing the structural characteristics

of the entrepreneur's personal network we investigate, which is the role of the entrepreneur's spouse in the family business. The key research question of this paper is: What is the role of the entrepreneur's spouse in the entrepreneur's personal network? We examine this question by exploring a case of a family firm entrepreneur's network structure.

Methodology

RESEARCH SETTING

The entrepreneur's small family firm was established in the late 1980s, and operates in the telecommunication industry. There were 165 enterprises operating in the Slovenian telecommunication industry in 2005. The firm is a small firm with a little more than 10 persons employed in the firm. The average rate of growth of employees was about 12% in 2005; meanwhile, the average rate of growth of total revenues was about 25%. The firm's profit was estimated at about EUR 500,000 in 2005. The entrepreneur was asked in a questionnaire to evaluate on a scale from 0 (not satisfied) to 7 (very satisfied) his satisfaction with the firm's amount of sales, firm's profit and his satisfaction in general. Although the business performance is not above the average results of the industry, the entrepreneur affirms that he is satisfied with the performance and the growth of the firm (the entrepreneur estimated his satisfaction with the amount of sales as 7, the firm's profit as 5, and his satisfaction in general as 6). The performance of the firm is consistent with the objectives of the entrepreneur. Thus, the entrepreneur's firm can be classified as a lifestyle firm. A lifestyle firm is usually privately held and has some specific characteristics. One of the most important characteristics is its modest growth, which is partly a consequence of the limited money invested in research and development, and partly because of the objectives of the entrepreneur. The main purpose of a lifestyle firm is to support the owners. Therefore, the growth and the expansion of the firm are usually not the main strategic orientations adopted by the entrepreneur (Hisrich and Peters 1998). These characteristics can also be recognized as characteristics of the firm from this research.

DATA COLLECTION

The research is based on the interview data collected about the entrepreneur's ego centered resource (material, financial, and/or human resources) acquisition network, information acquisition network and network of friends. The data collection technique used was a questionnaire. The entrepreneur was asked to list ten persons for each network

with whom he had direct personal relationships and who have been most important for the entrepreneur's firm. The entrepreneur and these persons were used as rows and columns for the composition of a relationship matrix for each of the sub-networks. The entrepreneur was then asked to evaluate on a scale from 0 (not important) to 10 (very important) each person's importance as a resource provider, an information provider and as a friend, as well as the perceived importance of each person for all other persons in the matrix. The entrepreneur was also asked to provide some additional information about himself (mostly demographic data), about the firm (age, size, industry, growth), and about each person in the network (frequency of interaction, friendship).

The entrepreneur named eleven persons as members of his personal network. In order to receive further information about the entrepreneur's personal network we elaborated the combinations of the three entrepreneur's personal sub-networks. Therefore, we could operate with seven different entrepreneur's personal networks (resources acquisition network, information acquisition network, network of friends, resources-information acquisition network, resources acquisition network and network of friends, information acquisition network and network of friends, resources-information acquisition network and network of friends).

METHODS OF DATA ANALYSIS

All seven networks were separately analyzed with methods of social network analysis. Firstly, we examined the entrepreneur's ego centered networks, which include the entrepreneur as the most central person, and secondly we analyzed the networks without the entrepreneur. Thus, we could find out who is the most important person within the entrepreneur's personal network.

The collected data were analyzed with the program Ucinet 6 for Windows (Borgatti et al. 2002). In order to present the research results in a more understandable way, the estimations were made with the binary type of data (and not with the data valued from 0 to 10). Ucinet 6 is a software for social network analysis. The latter can be defined as a set of methods for the examination of the structure of social relationships within a group. The purpose is to uncover the informal connection among social entities. Social network analysis is an important tool that helps one to understand connections between patterns of interaction and business performance (Ehrlich and Carboni 2006). These are

not individual entities and their attributes under investigation but the relationships among them.

The social network analysis requires a specific vocabulary, hence it is important to know the meaning of its concepts. The network represents a group of social entities and the linkages existing among them. Social entities in the network could be individuals, families, nations, organizations, departments of organizations, etc. From the point of view of social network analysis, social environment can be understood as patterns of relationships among interacting entities, while the structure of a network can be understood as a presence of regular patterns in these relationships. Social entities are linked to each other by relational ties, which can be affective, political, economic, religious, biological etc. The relation linkages among entities in a network have critical roles of channels, through which the flow of information, resources, support and advice can be transported (Wasserman and Faust 1994).

In this paper, only selected concepts of social network analysis were analyzed. The first one is network *density*. The density can be defined as the proportion of relations that are actually present in the network relative to the total number of possible relations. Estimating the density of the network represents the first step towards analyzing the social structure of the network under investigation. The density gives information on how cohesive and homogeneous is the network as a whole. The higher the density, the more connected are the actors of the network to each other (Martino and Spoto 2006). In order to measure the density, it is necessary to estimate the actual number of relations in the network and the theoretical maximum number of relations that could be present if each person were connected to all other persons in the network. Supposing, that there are G persons in the network, each person can be connected to $(G - 1)$ other persons. Thus, there can be $G(G - 1)$ possible pairs of persons. Therefore, the maximum number of relations that can be present in a network is equal to half of the total number of possible pairs of persons in the network: $G(G - 1)/2$. Supposing that the number of existing relations in the graph is L , then the formula to calculate the density is next (Wasserman and Faust 1994):

$$D = \frac{L}{\frac{G(G-1)}{2}} \quad (1)$$

When there is no connection among the members of the network,

which means that $L = 0$, the density is 0. On the contrary, when there are all possible relations present in the network ($L = G(G-1)/2$), the density is equal to 1. Thus, the interval of possible values of density is from 0 to 1.

The next concept of social network analysis used in this research is *reachability*. A person is reachable by another person when there is a set of connections through which a person can come from the 'source' person to the 'target' person (Hanneman 2006).

Another concept analyzed in the research is *centrality*. The centrality of a person within the network gives us the information on its structural importance. The purpose of analyzing the centrality is therefore to identify the most important person in the network. The assumption is that the most central person is the most powerful, and has the most strategic position inside the network. There are three different measures of point centrality that differ by the criteria used to measure point centrality: degree centrality, closeness centrality and betweenness centrality. The approach based on the point *degree* has the supposition that persons with higher degree, which means that they have more direct ties, are more powerful. The reason for their power is their autonomy inside the network, because they have more opportunities to gain information, more choices, and are not so dependant on other persons. The next approach, based on *closeness*, affirms that persons that can reach other persons at shorter path distances, and at the same time are also reachable by other persons at shorter path distances have more power. The third approach is based on *betweenness*. The latter concept means being between other persons, which gives to the person in between the status of being a broker. This person has the power to accelerate, slow down or even prevent the flow of information and resources. Although each of these three approaches has its own measure, they all have the same aim, which is to disclose how close are network members to the center of the action in the network (Izquierdo and Hanneman 2006).

Through the methods of social network analysis we also analyzed if there were any cliques in the personal network of the entrepreneur. A *clique* is defined as a sub-set of persons in which every possible pair of persons is directly connected by a relation. Each person is in reciprocal relation with all other persons in the clique (Scott 1991).

Findings

The research results will be discussed for each personal network of the entrepreneur separately. In order to find out the most central person

within the members of the entrepreneur's network, we will discuss the results also for networks in which the entrepreneur is not taken into consideration (networks without the entrepreneur).

The entrepreneur listed four persons in his resource acquisition network (see figure 1). These persons are resource providers for the entrepreneur's firm. As information and advice providers the entrepreneur listed six persons. Thus, the information acquisition network includes six different persons (see figure 2). The third personal network, which is the network of friends, comprehends three persons (see figure 3). There was an overlap in listing persons; Persons 1 and 2 were named two times. Firstly, the entrepreneur named them as resource providers for the firm, and secondly as information providers. Therefore, the entrepreneur listed altogether eleven different persons. Persons 1, 3 and 4 are entrepreneur's relatives. Person 1 is the entrepreneur's wife. The entrepreneur described Person 1 as formally connected to the firm, which means she could be both an employee and firm's owner. Person 3 is the entrepreneur's brother, while Person 4 is the entrepreneur's daughter. Both are important as resource providers for the firm, and are not formally connected to the firm. Persons 5, 6, 7 and 9 are employed in the firm, but are not in relation with the entrepreneur, while Persons 2, 8, 10 and 11 are nor formally connected to the firm, neither in relation with the entrepreneur. The research results indicate a strong connection between the entrepreneur and Persons 1, 6 and 7. Their importance as resource and information providers for the entrepreneur's firm is very high.

In the entrepreneur's resource acquisition network the entrepreneur and Person 1 are the main resource receivers (degree centrality; tables of results of these and other calculations are not shown due to the limited length of the paper). The entrepreneur is a resource provider for three persons, while Person 1 (entrepreneur's wife) is a resource provider for two other network members. When investigating the network without the entrepreneur, Person 1 is the main resource receiver (highest degree centrality). With regard to closeness and betweenness centrality the entrepreneur is the most central member of the network. The latter is a consequence of the entrepreneur's ego centered network methodology. There are three cliques formed in the network. Each clique includes the entrepreneur and Person 1. In the resource acquisition network in which the entrepreneur is not considered, no cliques are found. The density of the network is higher in the network which includes the entrepreneur than it is in the network without the

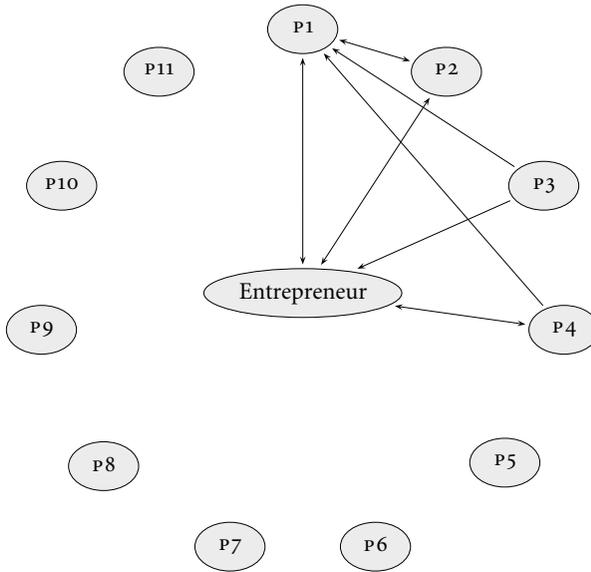


FIGURE 1 Resource acquisition network

entrepreneur. This finding is the same for all examined sub-networks, because of the methodology used in the study (entrepreneur’s ego-centered network methodology). The entrepreneur, Persons 1, 2 and 4 are the most reachable persons in the network, while Persons 1 and 2 are the most reachable persons in the network without the entrepreneur.

The entrepreneur and Person 1 have the highest indegree centrality in the entrepreneur’s information acquisition network (see figure 2). The latter indicates that the entrepreneur and Person 1 are the most important information receivers for the firm. Person 1 is also the most important information provider. In the information acquisition network, in which the entrepreneur is not considered, Person 1 has the highest degree centrality. Therefore, the most important information provider and receiver for the entrepreneur’s firm is the entrepreneur’s wife. While the entrepreneur has the highest closeness centrality, Person 9 is the second most central person regarding closeness centrality. Person 1 has the highest betweenness centrality in the entrepreneur’s network. Therefore, she has the power to speed up or hinder the flow of information among the network members. Three cliques are found in the information acquisition network, in which Person 1 is always included, even when the en-

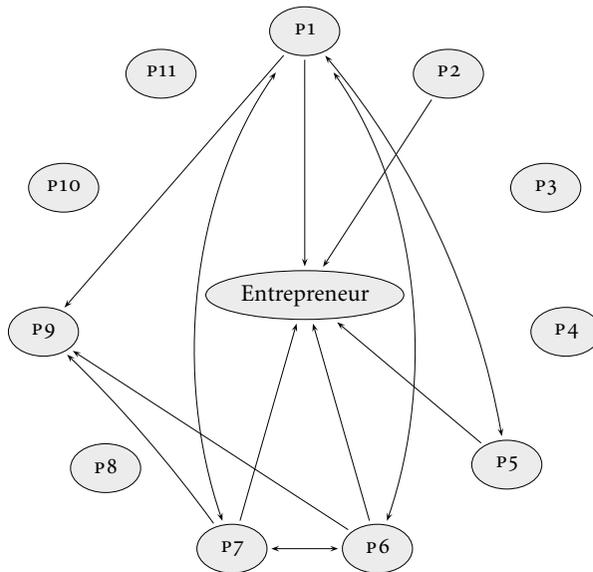


FIGURE 2 Information acquisition network

trepreneur is not. Thus, Person 1 has a strong influence on the decision making process within the network. Person 9 is the most reachable person in the information acquisition network without the entrepreneur.

The highest degree, closeness and betweenness centrality in the entrepreneur's network of friends is held by the entrepreneur (see figure 3). There are no relational ties among the members of the entrepreneur's network of friends, hence there are no cliques found in the network. Further, the density of the network in which the entrepreneur is excluded is 0. Therefore, no one from the network can be reached by any other person, except by the entrepreneur.

In the entrepreneur's resource and information acquisition network Person 1 has the highest degree centrality (see figure 4). This indicates that Person 1 is the most important resource and information provider and receiver for the entrepreneur's firm. Person 1 is even more important than the entrepreneur. Person 9 has the highest closeness centrality, while the highest betweenness centrality is reached by Person 1. The entrepreneur's wife is positioned between other network members, and therefore has the power to influence the flow of information and resources. She can accelerate, slow down or prevent the flow of information. There are 6 cliques in the network. Each clique includes Person 1,

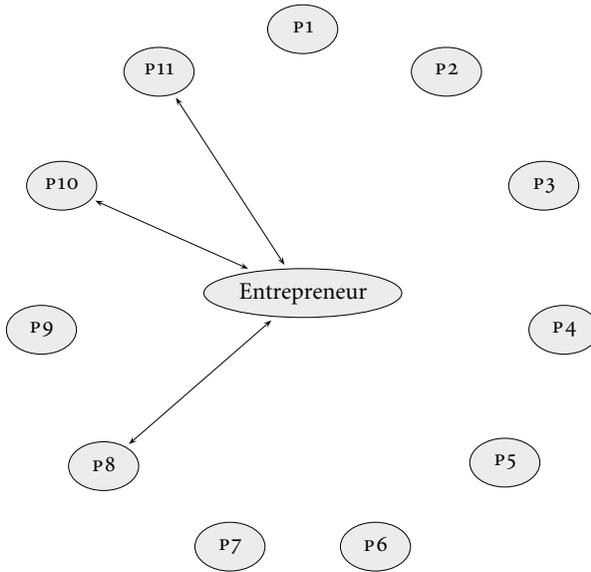


FIGURE 3 Network of friends

which gives her the power to influence other network members. Person 9 is the most reachable person in the network in which the entrepreneur is not included.

In the combination of the resource acquisition network and network of friends the entrepreneur has the highest degree centrality. When analyzing the network without the entrepreneur we found out that the highest degree, closeness and betweenness centrality is reached by Person 1. Three cliques are formed in the network with the entrepreneur. All three cliques include the entrepreneur and Person 1. In the network, in which the entrepreneur is not present, there are no cliques. Thus, the entrepreneur is the only connection among the network members. Persons 1 and 2 are the most reachable persons in the network in which the entrepreneur is not taken into consideration.

In the combination of the information acquisition network and network of friends the entrepreneur has the highest indegree centrality, while the person with the highest outdegree centrality is Person 1. The entrepreneur has also the highest betweenness and closeness centrality in the network. In the network, in which the entrepreneur is not taken into consideration, Person 1 has both the highest indegree and the highest outdegree centrality. Furthermore, Person 1 has the highest between-

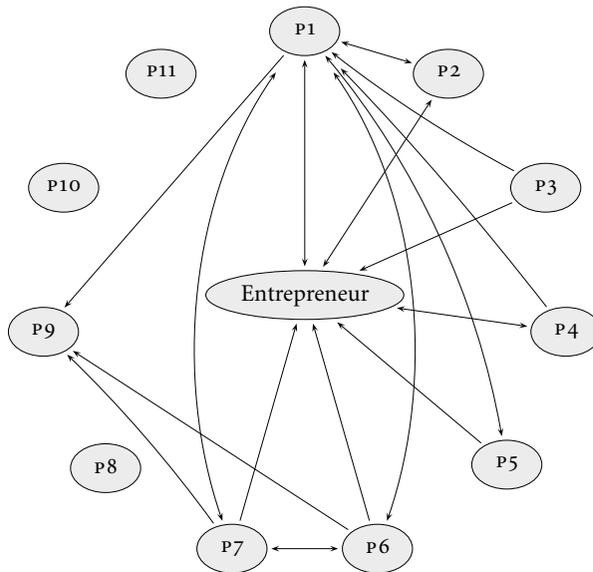


FIGURE 4 Resource and information acquisition network

ness and outcloseness centrality, while the highest incloseness centrality is reached by Person 9. There are three cliques present in the entrepreneur's network. Person 1 is included in every clique, even when the entrepreneur is not included. The latter indicates that Person 1 has direct or indirect contacts with many network members, independently of the presence of the entrepreneur. Beside the entrepreneur, Person 9 is the most reachable person in the entrepreneur's network.

The last analyzed entrepreneur's network is represented by the combination of all three entrepreneur's personal sub-networks, which are the resource acquisition network, information acquisition network, and network of friends (see figure 5). Regarding degree centrality, both the entrepreneur and Person 1 have the highest outdegree centrality in the network. The entrepreneur reaches also the highest indegree, closeness and betweenness centrality. When the estimations are made for the network, in which the entrepreneur is not considered, Person 1 (the wife) has the highest degree, betweenness and outcloseness centrality. While the highest incloseness centrality is reached by Person 9. There are six cliques found in the network. Person 1 is present in every clique, even when the entrepreneur is not included. The research results indicate that the entrepreneur is the most reachable person in the network, while Person 9

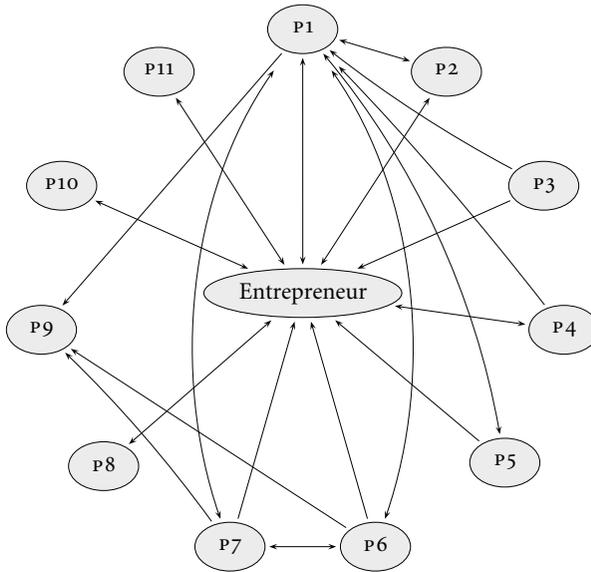


FIGURE 5 Resource-information acquisition network and network of friends

is the second most reachable person in the network. The findings are summarized in table 1.

Conclusion

The personal network of the entrepreneur who owns and manages a small family venture was examined in this paper, with a special emphasis on the role of the spouse in the family firm's networking. The findings indicate that the entrepreneur's wife has a significant influence on the family firm's network performance. She is present in all cliques that are formed in the entrepreneur's network, which allows her to get information from different sources and to influence the decision making process in the network. She is also well connected with other members of the network and is crucial in the resource and information acquisition process for the entrepreneur's firm. Furthermore, her central position in the structure of the network gives her the power to reach other network members more quickly. She can reach other persons at shorter path distances than the entrepreneur or any other network member, and is an important information provider for other members in the entrepreneur's personal network.

Overall, the findings point to the importance of the spouse in the fam-

TABLE 1 Summary of the findings about the entrepreneur's personal network

Personal sub-network	Key findings
Resource acquisition network	The entrepreneur's wife is the most central person in the entrepreneur's network. She has the highest degree, closeness and betweenness centrality within the network members, and is also one of the most reachable persons within the network. She is the most powerful member of the network, and has the most strategic position inside the network.
Information acquisition network	The entrepreneur's wife is the most important information receiver and provider, and has the power to accelerate, slow down or prevent the flow of information among the network members. She is present in all cliques that are formed within the network, which gives her the power to influence the decision making process.
Network of friends	The entrepreneur's personal network includes three different persons. The members within the network are not connected to each other. Their only point of connection is the entrepreneur; therefore the members are disconnected without the entrepreneur. Thus, there are no cliques inside the network.
Resource and information acquisition network	The entrepreneur's wife is the most important resource and information provider and receiver in the network. Thus, she is even more important in the process of information and resource acquisition than the entrepreneur. She is positioned between other network members, which gives her the power to influence the flow of resources and information.

Continued on the next page

ily firm's networking. The key contribution of this paper is the finding that the spouse can be as important as or even more important than the entrepreneur in the resource and information provision for the firm. However, such finding is usually not visible in formal enterprise structures. It can only be found through a thorough analysis of the structure of the entrepreneur's personal network.

The research results suggest some implications for practice and future research directions of entrepreneurial networks. The investigation of the overall structure of the entrepreneur's personal network enables the disclosure of the informal network's structure, which is considered to be even more important for the entrepreneur's firm than the formal structure. Therefore the latter could have important implications for entrepreneurial practice. For example, if the entrepreneur identifies the most important network members for his or her firm, he or she

TABLE 1 *Continued from the previous page*

Resource acquisition network and network of friends	In the network, in which the entrepreneur is not present, the entrepreneur's wife has the highest degree, closeness and betweenness centrality. Therefore, she is the most central person in the entrepreneur's network. She is present in all cliques that are formed in the network.
Information acquisition network and network of friends	The entrepreneur is the main information and friendly support receiver in the network, while his wife is the main information and friendly support provider. The entrepreneur's wife is crucial in the process of giving information and advice to network members. She is also present in all cliques that are formed in the entrepreneur's personal network.
Resource-information acquisition network and network of friends	The entrepreneur's wife has the highest number of direct contacts. She is positioned between other members, which gives her the power to influence the flow of information. Furthermore, she can reach other persons at shorter path distances. Therefore she spends less time on communicating with others. She is also present in all cliques in the entrepreneur's network, which allows her to get information from different sources and to have an influence on the decision making process.

can devote more attention to maintaining and developing relations with these persons. Furthermore, the information about the structure of the entrepreneur's personal network is also helpful for persons outside the firm, because it reveals who is the most influential person inside the entrepreneur's network. Having the most strategic position within the network brings some benefits: e. g., to reach other network members at shorter path distances and to influence the decision making process within the network. Therefore, by identifying the most influential persons inside the network it is easier to arrange contracts or implement changes in the firm, like firm reorganizations, consulting projects etc. In sum, identifying the informal structure of the entrepreneur's personal network through a thorough social network analysis could be of great importance for the firm's performance.

Although the research results contribute to the theory of family firms' networking, some limitations of the research can be recognized. First, the investigation of the role of the spouse in the family firm's networking was carried out only on one case of family firm's network structure. Therefore, the methodology does not allow for further generalization. However, we are convinced that in many family firms, spouses have similarly important network roles. Second, the entrepreneur's personal network in

the study is the result of the entrepreneur's perception about the structure of the relationships within his personal network. Therefore, in future research the views of other members of the entrepreneur's personal network should be considered, which would enable a more accurate insight in to the entrepreneur's network. The future directions should be also toward samples that would allow for generalization. Further, little attention is paid to the empirical research of copreneurs (Fitzgerald and Muske 2002), hence an in-depth research of copreneurs' networking in family firms would significantly contribute to the theory and practice of copreneurship.

References

- Aldrich, H., and C. Zimmer. 1986. Entrepreneurship through social networks. In *The art and science of entrepreneurship*, ed. D. L. Sexton and R. W. Smilor, 3–23. Cambridge: Ballinger.
- Antoncic, B. 1999. Entrepreneurship networks: a review and future research directions. *Slovenian Economic Review* 50 (3): 195–221.
- Barnett, F., and S. Barnett. 1988. *Working together: Entrepreneurial couples*. Berkely, CA: Ten Speed Press.
- Borgatti, S. P., M. G. Everett, and L. C. Freeman. 2002. *Ucinet for Windows: Software for social network analysis*. Harvard: Analytic Technologies.
- Brass, D. J. 1992. Power in organizations: A social network perspective. *Research in Politics and Society* 4:295–23.
- Brindley, C. 2005. Barriers to women achieving their entrepreneurial potential: Women and risk. *International Journal of Entrepreneurial Behaviour & Research* 11 (2): 144–61.
- Brunninge, O., and M. Nordqvist. 2004. Ownership structure, board composition and entrepreneurship: Evidence from family firms and venture-capital-backed firms. *International Journal of Entrepreneurial Behaviour & Research* 10 (1–2): 85–105.
- Burt, R. S. 1992. *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.
- . 1997. The contingent value of social capital. *Administrative Science Quarterly* 42 (2): 339–65.
- Cromie, S., and S. O'Sullivan. 1999. Women as managers in family firms. *Women in Management Review* 14 (3): 76–88.
- Daily, C. M., and M. J. Dollinger. 1993. Alternative methodologies for identifying family vs. non-family businesses. *Journal of Small Business Management* 31 (2): 70–90.
- De Bruin, A., and K. Lewis 2004. Toward enriching united career theory: familial entrepreneurship and copreneurship. *Career Development International* 9 (7): 638–46.

- Dubini, P., and H. Aldrich. 1991. Personal and extended networks are central to the entrepreneurial process. *Journal of Business Venturing* 6 (5): 305–13.
- Erlich, K., and I. Carboni. 2006. Inside social network analysis. Collaborative user experience technical report, IBM Corporation.
- Fitzgerald, M. A., and G. Muske. 2002. Copreneurs: An exploration and comparison to other family businesses. *Family Business Review* 15 (1): 1–15.
- Granovetter, M. 1992. Problems of explanation in economic sociology. In *Networks and organizations*, ed. N. Nohria and R. G. Eccles, 25–56. Boston, MA: Harvard Business School Press.
- Hall, C. 1992. *White, male and middle class*. Cambridge and Oxford: Polity.
- Hanneman, R. 2006. *Introduction to social network methods*. Riverside: University of California.
- Hisrich, R. D., and M. P. Peters. 1998. *Entrepreneurship*. 4th ed. Boston, MA: Irwin McGraw-Hill.
- Hoang, H., and B. Antoncic. 2003. Network-based research in entrepreneurship: A critical review. *Journal of Business Venturing* 18 (2): 165–87.
- Hoy, F., and T. G. Verser. 1994. Emerging business, emerging field: Entrepreneurship and the family firm. *Entrepreneurship Theory and Practice* 19 (1): 9–24.
- Ibrahim, A. B., J. McGuire, K. Soufani, and P. Poutziouris. 2004. Patterns in strategy formation in a family firm. *International Journal of Entrepreneurial Behaviour & Research* 10 (1–2): 127–40.
- Izquierdo, L. R., and R. A. Hanneman. 2006. Introduction to the formal analysis of social networks using Mathematica. http://library.wolfram.com/infocenter/MathSource/6638/Izquierdo_Hanneman_2006.pdf.
- Kets de Vries, M. E. R. 1993. The dynamics of family controlled firms: The good and bad news. *Organizational Dynamic* 21 (3): 59–71.
- Kotey, B. 2005. Goals, management practices, and performance of family SMEs. *International Journal of Entrepreneurial Behaviour & Research* 11 (1): 3–24.
- Liang, C.-I., and P. Dunn. 2002. The impact of starting a new venture on the entrepreneur and their family: Expectations, reality, and willingness to start again. *Journal of Business & Entrepreneurship* 14 (1): 1–16.
- Lin, N. 1982. Social resources and instrumental action. In *Social structure and networks analysis*, ed. P. V. Marsden and N. Lin, 131–45. Beverly Hills, CA: Sage.
- Loscocco, K., and A. Smith-Hunter. 2004. Woman home-based business owners: insights from comparative analyses. *Women in Management Review* 19 (3): 164–73.
- Martino, F., and A. Spoto. 2006. Social network analysis: A brief theoret-

- ical review and further perspectives in the study of information technology. *PsychNology Journal* 4 (1): 53–86.
- Meyerson, E. 2000. Human capital, social capital and the compensation: The contribution of social contacts to manager's incomes. In *Knowledge and social capital: Foundations and applications*, ed. E. Lesser, 287–311. Boston, MA: Butterworth-Heinemann.
- Millman, C., and L. M. Martin. 2007. Exploring small copreneurial food companies: Female leadership perspectives. *Women in Management Review* 22 (3): 232–9.
- Moore, S., L. Grunberg, and E. Greenberg. 2005. Are female supervisors good for employee job experiences, health, and wellbeing? *Women in Management Review* 20 (2): 86–95.
- Orhan, M., and D. Scott. 2001. Why women enter into entrepreneurship: An explanatory model. *Women in Management Review* 16 (5): 232–47.
- Pérez de Lema, D. G., and A. Duréndez. 2007. Managerial behaviour of small and medium-sized family businesses: An empirical study. *International Journal of Entrepreneurial Behaviour & Research* 13 (3): 151–72.
- Prior, M., ed. 1986. *Women in English society, 1500–1800*. London: Methuen.
- Reid, R. S., and J. S. Adams. 2001. Human resource management: A survey of practices within family and non-family. *Journal of European Industrial Training* 26 (6): 310–20.
- Reid, R., B. Dunn, S. Cromie, and J. Adams. 1999. Family orientation in family firms: A model and some empirical evidence. *Journal of Small Business and Enterprise Development* 6 (1): 55–67.
- Rose, M. B., ed. 1995. *Family business*. Aldershot: Elgar.
- Ruzzier, M., and B. Antoncic. 2007. Social capital and SME internationalization: An empirical examination. *Transformations in Business & Economics* 6 (1): 122–38.
- Scarborough, N. M., and T. W. Zimmerer. 1999. *Effective small business management: An entrepreneurial approach*. Upper Saddle River, NJ: Prentice Hall.
- Scott, J. 1991. *Social network analysis: A handbook*. London: Sage.
- Smith, C. S. 2000. Managing work and family in small 'copreneurial' business: An Australian study. *Women in Management Review* 15 (5–6): 283–9.
- Tompson, G. H., and H. B. Tompson. 2000. Determinants of successful copreneurship. Paper presented at the ICSB World Conference, Brisbane.
- Wasserman, S., and K. Faust 1994. *Social network analysis, methods and applications*. Cambridge: Cambridge University Press.
- Winn, J. 2004. Entrepreneurship: Not an easy path to top management for women. *Women in Management Review* 19 (3): 143–53.