

Linking Bonding and Bridging Ownership Social Capital in Private Firms: Moderating Effects of Ownership-Management Overlap and Family Firm Identity

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Abstract: This study examines the relationship between bonding and bridging ownership social capital (OSC) for a random sample of 679 privately held small and medium-sized firms. Results confirm the positive effects of bonding OSC (quality of relationships and shared vision) on bridging OSC (network mobilization) as well as two- and three-way moderator effects of family firm identity and ownership-management overlap. Moderator effects are more robust, however, for the shared vision indicator of bonding OSC. Implications for social capital theory, social and organizational identity theory, and family firm research and practice are discussed.

Keywords: social capital, ownership, family firm identity, organizational identity, business-owning group

INTRODUCTION

Drawing from the social capital literature, this paper identifies certain antecedents of network mobilization by a group of people owning a company together (henceforth referred to as the *business-owning group*). *Network mobilization* refers to the utilization of one's outside networks to benefit one's group or organization (Lin, 1999, 2001), also referred to in the social capital literature as *bridging* (Burt, 1997; Elfring & Hulsink, 2003). Network mobilization can have far-reaching benefits, including enhancement of a firm's intellectual

capital (Nahapiet & Ghoshal, 1998), greater access to information (Adler & Kwon, 2002), knowledge transfer (Reagans & McEvily, 2003), innovation (Zheng, 2010), and firm performance (Westlund & Adam, 2010). However, empirical research that explores the possible antecedents of such mobilization, including its relationship to internal social capital (also known as *bonding*) remains scarce (Gedajlovic, Honig, Moore, Payne, & Wright, 2013; Payne, Moore, Griffis, & Autry, 2011). We examine this relationship in the context of the business-owning group.

One challenge in teasing apart the independent influence of owners (especially in the private-firm context) is that they often share membership with other groups within or outside the firm (e.g., the family and/or the top management team) (Oh, Labianca, & Chung, 2006). The three-circle model, widely cited in the family business field, recognizes this shared membership, in its representation of the overlapping subsystems of family, ownership, and the business (Tagiuri & Davis, 1996). Nevertheless, past studies may confound internal social capital effects due to family vs. the owning group, by sampling only from family firms (e.g., Carr, Cole, Ring, & Blettner, 2011; Sorenson, Goodpaster, Hedberg, & Yu, 2009). Similarly, by assuming that all small and medium sized enterprise (SME) directors are owner-managers, entrepreneurship researchers often confound effects of management vs. ownership (Carr, Parker, Castleman, & Mason, 2013; Gordon, Hamilton, & Jack, 2012; Preechanont & Lu, 2013). The first objective of this paper is to explore whether *bonding ownership social capital* (henceforth referred to as *bonding OSC*) as represented by quality of relationships and (the extent of) a shared vision among owners, is associated with network mobilization by the owners. A second objective is to examine whether either family firm identity or ownership-management overlap moderates this relationship.

This paper makes several key contributions to the business literature. First, it contributes to the social capital literature by verifying (based on perceptual data from key

informants) that business-owning groups serve as an important independent source of bonding social capital in both family and nonfamily (privately-held) firms. Second, counter to previous suppositions, our study demonstrates that bonding OSC and network mobilization are positively related. Third, by examining not only two-way but also triple interaction effects, we underscore the importance of taking all three circles into account, i.e., family, owning group and the business, to explain the social capital phenomenon. The study also provides further insights into social identity theory and proactive behavior of owners.

The next section provides a review of the relevant literature, including applications of social capital, the family effect and ownership-management overlap. This is followed by a presentation of the framework and the rationale for the hypotheses. The method section describes the sample, data collection, variables, and data analysis. The final two sections cover the results, discussion and conclusion.

BACKGROUND

Applications of social capital theory

Social capital can be defined as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network” (Nahapiet & Ghoshal, 1998, p. 243). Social capital has been extensively explored at several levels of analysis, including national (Stephan & Uhlaner, 2010), organizational (Leana & Van Buren, 1999), and group levels (Oh et al., 2006), including that of the family (Arregle, Hitt, Sirmon, & Very, 2007; Carr et al., 2011; Pearson, Carr, & Shaw, 2008). Social capital scholars differ in their focus on bonding versus bridging social capital (e.g., Adler & Kwon, 2002; Lin, 1999; Payne et al., 2011; Sharma, 2008). *Bonding social capital* refers to the nature of *internal* social relationships within a collective (Payne et al., 2011), and in the family business and organization behavior

literatures has been operationalized as trust and associability, i.e., collective goal orientation (Leana & Van Buren, 1999; Arregle et al., 2007). In contrast, *bridging social capital* refers to the actions taken by members of a social unit to enhance its external network (Burt, 1997; Elfring & Hulsink, 2003; Lin, 1999) or to the external network itself (Sharma, 2008). In the present study, we consider the external network as an aspect of a group's *structure*.

The family effect: Family involvement, family essence and family firm identity

The family effect is a second key concept examined in the present study. Despite the widespread usage of family involvement to operationalize the “family effect,” the measure's lack of consistent, predictive value is well documented (e.g., Chrisman, Chua, Pearson, & Barnett, 2012; O'Boyle, Pollack, & Rutherford, 2012). One explanation is that although family involvement may give the controlling family power and legitimacy to determine the firm's behavior, such involvement cannot specify whether or how such power will be used (Chrisman et al., 2012). This has led researchers to search for other ways to operationalize the family variable. For instance, Chrisman, Chua, and Sharma (2005) define family essence as the degree to which the family influences the firm's vision, behaviors, perpetuation, and growth. Eddleston (2011) proposes an alternative variable, family firm identity, reflecting the degree to which family identity and firm identity overlap. A number of aspects, including kinship, name shared by firm and family, common history among family members, and familiarity between family members can promote a strong shared identity in family firms.

Although the three concepts of family firm identity, family involvement, and family essence overlap, family firm identity probably best reflects the degree to which the family is psychologically embedded in the firm and the business-owning group (Eddleston, 2011). Furthermore, in firms with a strong family firm identity, family members (including the owners) are more likely to view the family and the firm as closely overlapping entities. As such, actions taken to aid or assist the firm may simultaneously be viewed as those that help

the family. In the context of the business-owning group, family can be thus viewed as a type of “appropriable” organization—that is, the network originally based on family ties might be used to benefit the firm as well. The motives for such actions are explained partly by social identity theory, which views actions as not necessarily attributable to altruistic motives but rather to the need to be affiliated with the “in” group (Uhlener, Flören, & Geerlings, 2007). Such membership is presumed to lead to a greater sense of self-worth and social esteem (Ellemers, 2001; Uhlener et al., 2007). It is thus this drive to be accepted by the “in” group (i.e. the family) that enhances the motivation of family members to assist the firm in reaching its goals.

Ownership-management overlap

Also key to our study is the concept of ownership-management overlap. While the widely-cited three-circle model of Tagiuri and Davis (1996) addresses overlap of ownership and the business (and implicitly that of ownership and the management role), empirical testing of such overlap is rare. In the present paper we try to extract the “ownership effect” from that of management by measuring and controlling for such overlap. We do so because we assume that the owner-managers will have different role expectations than non-managing owners.

RESEARCH FRAMEWORK AND HYPOTHESES

A proposed framework drawing on Linn’s model of network mobilization

Consistent with Lin’s social capital model (Lin, 1999), we differentiate between the passive existence or accessibility of external networks and their mobilization, the latter reflecting owner actions to use their external networks for the benefit of the firm. The benefits (or, in Lin’s words, the “capitalization”) of networks both within and outside the owning group are only realized when individuals within the group actively use their networks for the organization’s sake. In the firm context, network mobilization may include such activities as

spreading positive information about the business to potential clients or suppliers, expanding the firm's network by making new contacts, and seeking out new opportunities for the firm. All of these activities can lead to positive outcomes for the organization. Similar to Lin (1999), we also view certain collective assets, such as trust and shared norms, as pre-conditions of network mobilization. In sum, we contrast the passive resources available through a network and the activation or capitalization of such resources via network mobilization.

Our model deviates from and elaborates upon Lin's model in certain respects: First, we focus on the collective, rather than the individual, frame of reference; second, we view collective assets (such as trust and shared vision) not only as antecedents of network mobilization but also as aspects of bonding social capital; and third, we identify network mobilization as a type of bridging social capital. Finally, we assume that firms with stronger family firm identity and greater ownership-management overlap will have available to them the appropriable networks of the family and management groups, respectively.

Our choice of variables to represent bonding OSC is also influenced by the two organizational social capital variables proposed by Leana and Van Buren (1999)—trust and associability—which can be mapped onto the notions of relational and cognitive social capital, respectively, as proposed by Nahapiet and Ghoshal (1998). We thus include the *quality of relationships* among the members of the owning group (reflected in such elements as trust, cooperation, cohesiveness, and team spirit) as an indicator of relational social capital, and *shared vision* with respect to the firm (reflected in the owners' commitment to managing wealth as a group, having the same vision of the firm, and agreeing on the firm's objectives) as an indicator of cognitive social capital.

To summarize, as shown in Figure 1, our model posits positive additive and multiplicative main effects of the independent variables, quality of relationships and shared

vision on the dependent variable of network mobilization (Hypotheses 1 and 2). It also posits moderator effects of family firm identity and ownership-management overlap, alone or together (Hypotheses 3, 4, and 5). In the remainder of this section, we present each of the hypotheses and their rationale, in turn.

==== **Insert Figure 1 about here** ====

Relationships between bonding OCS and network mobilization

First, we propose that bonding OSC and network mobilization are positively associated. Bonding includes collective assets, such as shared norms and trust, which can act as catalysts for the mobilization of external networks (Lin, 1999).

Leana and Van Buren (1999) note that both trust and associability (including a shared vision) are necessary for people to work together on common activities. Without trust, goals are unlikely to be either agreed upon or attained. Moreover, without shared goals, trust is also less likely. These two elements together provide both the motivation and ability to assure that collective action is taken. Shared goals and norms increase the likelihood that individuals can simultaneously fulfill both individual and group goals, which Leana and Van Buren (1999, p. 548) refer to as the “good agent” and Adler and Kwon (2002, p. 25) refer to as a feeling of a “shared destiny with others.” To enhance our understanding of the link between trust and collective actions, social capital theorists introduce the concept of *generalized reciprocity*, the belief that people will help each other over longer periods of time for reasons other than expectations of immediate reward or a fear of sanctions (Adler & Kwon, 2002). Generalized reciprocity is the mechanism that transforms individuals from self-centered agents into those with “commitment to the common good” (Adler & Kwon, 2002, p. 25). Leana and Van Buren (1999) argue that trust (one aspect of the quality of relationships) creates a context in which individual wants can be deferred in favor of collective needs. This generalized reciprocity belief transforms trust into action (Brief & Motowidlo, 1986). Furthermore, because bonding

social capital also reflects the closeness of the group, it ensures that any resources that owners bring in from the outside will be utilized for the benefit of the group or firm. We thus posit:

Hypothesis 1: Bonding OSC (both the quality of relationships and shared vision among business-owning group members) is positively associated with network mobilization.

Without a reasonable degree of associability or collective goal orientation, even the most trusting group members cannot realize the benefits of organizational social capital (Leana & Van Buren, 1999). Conversely, without some degree of trust, goals are unlikely to be agreed upon or attained. Although Long (2011) tries to trace the initial development of bonding social capital to its roots in individual exchanges, she acknowledges that the process becomes mutually reinforcing or recursive over time. Some researchers (e.g., Pearson et al., 2008) argue that the cognitive dimension (e.g., shared meanings or vision) precedes the relational dimension (e.g., trust or cooperation). However, we agree with Leana and Van Buren's (1999) view that a two-way causality is more likely. Given this mutually reinforcing cycle, we posit that, in addition to the predicted additive effects, there may be a multiplicative effect of shared vision and quality of relationships:

Hypothesis 2: In addition to their additive effects, the two indicators for bonding OSC (shared vision and quality of relationships of business-owning group members) have a positive multiplicative effect on network mobilization.

Moderator effects of family firm identity

In firms with a stronger family firm identity, together with stronger bonding, owners may feel more obliged to meet needs of both the family and the business (Pearson et al., 2008). These obligations create an environment, in turn, that stimulates collective action. When family firm identity is high, owners are likely to take on behaviors that help both the firm and the family, but only when goals are aligned and the relationships among owners are trusting and

collaborative. Their motives may be altruistic, but, according to social identity theory, might also reflect the need by (family) owners to be more accepted by the rest of the family. Notably, Carr et al. (2011) find a positive effect of family social capital on various outcomes, including knowledge transfer, but only when combined with other aspects of internal social capital and only within a sample of family firms. These findings suggest that family firm identity may also only have a positive effect on the firm in tandem with bonding OSC—i.e. a shared vision, trust, cooperation, and other elements of a positively-functioning group.

Although we do not necessarily expect a direct effect of family firm identity on network mobilization, its presence is likely to enhance the benefits of cooperation and cohesiveness as well as the prominence of a shared vision when family is embedded in the business-owning group. Under such conditions (i.e., when owners share a vision and are linked by high-quality relationships), the network that is formed within the family is more likely to be appropriable and used for the benefit of the firm. These observations lead to the following hypothesis:

Hypothesis 3: The link between bonding OSC (quality of relationships and shared vision) and network mobilization is more positive for firms with high family firm identity than for firms with low family firm identity.

Moderator effects of ownership-management overlap

As explained earlier, we also examine possible moderator effects of ownership-management overlap in order to tease apart effects of the ownership vs. management in the privately-held firm. In order to understand such effects, we draw on the pro-social organizational behavior literature.

Pro-social organizational behavior refers to behavior performed with the intention of “improving the welfare of the individual, group or organization toward which it is directed” (Brief & Motowidlo, 1986, p. 711). But whereas *in-role* behaviors are specified as a formal

part of one's job, *extra-role* behaviors go "beyond existing role expectations" (Organ, Podsakoff, & MacKenzie, 2006, p. 33). Although there are exceptions, depending on the legal form (especially those not protected by limited liability), or where the owner has agreed to earn shares in exchange for "sweat equity", an owner's prescribed duty is generally limited to that of a supplier of capital (Shleifer & Vishny, 1997). Owners as such, do not have an obligation to mobilize their contacts to enhance the firm's success although of course it may be of their benefit to do so (Berent-Braun & Uhlaner, 2012a). Thus, from the standpoint of the owner(s), network mobilization may be viewed as extra-role behavior. By contrast, for owner-managers, network mobilization is far more likely to be viewed as part of one's expected responsibilities, and thus an in-role behavior. We examine ownership-management overlap as a structural dimension that reflects the embeddedness of management in the owning group. When overlap is high, management efforts are thus appropriated by the owning group—that is, the expected management roles are more likely to be subsumed by the ownership-management group. At the other extreme (i.e. when there is little or no overlap between ownership and management), we can view network mobilization as an extra-role behavior on the part of the owners (Berent-Braun & Uhlaner, 2012a). We thus posit:

Hypothesis 4: The link between bonding OSC (quality of relationships and shared vision) and network mobilization is more positive for firms with high owner-management overlap than for firms with low owner-management overlap.

Moderation effects of family firm identity and ownership-management overlap: a triple interaction effect

Our final hypothesis combines the moderation effects of family firm identity and ownership-management overlap. First, we posit that under conditions of high family firm identity, family owners will be more likely to act to assist the firm owing to their association with the family (an appropriable organization) regardless of their roles as managers. Thus, in firms with high

family firm identity, network mobilization would be more likely due to the affiliative motives of family members regardless of whether or not they are managers. In short, family firm identity may substitute for ownership-management overlap in the family firm. By contrast, we expect the advantage of higher ownership-management overlap in stimulating network mobilization to be much more apparent in firms with low family firm identity. As already stated previously, we would expect a group of owner-managers to be more likely to mobilize their networks than where the owning group members, for the most part, rest outside of the management. We would expect the weakest positive effect (i.e., the least positive slope) between bonding OSC and network mobilization when neither appropriable organization is operating, i.e., under conditions of both low family firm identity and low ownership-management overlap. Combining all these effects we posit:

Hypothesis 5: The link between bonding OSC (quality of relationships and shared vision) and network mobilization will be more positive when either of the following two conditions is met: a) high family firm identity; or b) high ownership-management overlap. Furthermore, the relationship between bonding OSC and network mobilization is weakest for firms with low family firm identity and low ownership-management overlap.

METHOD

Sample and data collection

Testing our hypotheses required that we conduct our empirical analysis with data from both family and nonfamily firms. We drew a random sample of Dutch private businesses (excluding the self-employed) registered with the Dutch Chamber of Commerce, representing all sectors of the Dutch economy in correct proportions to the entire population of Dutch businesses. The sample was also stratified by company size classes based on the number of employees (including the director) as follows: 2-9, 10-49, 50-99, 100-199, and 200 or more,

with equal numbers sampled from each group. Such stratification allowed for the oversampling of larger firms, carried out to assure that the sample resulted in sufficient numbers of firms likely to have two or more owners.

The data were collected in May and June 2009 by means of a telephone interview with the director of each company, thereby using a key informant approach (Kumar, Stern, & Anderson, 1993). When asked about group behaviors or attitudes, the respondent was explicitly requested to give his/her most accurate impression of the business-owning group. We thus measure the respondent's perceptions of the owning group's (collective) social capital, following a similar approach used in the context of family social capital research for the family group (Carr et al., 2011; Sorenson et al., 2009). As discussed in Carr et al. (2011, p. 1213), this method allows us to "capture the perspectives of the (...) key decision-making person within the (...) firm."

Of the 3,563 firms originally contacted, 1,500 agreed to participate, resulting in a response rate of 42.1%. Of these 1,500 firms, 937 reported having two or more individual owners and were thus administered the more detailed survey,¹ used for the present research. The sample was further restricted to firms with between two and 20 owners to assure that respondents would be able to make judgments of the owning group as a whole. In our analysis, we further restricted the sample to a maximum of 500 employees to maintain focus on SMEs.² Of the 937 firms, 781 met these two additional parameters. After removing responses due to missing data for one or more variables, and further reduction of the sample due to eight outliers, a final data set of 679 cases was used for the analyses reported here.

Variables

¹ The Dutch version of the questionnaire is available from the corresponding author upon request.

² The US Small Business Administration defines SMEs as firms with fewer than 500 employees. This cutoff is higher than that used by the European Commission (250 employees). We chose the higher cutoff to capture a larger proportion of firms with two or more owners.

Network mobilization. The dependent variable, the director's perception of network mobilization among business-owning group members, henceforth referred to as *network mobilization*, was measured as the mean of ratings for three items previously used for employee and family commitment scales (Allen & Meyer, 1990; Vilaseca, 2002). Respondents were asked to rate each of the following statements based on a five-point Likert scale (1 = strongly disagree and 5 = strongly agree): "The owners of this business speak enthusiastically about the business with people outside the business" (adapted from Allen & Meyer, 1990), "The owners help to expand the business's network by making outside contacts," and "The owners help to seek out or create new opportunities for the firm" (adapted from Vilaseca, 2002).

Bonding OSC. This independent variable was measured by two indicators, the director's perception of the quality of relationships among owning group members, henceforth referred to as *quality of relationships*, and the director's perception of a shared vision among owning group members, which is henceforth referred to as *shared vision*. Both were also measured using questions with a five point Likert-type scale (1 = strongly disagree to 5 = strongly agree). *Quality of relationships* was measured by asking respondents whether or not they agreed (and how strongly) with each of the following statements: "The owners of this business tend to trust one another," "The owners are open and honest with one another," "The owners have good cooperative relationships," and "The owners work together as a team." These items were taken from the Morris, Williams and Nel (1996) study and adapted to the business-owning group. *Shared vision* was measured by asking a respondent about his or her impressions of the owning group using the following statements: "The owners share the same vision about the business," "The owners agree about the key objectives of the business," and "The owners are committed to managing wealth as a group rather than as individuals."

The first two items are based on Mustakallio, Autio and Zahra's (2002) shared-vision scale, which we adapted to the business-owning group. The third item was created for this study.

Moderator variables. *Family firm identity (FFI)* was measured by taking the mean of responses to a series of five yes/no questions (1 = yes and 0 = no). The five items include (a) "Is there a family relationship among the current owners of the company?" (b) "Is there a family relationship among the past and the current owners?" (c) "Does one family have considerable influence on the business strategy?" (d) "Would you describe the business as a family business?" (e) "Does the name of the business includes the family name?"³ The first three items reflect aspects of family involvement and family essence whereas the last two are more specific to FFI (Uhlener, 2005; Eddleston, 2011). We presume higher scores are related overall to FFI. The mean score ranged from 0 (no FFI) to 1 (strong FFI). *Ownership-management overlap (OMO)*, developed for the current research, measured the percentage of managers who were also owners. It was computed as a ratio (in percentage terms) of the number of managers that were owners and the total number of owners reported.

Control variables. The control variables used in this study include five business characteristics: company size, company age, sector, the presence of a board of directors, and the number of owners. Company size, company age, and sector are commonly used as controls in both family business and SME research (e.g., Carr et al., 2011; Uhlener, van Stel, Duplat, & Zhou, 2013). Company size provides a common explanation for performance differences among firms (Miller, LeBreton-Miller, Lester, & Cannella Jr., 2007) Company age is also an important control variable because owners may become more attached to the firm as time passes (Zellweger & Astrachan, 2008; Chrisman et al., 2012) and, thus, more willing to engage in network mobilization. Previous research also shows that family-controlled firms may be distributed unevenly by industry, thus confounding effects of the two

³ The percentage of the 679 respondents answering yes to these five questions was 58.0%, 33.4%, 47.4%, 63.6% and 47.3% respectively.

variables. We therefore also control for sector (Westhead & Cowling, 1997). The presence of a board of directors may reduce the obligation owners may feel toward the firm, thereby reducing their proactive behavior (Berent-Braun & Uhlaner, 2012b). All else equal, one might expect that extra efforts by owners would diminish in larger groups due to the phenomenon of “social loafing” in which people decrease their individual efforts as group size increases (Latané, Williams, & Larkin, 1979). We thus also control for the number of owners.

Company size was measured as the number of employees in the firm. *Company age* was measured as the number of years between the establishment of the business and the year of data collection. Dummy variables were created to measure *sector*, according to their standard classification code: wholesale and retail; agriculture; manufacturing; construction; or services (including hospitality, transport, financial services, business services, and other services), with services sector omitted from the regression analyses to avoid overdetermination of the model. We included a dummy variable for *board of directors*,⁴ coded 1 given the presence of a board and 0 otherwise. To measure the *number of owners*, respondents were asked to state the number of individual owners. To offset skewedness and kurtosis in the distribution, we control for both company size and the number of owners using a logarithmic transformation (*number of owners (ln)* and *company size (ln)*, respectively).

Scale construction

Several standard statistical analyses were used to create the scales. After completing an exploratory factory analysis, a confirmatory factor analysis (CFA) was carried out using AMOS software to assess the fit of the measurement model, and to check for convergent validity and discriminant validity of the constructs (Hair, Black, Babin, Anderson, & Tatham, 2006). Table 1 presents the results of the four-factor solution, which includes *FFI*, *shared vision*, *quality of relationships*, and *network mobilization*. Based on the various goodness-of-

⁴ The Netherlands is known for its two-tiered governance structure. However, a board of directors is not compulsory for most private firms.

fit indicators, we conclude that this model fits the observed data well ($\chi^2 = 201.50$, $df = 81$, $p < .001$, $\chi^2/df = 2.488$, $GFI = .962$, $CFI = .978$, $RMSEA = .047$, $PCLOSE = .729$).⁵ We also tested a three-factor model in which we combined shared vision and quality of relationships into one bonding OSC variable. However, as the three-factor model yielded far worse fit indexes ($\chi^2 = 515.524$, $df = 84$, $p < .001$, $\chi^2/df = 6.137$, $GFI = .898$, $CFI = .921$, $RMSEA = .087$, $PCLOSE = .000$), we concluded that the four-factor model was more appropriate for the analyses.

==== **Insert Table 1 about here** =====

To assess convergent validity, we evaluated the factor loadings from the CFA, the average variance extracted (AVE) by each factor, and construct reliability (CR) (Hair et al., 2006). All standardized factor loadings exceed the .50 cutoff for practical significance recommended by Hair et al. (2006), with the majority exceeding the more stringent .70 cutoff (see Table 1). Moreover, all loadings are significant at the $p < .001$ level. The construct reliabilities range from .80 to .93, all of which exceed the recommended cutoff of .70 (Hair et al., 2006). Finally, the AVE indexes for network mobilization, quality of relationships, and shared vision are above the recommended .50 cutoff (Hair et al., 2006), whereas the AVE index for family firm identity (AVE=.47) was slightly lower than the recommended cutoff. From these results, we conclude that despite the weaker AVE for FFI, the convergent validity for each of the four constructs is acceptable.

To assess discriminant validity, we compared the square root of AVE for each construct (see Table 1) with the correlation between that construct and other constructs (Hair et al., 2006). The results support discriminant validity for the four proposed constructs given

⁵ Although ideally, for best model fit within AMOS, the chi-square test should not be statistically significant, in larger samples ($N > 250$) and with more than 12 observed variables, significant p -values can be expected (Hair et al., 2006). Thus finding significance of the Chi-square with the present sample (with 679 cases, 15 observed variables) is not unusual.

that the square roots of the AVE are higher than the corresponding inter-construct correlations presented in Table 2.

Data analysis

The hypotheses were tested using hierarchical Ordinary Least Squares (OLS) multiple regression analyses. Since OLS assumes uncorrelated error variances, we tested this assumption using the Durbin-Watson statistic. The direct effects of the independent variables and moderating effects were each tested by assessing the two-tailed significance of their contributions to explain the dependent variable. In order to test moderator effects, the independent and moderator variables were first standardized. Then a product of the moderator(s) and the respective independent variable was added to the model. Variance inflation factors (VIF) were computed and checked for multicollinearity for all predictor variables. To illustrate interaction effects, we also included graphs for each of the significant interaction effects, showing a regression line at ± 1 SD, for high and low conditions of the relevant moderator variable. For the graphing of the triple interaction effects, this resulted in a plot of four types of firms: (1) high FFI and high OMO (Type 1); (2) high FFI and low OMO (Type 2); (3) low FFI and high OMO (Type 3); and (4) low FFI and low OMO (Type 4). For each graph, tests of the significance of slope differences were carried out using the procedure proposed by Dawson and Richter (2006).

RESULTS

Descriptive statistics and bivariate statistics

Table 2 reports the bivariate Pearson product-moment correlation coefficients as well as descriptive statistics, including means and standard deviations. As shown in Table 2, the firms included in the study had an average of 77 employees. The mean company age was nearly 40 years and the businesses had three owners on average.

==== **Insert Table 2 about here** =====

Results of hypothesis testing

Tables 3 and 4 present the results of the hierarchical OLS multiple regression analysis for the full sample ($n = 679$). The VIF scores for all models are less than or equal to 1.86. On the basis of currently accepted standards, these results indicate that the variables are free from multicollinearity. The results of the Durbin-Watson statistic for each of the models was less than 1, suggesting that there may be a problem of correlation amongst the error variances. However, this was offset by the fact that panel data was not used in the current study, and that different respondents were drawn from different organizations in a carefully drawn random sample.

==== Insert Tables 3 and 4 about here ====

Hypotheses 1 and 2: Bonding OSC and Bridging OSC. In support of Hypothesis 1, we find statistically significant and positive effects on network mobilization when each indicator of bonding OSC is entered into the regression model separately after the controls, including quality of relationships ($B = .27, p < .001, \Delta R^2 = .20$; Model 2, Table 3) and shared vision ($B = .28, p < .001, \Delta R^2 = .23$; Model 3, Table 3). Results are similar when both indicators are included in the model, together explaining 32% of the variance in the dependent variable (Model 4, Table 3). The results also support Hypothesis 2, which proposes a positive multiplicative effect of shared vision and quality of relationships, although the amount of additional variation explained is only 1% ($B = .03, p < .01, \Delta R^2 = .01$; Model 5, Table 3). As shown in Figure 2a, although the effect of the two bonding variables is primarily additive, the steeper slope for the high quality of relationships condition illustrates this effect.

==== Insert Figure 2 about here ====

Hypothesis 3: Moderator effects of FFI. The results presented in Table 4 only partially support Hypothesis 3's prediction of an interaction between FFI and bonding OSC. With respect to quality of relationships, the interaction effect is not significant ($B = -.03, n.s.$,

Model 1, Table 4).⁶ In contrast, the interaction term for FFI and shared vision is positive and significant ($B = .07, p < .001, \Delta R^2 = .01$; Model 1, Table 4), with a steeper slope (and thus stronger relationship) between shared vision and network mobilization for firms with high FFI. Furthermore, as shown in Figure 2b, the estimated value for network mobilization appears to be highest for the condition of high FFI and high shared vision, and lowest for firms with a high FFI and a low shared vision.

Hypothesis 4: Moderator effects of OMO. With respect to Hypothesis 4, once again we find a different pattern for quality of relationships versus shared vision. On the one hand, OMO does not moderate the relationship between quality of relationships and network mobilization ($B = -.01, n.s.$; Model 2, Table 4).⁷ However, the results support Hypothesis 4's prediction of a positive interaction effect for OMO, with respect to shared vision ($B = .06, p < .01, \Delta R^2 = .01$; Model 2, Table 4). As shown in Figure 2c, the highest level of network mobilization occurs with high OMO coupled with high shared vision. With low shared vision, network mobilization is similar, regardless of the percentage of OMO.

Hypothesis 5: Three-way moderation effects. The results in Table 4 (Models 3 and 5) show that the triple interaction effect predicted for quality of relationships and the two moderators (QR x FFI x OMO) is only significant when the triple interaction between shared vision and two moderators is included in the same model. The triple interaction term between shared vision and the two moderators (SV x FFI x OMO) is more robust, significant whether entered alone ($p < .05$, Model 4, Table 4) or together with QR x FFI x OMO ($p < .001$, Model 5, Table 4).

Given that the sign of a triple interaction is difficult to interpret, we graph each one (see Figure 3). The graph of the first triple interaction term (QR x FFI x OMO) in Figure 3a shows that the relation between quality of relationships and network mobilization is positive

⁶ The results (available from the corresponding author) are similar when this interaction term is entered by itself.

⁷ The results (available from the corresponding author) are similar when this interaction term is entered by itself.

for all four types of firms. However, opposite to predictions in Hypothesis 5, according to the slope difference test, we find the strongest positive effect (i.e. steepest slope) of quality of relationships on network mobilization for firms with low FFI and low OMO (Type 4). Results for the second triple interaction effect (SV x FFI x OMO), shown in Figure 3b, are consistent with predictions made in Hypothesis 5. The graph (and related slope difference tests) suggests that the relation between shared vision and network mobilization is positive as long as either FFI or OMO is high (Types 1, 2, or 3). Although the slopes are parallel, the higher intercept of Type 3 firms (low FFI and high OMO), further indicates that these two conditions together result in the highest network mobilization. Finally, in support of Hypothesis 5 predictions, when both conditions are low (as in Type 4 firms), shared vision has no effect on network mobilization.

==== **Insert Figure 3 about here** ====

DISCUSSION AND CONCLUSION

Theoretical implications

The primary aim of this study was to improve our understanding of the relationship between two aspects of bonding OSC (quality of relationships and shared vision) and network mobilization, a type of bridging OSC. Our findings are consistent with the recommendations of Salvato and Melin (2008) that family businesses should invest in both internal (bonding) and external (bridging) social capital.

As applied to the context of the privately held firm, we further enhance our understanding of this relationship by taking family firm identity and ownership-management overlap into account. Our findings are also in line with suggestions made by other scholars that the “family system” can only create value in interaction with other organizational systems (Zahra, Hayton, Neubaum, Dibrell, & Craig, 2008). We find that while family firm identity, *per se*, does not have a direct effect on network mobilization, it can have a positive moderator

effect when combined with a strongly shared vision of the firm, regardless of whether owners are also active firm managers. Thus, owners in firms with a strong family firm identity are more likely to act as stewards acting for the common good (Davis, Schoorman, & Donaldson, 1997), but only when they share the same goal orientation for the firm and the owning group (i.e., building collective rather than individual wealth). Under conditions of high family firm identity, and in line with social identity theory, owners may view their contributions to the organization and to the family as one and the same.

Other scholars argue that more close-knit families may reduce their dependence on external resources (Arregle et al., 2007; Gedajlovic et al., 2013; McFayden & Cannella, 2004; Nahapiet & Ghoshal, 1998). In our study, the lack of evidence of a main effect between family firm identity and network mobilization partially refutes such arguments. On the other hand, we do find the lowest level of network mobilization occurs in firms with high family identity and low shared vision. Such findings are consistent with the view that certain family businesses may indeed have a more inward orientation (thus failing to build a strong external network) but only under conditions where the owning group lacks a shared vision (De Lema & Durendez, 2007).

One of the anomalies of the study is the contrasting results with respect to shared vision and quality of relationships. Although both bonding OSC indicators are positively and significantly associated with each other and with network mobilization, predictions with respect to moderator effects are supported for shared vision, but not for quality of relationships. We can offer no explanation for this other than to point out the differences, and to be wary of assuming that the components of bonding OSC act in tandem. Although there appears to be some small differences across the four types of firms for quality of relationships (the slopes being somewhat different across types), all four are positive. By contrast, where both family firm identity and ownership-management overlap are low (-1 SD), we see a zero

slope between shared vision and network mobilization. Such results suggest that the appropriate organization of either management or family is needed to galvanize efforts to mobilize the owners' network, possibly serving as substitutes for each other. This substitution effect suggests, perhaps, that family owners take on roles more readily that would normally be classified as management in-role behavior—but only when shared vision is high. How such family firms can improve the quality of relationships among family owners, and/or better achieve a shared vision might be the target of further research. It is unfortunately beyond the scope of the current study.

In summary, we conclude that there is a family moderator effect, but one that explains much less variance than the overall effect of bonding OSC. And we also see achievement of high network mobilization in firms with low family firm identity, as long as there is high ownership-management overlap and a high shared vision. Past research does not seem to address these nuances, not only of the heterogeneity of family firms, but also the finding that owning groups in nonfamily firms can also emulate or even exceed the performance of family firms, as long as they have a high level of bonding OSC.

Research limitations and directions for future research

This study has certain limitations. First, given the heterogeneity of each of the three social capital dimensions (structural, relational, and cognitive), we do not posit that the current study serves as a comprehensive test of the relationships between all aspects of those dimensions and network mobilization, nor that network mobilization represents all aspects of bridging OSC. Future research may therefore address other aspects of OSC.

A second limitation of this study is its cross-sectional nature. Longitudinal studies would provide a better test of causality among the variables in our model. In this regard, Long's (2011) framework provides useful insights about a starting point for investigations of potential links and feedback loops among the various social capital variables. Longitudinal

research would also help to test whether changes in ownership structure (especially when non-managing and/or nonfamily owners enter the firm, thereby reducing ownership-management overlap and/or family firm identity, respectively) could weaken (or strengthen) the effects of bonding OSC on network mobilization.

Third, especially the variables used to measure bonding OSC and network mobilization have fairly small standard deviations (approximately one point on a five-point Likert scale), possibly understating the underlying relationships between these and other variables. Furthermore, there is some evidence of correlation of error terms across variables, which has the opposite effect of potentially overstating significance (though not effect) levels. Another important shortcoming regarding measurement is the use of the perceptions of a single key informant to evaluate both bonding OSC and the network mobilization of the owning group. This limitation is common in this stream of research due to the difficulty in obtaining multiple responses from privately held firms (e.g. Carr et al., 2011; Sorenson et al., 2009). Furthermore, measures for both moderator variables were developed specifically for this study. Although we tested items using CFA, we recognize the limitations that neither measure was previously tested psychometrically. We recognize that by averaging data for the family firm identity measure, we presume interval qualities for what is essentially ordinal data. Additional research might also explore other family firm identity measures such as that proposed by Berrone, Cruz and Gomez-Meijia (2012). Also, ownership-management overlap might alternatively be measured as the percentage of owners who are managers (rather than managers who are owners). We fail to control in this study for the percentage of voting rights and/or equity owned by a single family—the ownership concentration variable commonly used in family business research (e.g. Anderson & Reeb, 2003). For all these reasons, we need to be careful in interpreting our results, with further verification of findings required by future research.

Fourth, we do not investigate the effects of social capital on firm outcomes, such as financial performance or innovation. Moreover, based on previous research, we presume that a link exists between network mobilization and product innovation. Several scholars have shown, for instance, that bridging social capital is an important organizational resource for the development of innovative capabilities (e.g., Subramaniam & Youndt, 2005). However, additional testing of network mobilization as an independent variable, especially as operationalized in the present research (as well as possible mediating effects between bonding OSC and innovation), would further validate its importance for the privately held firm.

Finally, additional research could also examine the relationships between social capital (both bonding and bridging) and other types of capital (e.g., human or financial) in order to develop a better understanding of how interactions among these resources affect the firm (Sharma, 2008). For instance, we do not measure nor control for the types of external networks available to each owner or his/her location in those networks. Thus, future research could more closely examine the nature of the human capital available to the owning group, which might influence network mobilization (e.g., Florin, Lubatkin, & Schulze, 2003).

Practical implications

From a managerial perspective, this study emphasizes the importance of good relations among members of the business owning group (i.e., trust, cooperation, honesty, and team spirit) and of a shared vision among the owners. Although our results are cross-sectional, one inference of our findings is that improving bonding among business-owning group members, including building and maintaining a shared vision, trust and cooperation, may be beneficial for mobilizing nonfinancial resources of the business-owning group in the privately-held firm. Furthermore, this appears to hold for firms with both strong and weak family firm identity. Team-building consultants could be employed to enhance such relationships and shared understanding. In the family business context, family governance practices, such as a family

council or a family constitution, might also be explored as a means to enhance bonding social capital (Berent-Braun & Uhlaner, 2012b; Mustakallio et al., 2002).

Conclusion

The primary objective of this paper was to explore whether bonding and bridging social capital are positively associated in the business-owning group. The data indicate that both a shared vision and the quality of relations among owners (bonding OSC) have positive effects on the mobilization of the owning group's network resources (bridging OSC). We also find that family firm identity and ownership-management overlap moderate these relationships, and that this moderation is more prominent between shared vision and network mobilization.

Our research contributes not only to the field of family business research and to specific research on business-owning groups, but also to social capital research focused on groups more generally. The significance of our moderator effects demonstrates the importance of taking overlapping group memberships (and their appropriability) into account. Furthermore, our findings provide insight into social identity theory, and into research on proactive behavior. We must accept these conclusions with caution, however, given the limited variation in the social capital measures, and use of a key informant approach to describe group-level attitudes and behaviors. Nevertheless, these findings present promising directions for future research.

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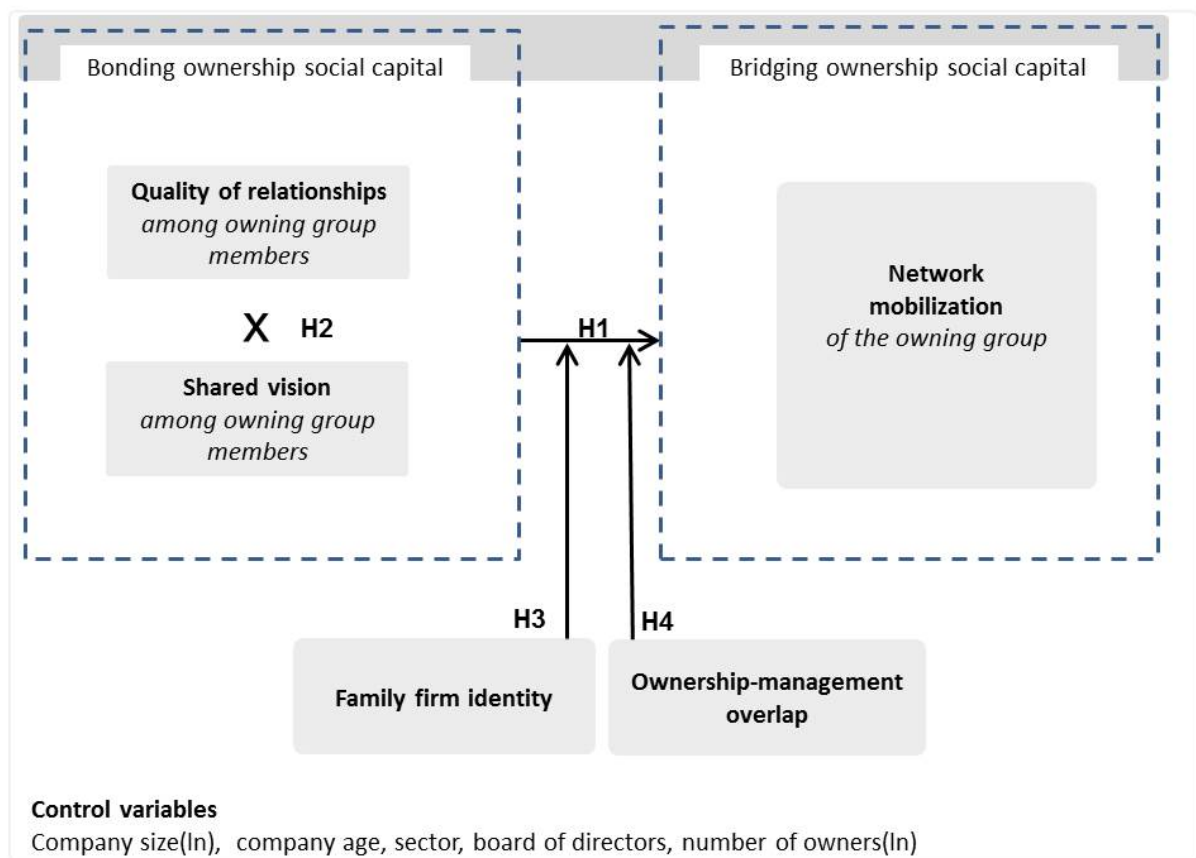
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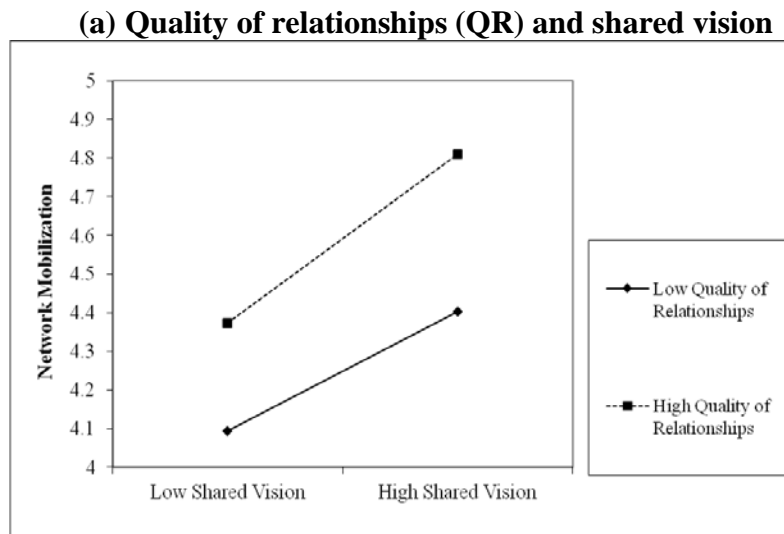
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Figure 1: Research framework

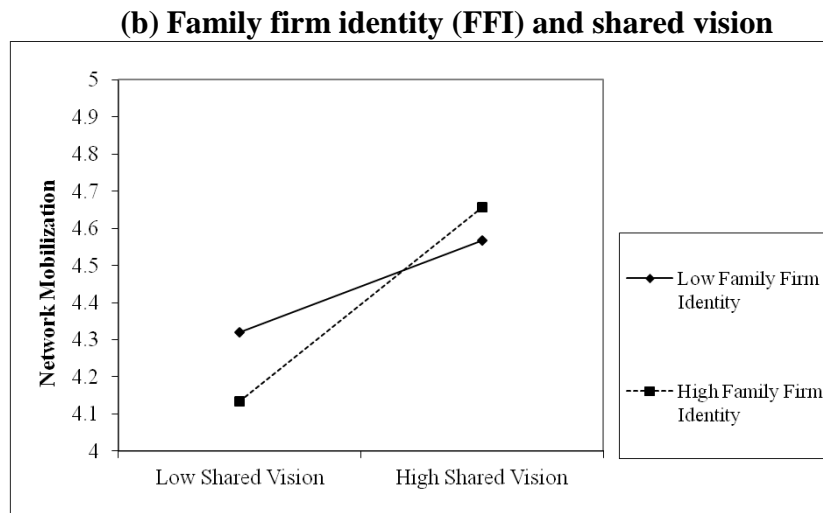


Note. For the sake of clarity, the triple interactions terms proposed in Hypothesis 5 are not depicted in the figure.

Figure 2: Two-way interaction effects between bonding OSC and network mobilization

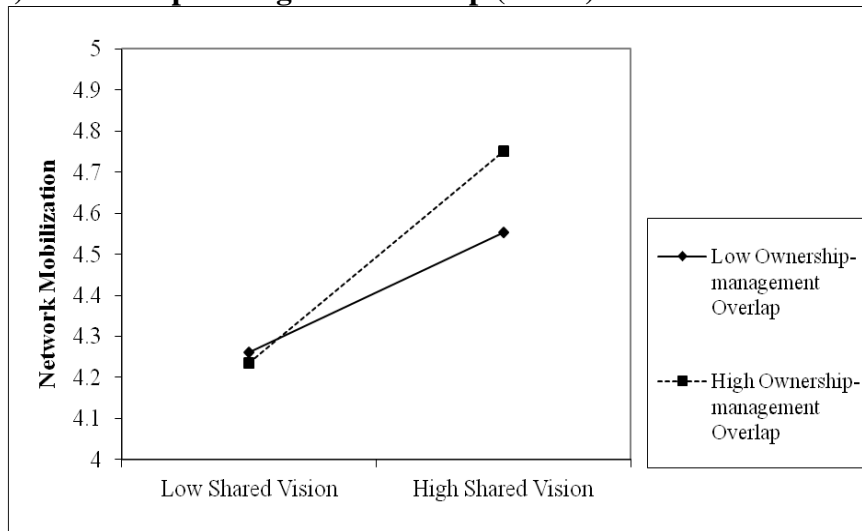


Note. The slope difference test is significant for Low QR ($t=5.633, p=.000$) and High QR ($t=6.203, p=.000$).



Note. The slope difference test is significant for Low FFI ($t=2.802, p=.005$) and High FFI ($t=3.403, p=.001$).

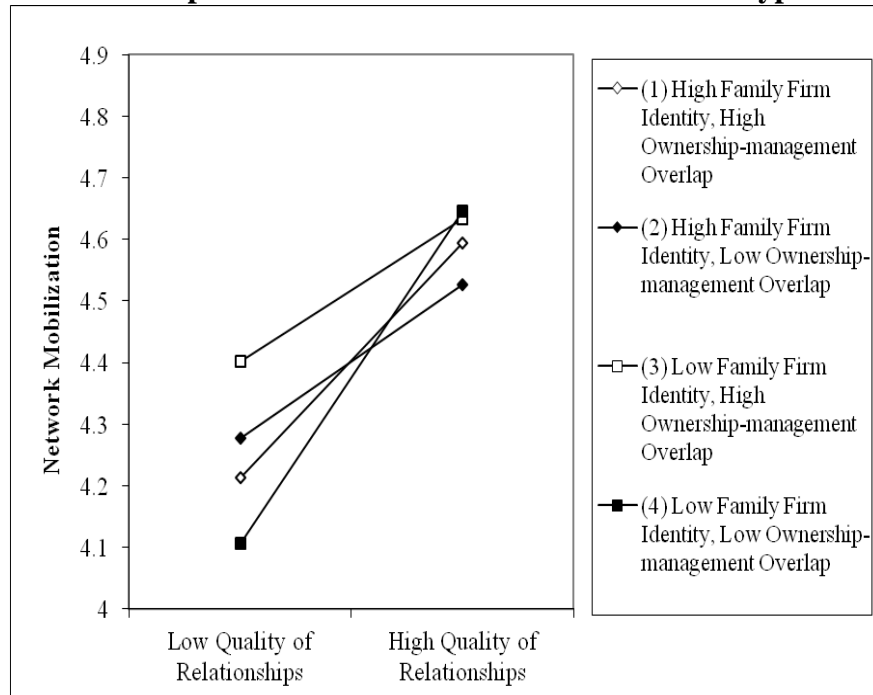
(c) Ownership-management overlap (OMO) and shared vision



Note. The slope difference test is significant for Low OMO ($t=8.782, p=.000$) and High OMO ($t=8.400, p=.000$).

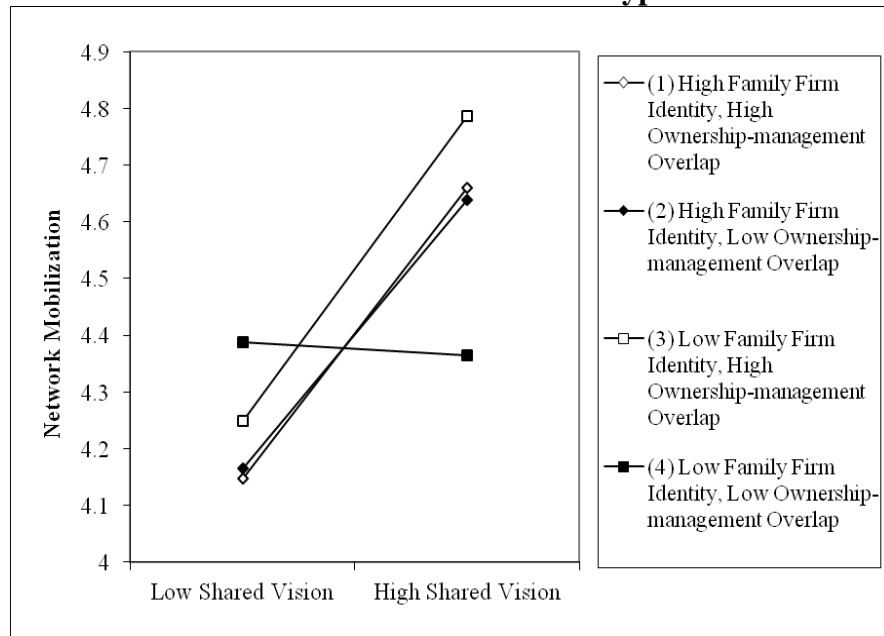
Figure 3: Three way interactions

(a) Quality of relationships and network mobilization in different types of firms



Note. The slope difference test is significant for the following types: Type 2 and Type 4 ($t=-2.406$, $p=.016$), Type 3 and Type 4 ($t=-2.768$, $p=.006$).

(b) Shared vision and network mobilization in different types of firms



Note. The slope difference test is significant for the following types: Type 1 and Type 4 ($t=4.115$, $p=.000$), Type 2 and Type 4 ($t=4.653$, $p=.000$), Type 3 and Type 4 ($t=4.644$, $p=.000$).

Table 1: Confirmatory Factor Analysis of Multi-Item Variables Included in the Study

Construct	Measurement item	Standardized loading	Construct Reliability (CR)	Average Variance Extracted (AVE)	Square root of AVE
Network Mobilization	Owners speak enthusiastically about the business with people outside the business.	.56	.80	.58	.76
	Owners help to expand the business's network by making outside contacts.	.81			
	Owners help to seek out or create new opportunities for the firm.	.88			
Quality of Relationships	Owners tend to trust one another.	.87	.93	.77	.88
	Owners are open and honest with one another.	.88			
	Owners have good cooperative relationships.	.91			
	Owners work together as a team.	.85			
Shared Vision	Owners are committed to managing wealth as a group rather than as individuals.	.57	.78	.55	.74
	Owners share the same vision of the business.	.77			
	Owners agree about the key objectives of the business.	.86			
Family Firm Identity	Family relations exist between the current owners.	.83	.81	.47	.69
	Family relation between past and current owners.	.59			
	The family has considerable influence on the business strategy.	.66			
	Self-described as a family business.	.75			
	Firm's name includes family name.	.56			

Note. Standardized factor loadings significant at $p < .001$; $N = 679$. CFA: $CMIN/DF = 2.488$, $GFI = .962$, $CFI = .978$, $RMSEA = .047$, $PCLOSE = .729$.

Table 2: Correlations between Variables Used in the Study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Network mobilization														
2. Quality of relationships	.47 ^b													
3. Shared vision	.50 ^b	.60 ^b												
4. Family firm identity	-.02	.10 ^a	.05											
5. Ownership-management overlap	.16 ^b	.21 ^b	.15 ^b	.10 ^b										
6. Company size (ln)	.01	-.09 ^a	.03	-.02	-.29 ^b									
7. Company age	-.06	-.01	.04	.31 ^b	-.09 ^a	.30 ^b								
8. Wholesale & retail	-.00	.05	.02	.13 ^b	.03	-.07	-.02							
9. Agriculture	-.06	.04	.02	.11 ^b	.03	-.10 ^a	.01	-.09 ^a						
10. Manufacturing	-.04	-.03	.02	.03	-.13 ^b	.17 ^b	.22 ^b	-.27 ^b	-.08 ^a					
11. Construction	.03	-.02	.00	.07	.01	.06	.16 ^b	-.22 ^b	-.07	-.19 ^b				
12. Services	.04	-.03	-.04	-.22 ^b	.06	-.08 ^a	-.27 ^b	-.48 ^b	-.14 ^b	-.40 ^b	-.33 ^b			
13. Board of directors	-.10 ^a	-.16 ^b	-.07	-.02	-.28 ^b	.26 ^b	.15 ^b	.03	-.02	.15 ^b	.01	-.14 ^b		
14. Number of owners (ln)	-.10 ^b	-.21 ^b	-.09 ^a	-.15 ^b	-.39 ^b	.30 ^b	.06	-.07	-.03	.02	-.05	.09 ^a	.16 ^b	
Mean ^c	4.44	4.44	4.25	.50	64.76	77.22	39.87	.24	.03	.18	.13	.42	.16	3.12
SD ^c	.57	.58	.55	.36	38.74	89.11	36.22	.43	.16	.39	.34	.49	.37	2.31

Pearson correlation coefficient, two-tailed: ^a: $p < .05$; ^b: $p < .01$. N = 679.

^c For the converted variables, the means and standard deviations are reported for the original values.

Table 3: Prediction of Network Mobilization-Hypothesis 1: Additive and Multiplicative Effects of Bonding OSC

Explanatory variables	Model 1		Model 2		Model 3		Model 4		Model 5	
Company size (ln)	.04 ^a	(2.20)	.03 ^a	(2.12)	.02	(1.42)	.02	(1.60)	.02	(1.64)
Company age	-.00	(-1.28)	-.00	(-1.46)	-.00	(-1.82)	-.00	(-1.77)	-.00	(-1.75)
Wholesale & retail	-.01	(-.18)	-.03	(-.67)	-.03	(-.66)	-.04	(-.82)	-.04	(-.76)
Agriculture	-.20	(-1.43)	-.25 ^a	(-2.08)	-.25 ^a	(-2.05)	-.26 ^a	(-2.26)	-.26 ^a	(-2.26)
Manufacturing	-.03	(-.44)	-.03	(-.61)	-.06	(-1.09)	-.05	(-1.01)	-.06	(-1.08)
Construction	.03	(.39)	.04	(.65)	.02	(.38)	.03	(.54)	.03	(.53)
Board of directors	-.09	(-1.50)	-.01	(-.18)	-.05	(-.89)	-.02	(-.28)	-.01	(-.16)
Number of owners (ln)	-.08	(-1.52)	.00	(.06)	-.05	(-1.15)	-.02	(-.32)	-.01	(-.22)
Family firm identity (FFI)	-.01	(-.58)	-.03	(-1.30)	-.02	(-.77)	-.02	(-1.14)	-.02	(-1.02)
Ownership-management overlap (OMO)	.08 ^c	(3.39)	.05 ^a	(2.33)	.04 ^a	(2.01)	.04	(1.80)	.04	(1.71)
Quality of relationships (QR)			.27 ^c	(13.38)			.15 ^c	(6.39)	.17 ^c	(7.01)
Shared vision (SV)					.28 ^c	(14.72)	.19 ^c	(8.50)	.19 ^c	(8.23)
SV x QR									.03 ^b	(2.88)
ΔR square from Model 1 (controls)				.20		.23		.27		.28
ΔR square from Model 4 (main effects)										.01
<i>R</i> square		.05 ^c		.25 ^c		.28 ^c		.32 ^c		.33 ^c
Adj. <i>R</i> square		.03		.24		.27		.31		.32
<i>F</i> statistic		3.17		19.91		23.50		26.22		25.11
DF (df1, df2)		(10, 668)		(11, 667)		(11, 667)		(12, 666)		(13, 665)

^a: $p < .05$; ^b: $p < .01$; ^c: $p < .001$. N = 679.

Note. Table reports unstandardized regression coefficients. T-values are given in parentheses.

Table 4: Prediction of Network Mobilization—Two Way and Three Way Interaction Effects of Family Firm Identity and Ownership-Management Overlap

Explanatory variables	Model 1		Model 2		Model 3		Model 4		Model 5	
Company size (ln)	.02	(1.51)	.02	(1.46)	.02	(1.65)	.02	(1.50)	.02	(1.48)
Company age	-.00	(-1.77)	-.00	(-1.89)	-.00	(-1.78)	-.00	(-1.88)	-.00	(-1.83)
Wholesale & retail	-.04	(-.81)	-.04	(-.74)	-.04	(-.74)	-.03	(-.73)	-.03	(-.60)
Agriculture	-.26 ^a	(-2.26)	-.25 ^a	(-2.19)	-.26 ^a	(-2.24)	-.27 ^a	(-2.34)	-.25 ^a	(-2.16)
Manufacturing	-.04	(-.81)	-.06	(-1.07)	-.06	(-1.07)	-.06	(-1.06)	-.04	(-.76)
Construction	.02	(.37)	.04	(.62)	.04	(.62)	.02	(.35)	.03	(.58)
Board of directors	-.00	(-.08)	-.02	(-.28)	-.02	(-.30)	-.00	(-.06)	-.00	(-.02)
Number of owners (ln)	-.02	(-.43)	-.01	(-.19)	-.01	(-.15)	-.01	(-.18)	.01	(.24)
Family firm identity (FFI)	-.02	(-1.23)	-.02	(-1.20)	-.03	(-1.34)	-.01	(-.71)	-.02	(-1.09)
Ownership-management overlap (OMO)	.04	(1.69)	.04 ^a	(2.07)	.04	(1.70)	.04	(1.85)	.04	(1.77)
Quality of relationships (QR)	.16 ^c	(6.71)	.14 ^c	(6.10)	.15 ^c	(6.58)	.16 ^c	(6.77)	.18 ^c	(7.19)
Shared vision (SV)	.19 ^c	(8.44)	.20 ^c	(8.81)	.20 ^c	(8.53)	.20 ^c	(8.69)	.19 ^c	(8.20)
SV x QR									.02 ^a	(2.08)
QR x FFI	-.03	(-1.32)			.02	(1.16)			-.02	(-.83)
SV x FFI	.07 ^c	(3.21)					.06 ^c	(3.51)	.06 ^b	(2.68)
QR x OMO			-.01	(-.63)	.02	(1.28)			-.02	(-.98)
SV x OMO			.06 ^b	(2.63)			.05 ^b	(2.97)	.08 ^c	(3.49)
FFI x OMO					-.03	(-1.65)	-.05 ^a	(-2.55)	-.04	(-1.85)
QR x FFI x OMO					.03	(1.45)			.06 ^b	(2.61)
SV x FFI x OMO							-.04 ^a	(-2.19)	-.07 ^c	(-3.35)
ΔR square from Model 4, Table 4 (main effects)	.01		.01		.01		.03		.04	
R square	.33 ^c		.33 ^c		.33 ^c		.35 ^c		.36 ^c	
Adj. R square	.32		.31		.31		.33		.34	
F statistic	23.54		23.22		20.18		22.17		18.77	
DF (df1, df2)	(14, 664)		(14, 664)		(16,662)		(16, 662)		(20,658)	

^a: $p < .05$; ^b: $p < .01$; ^c: $p < .001$. N = 679.

Note: Table reports unstandardized regression coefficients. T-values are given in parentheses.