Collaborate at home to win abroad: How does access to local network resources influence export behavior?

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Abstract

By drawing on the resource-based view and on elements from social network theory, we use a sample of southern Brazilian small and medium-sized furniture manufacturers to find evidence for the hypothesis that access to local network resources, facilitated by a firm’s membership in an industry association, strongly predicts the propensity to export. Likewise, we find that a firm’s local collaborative intensity is positively related to its export intensity and that both relations are moderated by the firm’s distance from the local network’s center. This study contributes to the literature on how local collaboration may facilitate overcoming export barriers.

Keywords: propensity to export, export intensity, network resources, industry associations, local inter-firm collaboration

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**Introduction**

It is well-known that small and medium-sized enterprises (SMEs) face wide-ranging internal and external export barriers (Leonidou, 2004). Accordingly, existing literature on the export behavior of SMEs focuses on explanatory variables associated with SMEs’ internal characteristics, especially their resources and capabilities, which include organizational, human, managerial, financial, marketing-related or technological resources and capabilities (e.g., Cavusgil 1984; Cooper and Kleinschmidt 1985; Gómez-Mejía 1988; Moini 1995; Dhanaraj and Beamish 2003; Kaleka 2010). These are separate from general firm characteristics, such as size (Bonaccorsi 1992; Calof 1994) or family ownership (Fernández and Nieto 2006). However, we know less about the sources and origins of SMEs’ resources and capabilities. Given the known resource scarcity in SMEs, researchers have called for more studies on the influence of collaborative, horizontal inter-firm relationships on exporting (Leonidou, Katsikeas and Coudounaris 2010: 88).

Horizontal relationships, such as membership in an industry association and inter-firm collaboration, are important subtypes of network resources (Lavie 2006; Gulati 2007) because they provide access to informational resources. Research on this topic is important because firms that collaborate in industry associations also incur information, transaction or coordination costs that may offset the advantages of local cooperation or result in a trade-off with international client relationships. Membership in industry associations and inter-firm collaboration appears to be a black box without any self-evident export implications. This paper intends to open this black box by examining how and why industry association membership and collaborative intensity promote the propensity to export and export intensity.

Based on survey data from Brazil, our results suggest that membership in industry associations solely affects the propensity to export, whereas collaborative intensity only influences export intensity. This result suggests that membership in local industry associations
and local collaborative intensity are distinct but complementary explanations, because they probably stimulate different traits of export behavior.

Accordingly, we contribute to the intersection of SME management and international business literature by: (i) investigating the relationships between SME industry association membership, local collaboration and export behavior; and (ii) by explaining how and why particular local networking properties, such as reachability, multiplex ties or distance, can translate in export behavior. Because local networking may help firms overcome export barriers, we respond to Leonidou et al. (2010), who call for research on the relationship between local collaboration and SME internationalization, and extend previous research on SME export barriers (Leonidou 2004).

**Local SME collaboration and exporting**

**Measuring exporting**

Existing research on exporting has addressed the factors that influence whether a firm exports or not, which is labeled the propensity to export (Bilkey 1978; Cavusgil et al. 1979), and the factors that explain the proportion of export sales to total sales, which is labeled export intensity (Beamish et al. 1993). Both streams of literature have been combined in large-scale quantitative studies (Zhao and Zou 2002; Estrin et al. 2008; Gao et al. 2009).

Literature on SME exporting behavior has attempted to explain the propensity to export by strategy variables (Cooper and Kleinschmidt 1985; Westhead, Wright and Ucbasaran 2004), firm size (Calof 1994), public and business information sources (Denis and Depelteau 1985) or family ownership (Fernández and Nieto 2006).

Export intensity has been explained through human resource related factors (Gómez-Mejía 1988), firm size (Bonaccorsi 1992), organizational structure (Beamish et al. 1999),
organizational culture, manager characteristics (Holzmüller and Stöttinger 1996) attitudinal differences (Schlegelmilch 1996) or firm capabilities, such as financial management expertise, technology (patents) or marketing expertise (Moini 1995), management’s international experience (Lages et al. 2008) and international business competence (Knight and Kim 2009).

However, neither approach to export research has addressed the relationship between local network resources and exporting. In the following sections, we first deepen our understanding of the dilemma that lies behind the relationship between local networking and exporting. Then we develop hypotheses on the link between local network resources, which is represented by the concepts of local industry association membership and local collaborative intensity, on the one hand, and exporting, which is represented by the propensity to export as well as by export intensity, on the other.

**Network resources and exporting**

Although earlier versions of the resource-based view (RBV) focused exclusively on the firm’s internal resources and capabilities as a source of competitive advantage, recent extensions of the RBV have maintained that access to services provided by resources owned by partner firms can be a source of competitive advantage (Lavie 2006; Lavie 2007). Thus, research on networks and the RBV have been integrated and incorporated in the term “network resources.” Network resources have been defined as resources owned by partner firms, which can be accessed by the focal firm through its network ties with these partner firms (Gulati 2007). Regarding network resources, existing research has given a great deal of attention to information access and personal referrals, which can trigger new business opportunities (Burt 2000). Moreover, networks may facilitate access to a large variety of resources, ranging from
political influence, reputation, equipment and specialized capabilities to mutual trust and even emotional support (Oh et al. 2006).

Although previous research has addressed the role of inter-firm alliances for resource and capability development and learning (McGovern 2006; Barnir and Smith 2002; Forrest 1990), the conceptual link between local network resources and exports is less clear. Given scarce internal managerial resources (Penrose 1995), especially in SMEs, information, coordination and transaction costs (Williamson 1985) imply that nurturing local networks and relationships with international clients at the same time is likely to result in a trade-off: the more active the firm becomes in local networks, the less time and managerial resources will be left to nurture international client relationships (e.g., by travelling, communicating and negotiating with international clients) and vice versa. Although similar trade-offs between local and global demands have been identified even in large multinational corporations (Holm and Pedersen 2000; Boehe 2007), it is particularly notable in SMEs, where the lack of managerial resources to deal with exports has been raised as a significant functional export barrier (Leonidou 2004).

Access to and ownership of resources has been a prerequisite for building ownership or competitive advantages that, in turn, are considered a prerequisite for firm internationalization (Hymer 1976, Dunning 1988). Although firms with competitive advantages do not automatically become exporters, competitive advantages are decisive in compensating for the liability of foreignness (Eden and Miller 2004) and may motivate firms to exploit them in different markets to reap the potential benefits of higher sales, sales diversification, higher prices in some foreign markets and, in some cases, even tax benefits. Given the mentioned advantages of local networking for exporting, the question is how firms can reduce the trade-offs between local and global demands.
Empirical research on this topic concentrates mainly on case study designs and provides some support, however mixed, for the above reasoning (Nadvi and Halder 2005; Schmitz 2000; Simmie 2004; Eraydin and Armatli-Koroglu 2005). Although still rare, empirical evidence from large-scale surveys supports the general idea that home country firm linkages are important for international market access (Elango and Pattnaik 2007; Zhou et al. 2007; Mesquita and Lazzarini 2008). Recent research in China suggests that local knowledge and information exchange within trade associations and professional bodies regarding international operations can provide important benefits for internationalizing firms (Yiu, Lau and Bruton 2007).

Because our intention is to cast light on above-mentioned dilemma, we address three aspects of the local networking-export behavior problem. Drawing on elements from social network theory and the RBV, we first consider membership in a local industry association as access to a larger network that increases the member firm’s reachability. Second, we conceive collaborative intensity as an approximation of multiplex ties, and finally, we question how geographic distance from the local network’s center may moderate the local networking-export behavior relationship. The conceptual model in Figure 1 summarizes our hypotheses.

[PLEASE INSERT FIGURE 1 ABOUT HERE]

Membership in an industry association and export propensity

We argue that firms increase their reachability by becoming members of an industry association. “A firm is ‘reachable’ by another firm if there exists any set of connections by which we can trace from the source to the target firm, regardless of how many others fall
between them” (Hanneman, 1998). Conversely, a network node has a high degree of betweenness centrality if it lies in between several other pairs of network nodes on the shortest path connecting them. Accordingly, two network members may be easily and rapidly reachable through a central hub or network node, as is the case with industry associations. They not only connect firms and make them mutually reachable but can be regarded as central hubs that may “orchestrate” (Dhanaraj and Parkhe 2006) relationships among their connected industry association members to promote both the exchange of tangible and intangible resources and the network’s stability. Earlier work by Provan and Milward (1995: 24) has already suggested that centrally integrated and coordinated networks “through a single core agency, are likely to be more effective than dense cohesive networks, integrated in a decentralized way.”

Having said this, the baseline advantages of network membership are information benefits (Koka and Prescott 2002), such as access to timely and reliable information and referrals from other network members (Burt 1997). Specifically, membership in an industry association may facilitate (although not guarantee) access to shared resources (for instance, a product development laboratory, a jointly used production plant or a showroom sponsored by several member firms) or non-shared resources (for instance, patents fully owned by certain member firms). According to Lavie (2006), network resources may also have a complementary character (for instance, different pieces of information which can be combined in a collective innovation effort) or be pooled (for instance logistics or production capacity owned by several member firms may be combined to realize economies of scale).

Overall, given scarce internal resources, information, referrals and access to shared resources through industry associations are important for increasing the chances to establish contacts with international buyers and sharing the costs of entering international markets. Accordingly, we hypothesize that SMEs belonging to an industry association have a higher
propensity to export than non-member firms in spite of a potential trade-off between local networking and relationships with international clients. On the contrary, an industry association that centrally “orchestrates” (Dhanaraj and Parkhe 2006) the relationships among its members assumes the bulk of coordination costs and reduces transaction costs among its members. Hence, the previously mentioned trade-off between local networking and international buyer-supplier relationships is likely to decrease.

**H 1:** Membership in a local industry association is positively associated with the propensity to export.

**Collaborative intensity and export intensity**

Membership in an industry association does not necessarily influence export intensity because membership alone does not automatically imply higher collaborative intensity among network members. To capture collaborative intensity, we borrow the concept of multiplexity from social network theory (Krohn 1988) and apply it at the firm level. Multiplexity is defined as “two or more types of relationships occurring together” (Kenis and Knoke 2002: 284). While examining specific dyad network relationships lies beyond the scope of this study, we consider the total of different types of relationships between the individual firm and other local firms in the same sector to approximate multiplex ties.

Following Dhanaraj and Parkhe (2006), multiplex ties tend to create a series of beneficial effects for the collaborating entities, such as stability of the ties or expansion of the relationship’s scope and the development of new partnerships. This can happen because overlapping ties facilitate the understanding of partner firms’ goals, interests and competencies, an understanding that constitutes the basis for deepening relationships and joint
value creation (Lorenzoni and Lipparini 1999; Kenis and Knoke 2002). Joint value creation, e.g., through the exchange of information and knowledge that may lead to managerial, operational or market-related improvements, is important for fostering competitive advantages that underlie internationalization strategies in general (Hymer 1976) and export strategies in particular (Moini 1995).

In contrast to industry association membership, which is neither rare nor difficult to imitate, and which provides access to external resources but does not automatically imply its exploitation by the firm, collaborative intensity seems to be more conducive to creating competitive advantages, in line with Barney’s (2002) VRIO framework. Collaborating firms may not only create value but may also make it difficult for competitors to imitate several types of different ties due to the social complexity, path dependency and time compression diseconomies of social relationship building (Dierickx and Cool 1989). Hence, multiplex ties and more-intense collaboration are probably a much rarer phenomenon than is industry association membership.

There are reasons to assume a positive relationship between collaborative intensity and the construction of competitive advantages. The more such advantages grow, the larger the potential export markets and the higher export intensity is likely to become. Previous research on export intensity supports this view because stronger resources and capabilities are found to be positively associated with export intensity (Moini 1995; Knight and Kim 2009).

H 2: Collaborative intensity is positively associated with the export intensity.

The moderator effect of distance

What has been overlooked until now is that neither membership in an industry association nor collaborative intensity has beneficial effects in all circumstances. Industry association
member firms may be located at different geographic distances from the association’s headquarters. The larger the distance becomes, the more difficult it will be for the member firm’s managers to attend formal or informal meetings and exchange information and knowledge with other industry association member firms through face-to-face interaction. Face-to-face interaction is essential to facilitate knowledge transfer between people and firms (Lawson and Lorenz 1999; Nonaka 1991; Polanyi 1967).

From the member firm’s perspective, the density of ties within a given network, defined as the proportion of all present dyadic ties to all potential ties (Wasserman and Faust 1994), decreases the farther away the firm is located from the network’s center where most firms are concentrated. Examining the question of how space affects social capital, Ward (2004) found that distance is a key determinant of social capital: the farther away one lives from the center, where most social activities take place, the lower is the probability of participating in distant activities. Being located farther away from information centers has been recognized as a “spatial bias in information flows” by the early export literature (Wiedersheim-Paul et al. 1978: 49).

The density of ties influences the speed and quality of information transmission through the network (Kenis and Knoke 2002). Thus, lower density of social ties implies that firms exchange less information and knowledge, which translates, by implication, into fewer learning and capability building opportunities. Geographic distance influences the density of ties because firms farther away from the network’s center are more difficult to reach, given that the average path length to connect to another more centrally located firm becomes longer (Kenis and Knoke 2002: 279). Consequently, distant firms become more focused on activities in their neighboring community, in such a way that little time is left to attend to the activities of firms in other clusters or remote parts of the network (Burt 1997: 341), such as those closer to the network’s center. Likewise, firms situated in locations distant from a network’s center
not only have less access to information but also have fewer possibilities to corroborate transmitted information by redundant information from other network members. Consequently, the reliability of information may also decrease the farther away the firm is located from the network center.

Two implications follow from this. First, in our context, the industry association’s headquarters takes on the function of a network center because member firms establish and nurture ties with other members largely through the activities organized by the association’s headquarters, such as periodical meetings, congresses, training or even trade fairs. The greater the distance from the industry association’s headquarters (and thus the network’s center), the lower the potential benefit of industry association membership for the individual firm. In extreme case, firms maintain membership on paper without the major benefits that could stimulate the propensity to export.

Second, for the reasons mentioned above, firms located near the network center and the industry association’s headquarters may enjoy more opportunities to establish multiplex ties and to increase their collaborative intensity given a larger network density. Accordingly, a greater distance from the network center means that the focal firm will have fewer opportunities to collaborate, resulting in lower collaborative intensity. Consequently, the benefits of higher collaborative intensity in terms of capability and competitive advantage building will be less likely to occur, and expected export intensity will be lower.

**H 3a:** Distance from the network center negatively moderates the relationship between membership in a local industry association and the propensity to export. The farther away firms are located from the cluster center, the weaker the relationship between industry association membership and the propensity to export becomes.
H 3b: Distance from the network center negatively moderates the relationship between collaboration intensity and export intensity. The farther away firms are located from the cluster center, the weaker the relationship between collaborative intensity and export intensity becomes.

Research Method

Sample

We surveyed South Brazilian furniture manufacturing SMEs in the federal state of Rio Grande do Sul to test our hypotheses. Brazil’s furniture industry is currently the largest South American furniture exporter, with approximately $1 billion U.S. dollars in exports, roughly 15% of total production of $6.7 billion U.S. dollars in 2005. The main export product is wooden furniture, and the main export markets are the U.S. (39%), France (10%), U.K. (9.8%), Germany (4.4%) and the Netherlands (4%). Within Brazil, the furniture industry is concentrated in the state of São Paulo and the southern federal states of Santa Catarina and Rio Grande do Sul. The latter accounts for approximately 20% of Brazilian furniture production. Hence, our data seems to be highly relevant to Brazilian and South American furniture production. Consequently, our dataset has the potential to provide noteworthy insights into SMEs and export development in developing countries.

The population used in this research was the entire furniture industry of Rio Grande do Sul, which, according to the database of the state’s secretary of finance, includes approximately 4,000 furniture firms. Because firms are unevenly distributed all over the state, with some regional clusters such as Bento Gonçalves and Lagoa Vermelha, the sample was collected in proportional quotas controlling for the percentage of firms located in each of the
state’s 26 districts (called Corede – Regional Development Council). Thus, three of the districts make up 57.7% of the sample. The districts contained exporters and members of the state’s furniture manufacturer association (Movergs), which includes roughly 350 members. The survey took place between January and June 2007 and was performed mostly by telephone (77.5% of all questionnaires collected), e-mail and a web-based questionnaire.

After data collection, the entire database was checked for possible inconsistencies and typing errors. This led to eliminating six questionnaires with higher proportions of missing data (approximately 20% of all questionnaire items). In addition, the interviewer supervisors contacted a probabilistically chosen subset of 12% of the originally sampled firms by telephone to check the questionnaire data for consistency.

A total sample of 1,231 questionnaires (approximately 30% of the overall population) was collected. We eliminated microenterprises (firms with less than 20 employees), which are generally not involved in export activities. We also eliminated a few large enterprises (with more than 500 employees) and concentrated on small and medium-sized firms. This step has the advantage of making exporter and non-exporter firms more comparable.

The resulting database was checked again for missing values regarding the variables used for our analysis. We did not eliminate outliers because we used only objective measures and believe the data adequately reflects reality. A few observations were eliminated altogether when we detected too many missing values in the relevant variables. As a result, the final sample used for our analysis included 225 firms. Of these, 42% were exporters; 44% of them were members of the state’s furniture manufacturers’ association; 81% were small enterprises (20 to 99 employees); and 19% were medium-sized enterprises (100-499 employees). Regarding their age, 23% of the firms were founded before the 1980s; 63% were founded between 1980 and 1999; and 14% firms were founded between 2000 and 2005.
Measures

The questionnaire passed through several phases of pretesting. First, it was examined by marketing professors, and then it was checked by four members of the board of directors of the state’s furniture manufacturers’ association. Finally, the wording of the questions was evaluated by four entrepreneurs from the furniture sector to make sure the expressions used in the questionnaires were compatible with the language of the average furniture firm.

The first dependent variable, *propensity to export*, was measured by a dummy coded “1” for exporters and “0” for non-exporters. To corroborate single-item measurements, this variable was cross-checked and compared with two indicators of the export volume, i.e., exports as a percentage of total sales from the two preceding years (2005 and 2006). Data on export volume in 2005 and 2006 were consistent with the dummy variable.

The second dependent variable, *export intensity*, was measured by taking the average of the 2005 and 2006 export volume figures. Due to several missing values, the equation with export intensity as a dependent variable was calculated based on a reduced number of observations (see correlation table for details). Both the export intensity and the propensity to export measures are based on previous research, such as Calof (1994), Zhou and Zou (2002) or Fernández and Nieto (2006).

Regarding independent variables, *membership in a local industry association* was measured by determining whether a firm is member of the state’s furniture manufacturers’ association (Movergs). We used a dummy variable, coded “1” for members and “0” for non-members. This information was obtained directly from Movergs’ member database. In addition, members were asked six additional questions about their perceptions of Movergs and its role in regional development, and non-members were asked about their motives for not joining. Due to this double checking, the dummy variable is considered highly reliable.
**Collaborative intensity** was measured by adding the number of different types of inter-firm collaboration the responding firm participates in. The respondents had to choose from a list of nine types of cooperation, including new product development, purchase of raw materials, participation in trade fairs and events, exchange of ideas and experiences, the study of process improvements, study of improvements for the sector as a whole, the sharing of business relevant information, the purchase of machinery and equipment and the sharing of equipment. Thus, this count measures ranges from “0” for no collaboration at all to “9” for very intense cooperation to cover all possible types of collaborative ties.

Because the firms’ locations were available and the network’s center and location of the industry association’s (Movergs) headquarters were known, we were able to calculate the distance from the network center for each firm by using a publicly available geographic distance calculator (available on the Internet). This measure, **distance from the network (cluster) center**, was used to calculate the moderator effects.

**Firm size** and important explanatory variables for export behavior (Calof 1994; Bonaccorsi 1992; Mittelstaedt et al. 2003), were measured by the number of employees because turnover figures were not available for all firms. The firm size variable was converted into a logarithm due to its high dispersion (from 20 to 467 employees) and highly skewed distribution.

We controlled for the **age of the firm** (log transformed) because establishing relationships with competitors, suppliers or client firms, both at home and abroad, requires time. Due to time compression in economies (Dierickx and Cool 1989), for instance, older firms may be more likely to develop network resources and capabilities and relationships with international clients.

Other important control variables were national sales and certifications, because they represent alternative explanations for both export propensity and intensity. In line with the
stages model (Wiedersheim-Paul et al. 1978: 51) that claims “a firm may have to pass through a type of internationalization process within the domestic market before it is prepared for its export start,” sales on the national, Brazilian market may be a relevant stage in market development that precedes exports. Therefore, we measured national sales using a dummy variable coded “1” when the firm sold products in Brazilian federal states other than its state of origin (Rio Grande do Sul) and “0” otherwise.

Certifications can be a precondition for becoming a supplier for an international buyer firm (Humphrey and Schmitz 2002). From a list, the respondents were asked to indicate the type of certification its firm had obtained, including, among others, ISO 9001, ISO 14000 or a regional quality certification. The certifications’ measure counts the number of certifications the firm has. By controlling for age, size, national sales and certifications, we were able to isolate important factors that influence export behavior other than local networking.

**Analytical techniques**

To test hypothesis H1 and H3a we could use a probit model with a binary dependent variable (propensity to export) as a dependent variable. Likewise, we could test hypotheses H2 and H3b using OLS regression. However, it is possible that the selection of the subsample of exporting firms with exports as a percentage of sales (export intensity) data available is non-random, leading to sample selection bias, which is similar to omitted variable bias (Heckman 1979).

Essentially, sample selection bias may occur when the error term of the probit equation that determines the propensity to export (selection equation) is correlated with the error term of the OLS model that determines export intensity (outcome equation). In our case, some firms may decide to export for reasons other than membership in local industry associations. Factors such as the international experience of the firm’s CEO may be captured
by the error term. In other words, such firms become part of the selected sample not because of industry association membership but due to their considerable error terms. Moreover, the unobserved factor defined as “internationally experienced CEOs” could be correlated with the observed independent variable of “industry association membership” in the outcome equation because internationally experienced managers may attach more value to inter-firm collaboration, given their positive observations in more cooperative and social capital intensive environments. We might have a potential endogeneity problem (correlation between error term and observed independent variables), which would lead to biased estimates. In effect, if “internationally experienced CEOs” increase export intensity, we will underestimate the effect of “industry association membership” on export intensity.

For this reason, we estimate a two-step Heckman sample selection model to control for the possible correlation between the error terms of the selection and the outcome equation. It is important to note, however, that the Heckman model is identified only if at least one of the independent variables in the selection equation is not entered in the outcome equation. The choice of these variables should be guided by theory. Here, we omit size (measured by the log of number of employees) and certifications from the outcome equation. Although the size of the firm may be a threshold that determines the propensity to export (Calof 1994), there is no reason why size should influence export intensity because born global firms are, by definition, small and predominantly present on international markets (Oviatt and McDougall 2004). Conversely, although larger firms are supposed to have accumulated resources to be successful in international markets, they may, according to the stages model, have become large precisely by expanding first domestically (Wiedersheim-Paul et al. 1978). Regarding including certifications in the selection (and not in the outcome equation), it is important to note that certifications are generally not order-winning criteria but rather order-qualifying criteria (Newman and Hanna 1996). However, we maintained membership in a local industry
association in the outcome equation and collaborative intensity in the selection equation to control for their respective effects and to corroborate whether hypotheses 1 and 2 still hold when we include alternative and complementary forms of local collaboration.

We checked the main assumptions, such as multicollinearity (variance inflation factors were close to “1”; see also correlations in Table 1) and misspecification (we excluded irrelevant variables). Following recommendations from Aiken and West (1991), the interaction plots (figures 1 and 2) are based on mean centered independent variables.

**Potential bias**

Although it is difficult to completely rule out potential common method bias in single response surveys with self-administered questionnaires, we took precautions to avoid it by placing the questionnaire items on different pages of our questionnaire, often separating them by of blocks of different questions and with objective measures for all our variables (Podsakoff et al. 2003).

[PLEASE INSERT TABLE 1 ABOUT HERE]

**Results**

Table 2 presents hierarchical regression results for three pairs of Heckman selection models. The first two models only include the control variables in both the selection and the outcome equations. The following two models add the main effects, and the final two models add the interaction effects. All six models are significant (Wald chi² statistic). As far as the potential selection bias is concerned, it is noteworthy that the correlation between the error terms of the selection and the outcome equations (rho) is small and not significant. Likewise, the lambda, which includes both error terms, is not significant either, and the Wald test of independent
equations is not rejected in any of the three model pairs. In other words, the selection and outcome equations are independent, and selection (or omitted variable) bias is probably not present. If run separately, both models (not reported here) would have shown adequate fit ($R^2$ of the probit model = 0.3 and $R^2$ of the OLS model = 0.39).

[PLEASE INSERT TABLE 2 ABOUT HERE]

The first two models contain the control variables. Although the size of the firm significantly affects selection into exporters versus non-exporters, certifications do not. With increasing firm size, more employees might be available to participate in inter-organizational collaborative activities and consequently reduce the expected trade-off between local and international engagement, which is a possible explanation. This argument is backed by Penrose (1995), who points out that sufficiently available managerial resources are key to understanding firm growth. After increasing their size, firms have more managerial resources available for engaging in collaborative relationships, which, in turn, increase their opportunities to develop the competitive advantages needed for foreign market entry. Conversely, the fact that industry associations help member firms develop and, therefore, increase their size provides an alternative explanation.

Interestingly, sales in other federal states (national sales) significantly influence selection into exporters ($p<0.05$); however, it negatively affects export intensity ($p<0.01$). This implies that firms whose products qualify for other domestic markets beyond the home federal state seem to increase their chances of becoming exporters (probably because their products passed their “first test”). However, becoming too entrenched in the domestic market, which is large in Brazil, seems to reduce the incentive to increase the share of exports over total sales beyond a certain limit, suggesting a trade-off between domestic and foreign sales.
For Hypothesis 1, which suggested that membership in a local industry association is positively associated with the propensity to export, the coefficient in the selection equation (model 3) is significant (p<0.05) and positive. Thus, our data supports Hypothesis 1. Interestingly, the coefficient of collaborative intensity is not significant in model 3, which is also in line with the underlying theory that makes a distinction between industry association membership and cooperative intensity.

Hypothesis 2 posited that collaborative intensity is positively associated with export intensity. The corresponding regression coefficient in model 4 is positive and significant (p<0.01), which supports hypothesis 2. It is also worth noting that the effect of industry association membership on export intensity is non-significant in model 4. Taken together, both results support our claim that while industry association membership strongly influences selection into exporters versus non-exporters, it does not seem to influence export intensity, which seems to be affected by collaborative intensity.

Models 5 and 6 add two moderator effects that are both significant (p<0.05) and negative. We find support for hypotheses 3a and 3b, which suggest that distance from the cluster (network) center negatively moderates the relationship between industry association membership and the propensity to export and the relationship between collaborative intensity and export intensity. The greater the distance between firms and the cluster or network center, the weaker the effects proposed in hypotheses 1 and 2 become. Both interactions are displayed in figures 2 and 3.

[PLEASE INSERT FIGURE 2 ABOUT HERE]

[PLEASE INSERT FIGURE 3 ABOUT HERE]
**Discussion and Conclusion**

Contrary to conventional wisdom, the grounds on which future export behavior flourishes are not necessarily found inside the firm, especially not where resource poor SMEs in developing or emerging economies are concerned, nor are they inevitably found in export target markets. This study has provided evidence for the argument that the reasons explaining export behavior often lie outside a firm’s boundaries and inside the regional or domestic business environment. Although previous research on the propensity to export and export intensity has largely focused on in-house resources and capabilities, such as human resources, technology, financial or marketing expertise (Gómez-Mejía 1988; Moini 1995) often obtained by managers’ previous international experience (Bilkey and Tesar 1977; Wiedersheim-Paul et al. 1978) or international networking (Coviello and Munro 1997; Johanson and Vahlne 2003; Coviello 2006), our study contributes to small business and exporting research by underscoring that membership in local industry associations and collaborative intensity among local firms are valid complementary explanations. More specifically, we contribute to international business and SME literature by documenting that an internationalizing firm’s ownership advantage may lie outside (and not necessarily inside) of its firm boundaries. In addition, our results suggest that membership in industry associations only affects the propensity to export but does not affect export intensity. Conversely, our results imply that collaborative intensity only influences export intensity and does not influence the propensity to export, although membership in industry association and collaborative intensity are significantly correlated. What is behind this puzzle boils down to the rationale of local and regional networking, as summarized below.

Concerning our second contribution (how and why particular local network properties are likely to translate into the propensity to export and export intensity), our theoretical arguments and empirical results suggest that local industry associations increase the
reachability of firms. Both local firms from the same sector and, indirectly, international clients (through referrals) may more easily reach local SMEs through the association, which is more visible than individual small firms and controls the means to rapidly exchange information among members. For instance, reachability, in its most straightforward sense, means that a member firm may obtain “hot” information on an export opportunity at short notice. For example, a foreign buyer intending to source a specific product may have contacted the association’s headquarters or any of its members, who may refer the foreign buyer to another member, who is able to deliver that product in the desired timeframe. As a result, industry association membership increases the probability of becoming a passive exporter, which is one of the first stages identified by the early exporting literature (Wiedersheim-Paul et al. 1978; da Rocha et al. 1989). Member firms may also actively participate in events, business meetings and trade fairs organized by the association with the intention of becoming an exporter. In summary, although there are strong reasons to assume a trade-off relationship between local ties and relationships with international clients, especially where small firms are concerned, our data suggests that the “orchestrating” or transaction and coordination cost-reducing functions of industry associations may reduce or even eliminate this trade-off. Local reachability may increase international reachability and reduce important informational and functional export barriers as described by Leonidou (2004).

However, becoming a passive exporter by chance or an active exporter by deliberately searching for opportunities through the association’s network does not mean that these efforts lead to lasting success and an increase in export sales over total sales. Although such efforts may increase the likelihood (propensity) of becoming an exporter, our conceptual development and results suggest that only the collaborative intensity with other network members influences export intensity. There is evidence that local multiplex ties, defined here as the quantity of different relationships maintained by the exporter with other local firms, is
an important predictor of export intensity. The furniture industry association, Movergs, an object of this study, offers its members different kinds of collaboration opportunities and networking benefits, such as training (also on export related issues), an Innovation Management Center (CGI), the association’s member congress and its major trade furniture trade fair. Tapping into such opportunities is likely to promote resource and capability building efforts that underlie the development of sustained competitive advantages, which, in turn, are necessary to actively occupy markets abroad. A furniture producer may have established relationships with other furniture producers to exchange information on process improvements. They may jointly sponsor a designer office or source components in larger quantities, and they may share the costs of a sales representative. The combined effect of these and other forms of collaboration may make it possible to manufacture more-competitive products to appeal to a larger clientele. This phenomenon is also known as “collective efficiency” (Schmitz 1999a and 1999b; Caniels and Romijn 2003), a literature to which we add the distinction between industry association membership and collaborative intensity and their link with the propensity to export and export intensity.

The discussed relationships are moderated by distance. The greater the firm’s distance from the network center becomes, the lower the likelihood that local industry association membership or collaborative intensity translates into higher propensity to export and export intensity, respectively. Accordingly, this finding shows how distance may negatively affect the cost-benefit relationship of industry association membership and local collaborative intensity. By disclosing the mechanisms that link three local network properties (reachability, multiplex ties, density) to export behavior, we extend previous research, such as that of Zhou and Zou (2002), whose arguments focused solely on infrastructure factors when relating domestic location to export behavior.
Regarding implications for practice, small business managers should be aware of the fact that industry association membership, as such, will not be sufficient for sustained export success, measured by export intensity, which can be positively influenced by actively seeking local collaboration with firms from the same industry. In addition, SMEs farther away from the cluster center should undertake efforts to help them bridge the distance to more central network members, e.g., by proactively contacting and collaborating with better connected network members that are located between them and the network center.

Consultants hired to design and implement strategies for local industry associations should also develop additional measures to enhance collaborative ties among industry association members. Because distance matters, consultants need to develop methods and processes to reduce the negative moderating effect of distance, such as intranet-based collaborative tools to increase reachability. Furthermore, they should develop strategies that influence the cost-benefit relationship of collaborative ties, especially for those further away, e.g., by creating incentive mechanisms for the association’s members to develop several kinds of collaboration simultaneously with other members (to increase multiplex ties). If resources are available, they could help set up local liaison or support offices in places more distant from the network or cluster center to disseminate and implement best practices developed by other network members. They should actively promote opportunities for different kinds of collaboration, such as joint trade fair participation, cost-sharing for international sales representatives, joint purchasing of common components and raw material and hiring designers, among others activities.

This study has several limitations that should be addressed by future research. First, researchers should develop finer-grained measures for the concepts used in this study. Second, future research should add other local network properties and adopt social network analysis research design. In particular, this study did not take into account electronic inter-
firm relationship. Future research should address this by measuring the extent and the outcome of information and knowledge exchange by e-mail or social networking websites. Third, although beyond the scope of this paper, through sub-regional networking and collaboration with those farther from the network center, practices and strategies could emerge that compensate for the disadvantages of remoteness. Future research could investigate to what extent this occurs. Fourth, longitudinal (instead of cross-sectional) data would add more robustness to the present findings and could cast light on the local networking mechanisms that could convert a passive exporter into an active exporter and an active exporter into a sustainable exporter with a higher export intensity. Finally, researchers should test our hypotheses in different industry, institutional and economic contexts.

**Acknowledgments**

The author would like to thank Adilene Alvares Mattia, Deonir de Toni, and Fabiano Larentis for their data collection efforts, the State of Rio Grande do Sul Furniture Industries Association (Movergs) for financing the data collection as well as the anonymous reviewers and the editor for their constructive and helpful comments.
References


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Figure 3 – Export Intensity
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<th>Collaborative Intensity</th>
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Table 1 – Means, Standard Deviations (S.D.) and Correlations

Note: ** p < 0.01; * p < 0.05
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Table 2 – Heckman selection model with Propensity to Export and Export Intensity as dependent variables

Note: **p < 0.01; *p < 0.05; 'p < 0.1; heteroskedasticity robust standard errors are in brackets.