Internationalization and Networks in Small and Medium-Sized Enterprises: the role of ethnic ties

Internacionalização e Networks em Pequenas e Médias Empresas: o papel dos laços de descendência imigratória

Internacionalización y Networks en las Pequeñas y Medianas Empresas: el papel de los vínculos de descendencia

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ABSTRACT
The international insertion of small and medium-sized enterprises (SME) has attracted academic attention with the emergence of new internationalization theories based on the network approach. There is evidence that social networks based on descent ties contribute to the international integration of firms, particularly small ones. The quantitative cross-sectional study conducted with 71 SME affiliated with the Business Association of Blumenau, city marked by German immigration, sought to test the predictive role of descent ties (content of ties and strength of ties) in the degree of SME internationalization. The results suggest that only the strength of ties (frequency of contacts with the country of descent) contributes to explaining the degree of internationalization. Limitations of sample size require caution in generalizing the results.

Keywords: Internationalization. Networks. Small and medium-sized enterprises. Immigration.

RESUMO
A inserção internacional de pequenas e médias empresas (PMEs) vem chamando a atenção
INTRODUCTION

The global economy scenario has attracted several companies to the internationalization of their operations. Sale of products abroad, supply by external sources and alliances with foreign companies are some of the current criteria for companies to survive.

While one can imagine that this horizon is closer to large corporations, it turns out that today small and medium-sized enterprises (SME) have adopted a new positioning in the international business environment. For Oviatt and McDougall (1999), large international companies’ increasing attempt to focus their efforts on their core competencies, and the resulting adoption of downsizing strategies created new opportunities for internationalization for the SME segment, particularly due to changes in industrial subcontracting which ended up positioning an expressive number of small businesses in international supply chains.

For Hollenstein (2005), understanding these phenomena, however, does not put an end to the obstacles faced by the SME in the competitive international environment. The SME have to deal with a number of deficiencies which very much jeopardize their entering the international scenario. Difficulties to reach scale economies, high investments in technological innovation, and excessive expenses with promoting sales abroad, clear conditions to enter the international market, contrast with the natural scarcity of resources of smaller companies.

As a result, studies started to analyze factors that help in the SME internationalization process, which leads to an extensive discussion on which theoretical approach would be most appropriate to interpret the inclusion of small enterprises in the international market (BARBOSA, FULLER, FERREIRA, 2005; CHETTY, HOLM, 2000; REZENDE, 2002). Among these factors, we point out the operation of companies with international business networks as propelling element of this phenomenon. There is evidence that the internationalization process of companies, particularly small-sized ones, is influenced by
networks which move internationalization decisions from the economy reasoning to the scenario of business networks based on cooperation and trust (Johanson Valhne, 2003; Moen, Servais, 2002).

This article aimed to present the results of a study conducted to test the predictive bonds of immigration descent in the degree of internationalization of SME. We also attempted to explore the relationship between the businesspeople country of descent and the dynamics of business networks with parties abroad. As suggested by Hayer and Ibeh (2006), family ties, circle of friends, proficiency in a foreign language, and cultural identification contribute to the approximation of international partners. These “family connections” reduce the perception of risk of operating internationally, and consolidate enduring relationships between companies in different countries, which are legitimated by a positive feedback cycle.

The following research question guided our study: How do family ties and cultural identification between businesspeople descending from European immigrants and European businesspeople influence the degree of internationalization of small and medium-sized enterprises?

To answer this question, the following hypotheses were formulated: first, that family ties and cultural identification with the country of descent would explain the degree of internationalization of SME; second, that the frequency of contact would also contribute to explaining the degree of internationalization. The last hypothesis would be explained if we consider that it is not sufficient to have personal bonds with the country of descent and proficiency in the exporting country's language; frequent contact which increases the chances of negotiation is also necessary.

The city of Blumenau, located in the state of Santa Catarina, was chosen as a field of study for its economic formation history strongly marked by German immigration (Santiago, 2001). The choice was also influenced by the leading author's professional experience with the internationalization of SME programs offered by the Service of Support for Micro and Small Enterprises of Santa Catarina (Sebrae-SC), which revealed, in practice, some cases of businesspeople in the city of Blumenau who acquired their ability to export by means of a continuous cycle of resource and expertise exchange with European companies and entities.

In the following section, we describe the theoretical and empirical aspects of company internationalization, of networks, and we attempt to relate them to the topic of immigration. Subsequently, we present the methodological procedures. The results, discussion and conclusions, including research limitations and suggestions for future studies, comprise the final part of this paper.

2 INTERNATIONALIZATION, NETWORKS AND IMMIGRATION: THEORETICAL AND EMPIRICAL ASPECTS

Internationalization is often described as a growing and continuous process of a company with operations with countries other than theirs. Companies tend to start their international operations by means of an exporting activity, and evolve into other forms of businesses, such as licensing of production, joint ventures, or even making their own investments in foreign territories (Goulart, Brazil, Arruda, 1996).

According to Andersson (2000), there are several theories that deal with the internationalization process of companies, which can be grouped into two main approaches – economic and behavioral. Economic approaches to internationalization of companies are pioneers in research on the phenomenon, and focus on economic issues to explain the process of internationalization of firms from decisions that are predominantly rational and objective,
notably those involving direct investment by large corporations in foreign markets. However, a number of gaps can be found in explaining the international integration of SMEs, a recent economic movement that was widely studied by new theoretical trends of company internationalization as a network approach and international entrepreneurship (MTIGWE, 2006).

Indeed, the 1990s started a period of deep economic transformations that revealed the role of the SME in international business. This period would mark the need for further investigation into the reasons why small businesses seek business relationships with foreign companies.

2.1 Behavioral approaches of internalization

According to Hemais and Hilal (2002), until the mid-twentieth century, few economists were concerned about what was happening inside a firm, as the focus of their study was on macroeconomic issues of international trade. This redirection was conducted based on the work of Penrose (1963), Cyert and March (1963) and, later, Aharoni (1966), who laid the foundations of the theory of the firm as an independent field of study.

2.1.1 The Uppsala model

The contributions of Penrose, Cyert, March and Aharoni created theoretical frameworks that prompted some scholars to realize the importance of behavioral issues in the companies’ internationalization process. Key expressions, such as organizational learning, accumulation of collective experience, the limits of human rationality, uncertainty avoidance and sequential goals, eventually required new sensitivity for the empirical study of the issues involved in the internationalization process, which increased the need to seek greater familiarity with what actually happens within the companies.

From these contributions, researchers from Uppsala University, Sweden, have developed a line of reasoning that privileged organizational issues as an explanatory element of the internationalization process. Now, what was to be investigated was the perception of administrators as to uncertainties and benefits of the international presence as a determinant of the companies’ entering and engaging in this process.

The so-called “Uppsala Model” was developed by Johanson and Vahlne (1977) and is considered a landmark in the study of company internationalization. Proposing to go beyond the limitations of economics to understand the decision-making processes associated with company internationalization, Johanson and Vahlne sought to demonstrate that this process took place according to an incremental order due to uncertainties (bounded rationality) and the imperfections of information received on the new market which was envisioned. This incremental view suggested that companies would begin the internationalization of their operations in small steps rather than making large investments in foreign countries in their early experiences.

The “psychic distance” is considered by Johanson and Vahlne (1977) as a decisive factor in making the decision to internationalize. The psychic distance is defined by the authors as the sum of factors that affect the information flow between companies located in different countries, such as language, differences in development levels, cultural differences, the language of business and the social and political ties. Thus, companies would tend to make their initial investments in countries in which they found less psychic distance, and only gradually, would establish connections with distant markets. The issue of geographical proximity is also exploited by specialized bibliography. Researchers such as Chetty (1999) and Ojala and Tyrväinen (2007) sought to demonstrate the likelihood of companies starting their export journey by opting for geographically closer countries. Factors such as logistics cost rationalization and regional trade agreements have emerged as central reasons for choosing the first business partners.
The relationship between company international commitment and volume of resources used motivated Sullivan (1994) to propose a methodology to measure the degree of company internationalization. Upon researching a sample of 74 US manufacturing companies that recorded a high level of revenue from abroad, the author built a linear combination of items preceded by a factor analysis, which helped to identify the most significant variables to measure the degree of company internationalization, as follows:

\[ GIN = VETV + AXAT + SESD + DFVE + EIAG, \]

in which:

- \( GIN \) = Internalization degree scale
- \( VETV \) = foreign sales on total sales
- \( AXAT \) = assets abroad on total assets
- \( SESD \) = number of subsidiaries abroad on number of local subsidiaries
- \( DFVE \) = physical dispersion of foreign sales
- \( EIAG \) = international experience of top management

In Sullivan’s (1994) model, variables were converted so that the degree of internationalization could range on a scale from zero (no involvement with international operations) to five (degree that reveals total involvement of the company in foreign markets).

Ramaswamy, Kroeck and Renforth (1996) criticize Sullivan’s (1994) calculation methodology, and state that the internationalization process complexity cannot be expressed in a linear calculation. For the authors, companies may regress in their internationalization process by returning to earlier stages due to macroeconomic environment conditions or even the adoption of a new strategic direction, which does not necessarily mean a qualitative reduction in their degree of internationalization.

In a later article, Sullivan (1996) refutes criticisms to his model by emphasizing that knowledge about company internationalization is extensive and results from an accumulation of more than two decades of scientific research. The author reinforces the validity of his model on its practical applicability, but highlights the difficulties of generalizing it to the broad and heterogeneous corporate business segment.

2.1.2 Internationalization and networks

Studies of networks are highly interdisciplinary and originated in various fields of science. Despite the polysemy and the notorious complexity of the social networking concept, however, all definitions converge to the sense of connection, bonding and interaction (MINHO, MARTINS, 2001). This is a field of research that is on an ongoing process of expansion and propagation in various fields of knowledge. Its conceptual basis is becoming an analytical way to investigate and reach an understanding of various phenomena of social life.

For Martes et al. (2006), this growing interest in networks is the result of a change that has taken place in the academic environment since the second half of the twentieth century. This transformation is associated with the movement to avoid traditional individualist, essentialist and atomistic explanations towards relational, contextual and systemic explanations. According to the authors, the network approach has become an alternative, on the one hand, to cultural determinism – as they are the product of human agency – and, on the other hand, to the neoclassical economic approach – to the extent relationships between individuals, and not isolated individuals, are taken as the unit of analysis.

Granovetter et al. (2000) define networks as a set of nodes or actors (individuals or organizations) linked by social relationships or ties of specific types. A tie or relationship between two actors has strength and content. The strength reflects the intensity and frequency of interactions and content includes factors such as information, family matters, advice or friendship, shared interests and, particularly, some level of confidence. Networks are exactly the representation of these collective items as a set of relationships, connections or paths (graphically representable by edges) and nodes (vertices).
When the paths between two nodes are multiple (actually more than one) a social network is built.

This study focuses on the analysis of inter-organizational networks, an area that came to be more acknowledged as from the 1970s, when economists and sociologists studied the information flow between companies and qualification processes for business networks (POWELL, SMITH-DOERR 1994). This approach is explored by work of Granovetter (1985) with the use of the “embeddedness” (social embeddedness) concept in the search for explanations of how social behavior influences the economic action, one of the main vectors that guide studies in economic sociology.

Indeed, Granovetter (1985) ends up providing a theoretical model decoupled from Williamson’s (1975) version that organizations with strong market presence are those that, in any situation, always deal more efficiently with the cost of economic transactions. For this author, the economy should not be perceived as a differentiated and increasingly separate sphere of modern society, as economic transactions cannot be defined solely by rational calculations of individual gain, but also and mainly by social obligations or kinship.

To the field of company internationalization, the issue of networks is regarded as a “natural evolution of Uppsala School thought.” Focusing studies on the relationship between firms and industrial markets, a new chain of Nordic school began investigating the internationalization based on enterprise networks that are linked by means of ongoing exchanges of information, products, services and technology (HEMAIS, HILAL, 2002).

Sharing the same conceptual basis of Uppsala model, Johanson and Mattsson (1988) sought to establish the relationship between the internationalization process of companies and networks within various industries, organized according to the logic of supply chains and the generation of value for consumers. The assumption of networks is that companies are naturally dependent on resources controlled by other companies. Accordingly, to carry out their activities, companies need to interact, exchange goods, enable distribution channels, exchange knowledge and take other actions that require the construction of a knowledge base and mutual trust that occurs gradually and cumulatively.

Björkman and Forsgren (2000) argue that this approximation takes place for the existence of cognitive and social ties that are formed between the various actors included in these business relationships, and involve dependence on external resources, time and efforts to build partnerships and develop knowledge relationships and mutual trust. Thus, the economic decisions of a company cannot be analyzed without considering the social context in which they take place, as established by the social embeddedness theory (GRANOVETTER, 1985).

Subsequently, Johanson and Valhne (2003) emphasized the influence of networks in the internationalization process of companies. When seeking to fill the gaps left by “old models of incremental internationalization,” the authors recognized the need for new models that can explain the accelerated internationalization of new ventures, avoiding the gradual pattern of models of the 1970s. The authors defined networks as sets business relationships interconnected by companies in which each partner-company of a network gradually learns about the demands of other companies in terms of resources, strategies and business practices. In acquiring knowledge through their relationships, companies create opportunities to enter new foreign markets. Johanson and Valhne (2009) then presented a review of the Uppsala model, advocating a new view of the company internationalization process. Unlike a sequence of planned steps, internationalization would be as primarily driven by inter-organizational relationships based on trust and commitment with foreign partners.

For Coviello (2006), depending on the dynamics of relationships between the actors, the network approach can explain issued of the internationalization process that do not fit the
Uppsala model, in particular the cases of small and medium enterprises (SME), whose growth depends on external resources and relationships with other actors. It is worth noting that the network approach offers a new perspective for studies on the internationalization of SME, whose international integration implies facing many obstacles arising from their natural needs. The main barriers in relation to large organizations are the difficulties of modernization and efficiency gain to compete internationally, exposure to risks typical of international operations, dealing with the diversity of foreign culture and technical standards, in addition to the high cost of actions to promote business abroad. It is believed that such barriers can be reduced or overcome by the networks (COVIELLO, MUNRO, 1995; RAUCH, 2001). This is corroborated by Barbosa, Fuller and Ferreira (2005) for whom the network approach is most suitable to explain the internationalization of Brazilian SME. For these authors, the complex resources demanded by internationalization actions can be provided more rationally by the synergy of the network, or shared in order to make them feasible for a larger group of companies associated with the same network.

Amal, Freitag and Miranda (2008) also sought to describe the internationalization process of Brazilian SME from the network perspective. The results of the study highlight that the participation of the SME in international business networks is crucial in the early stages of the internationalization process (first exports), when the company must overcome their natural limitations imposed by their own lack of knowledge of the international business practices.

In this direction, João et al. (2010) highlight the ability of managers to articulate networks abroad as an explanation for the success of international integration. Such ability is also explored by the study of Levy, Mota and Wermelinger (2010) upon analyzing a number of case studies on the internationalization of Latin American SME, aiming at identifying the factors that motivated the international integration. Their findings suggest that networks promote access to external resources, such as market information, capital, raw materials and potential partners.

2.2 Internationalization, networks and immigration: empirical evidence

The network approach, albeit timidly, has been particularly used to explain the behavior and success of entrepreneurial activity of immigrant communities in certain countries (MUSTAFA, CHEN, 2010).

Stewart (2003) sought to demonstrate the trend of these communities operating within a complex network of relationships based on family ties and friendship, which creates a dynamic sharing of resources, information and expertise which is crucial in identifying business opportunities and exploring potential markets.

Truzzi and Sacomano (2007) provide important collaboration to investigate the influence of immigration issues in the formation of the State of São Paulo economy. According to the authors, economy sociology, upon seeking closer ties between business activity and ethnicity, laid the foundations for the emergence of the theme of “ethnic entrepreneurship,” a field that has gained prominence among network scholars who recognized that resources and business opportunities of immigrants are in their own ethnic communities, permeated by social networks and social capital. Immigration networks can be characterized as sets of interpersonal ties that connect immigrants, immigrants and non-immigrant pioneers, in their home and host areas, through ties of kinship, friendship and compatriotism.

In the field of internationalization of companies, “ethnic businesses” are described by Hayer and Ibeh (2006) as international business networks formed by individuals having the same ancestral roots. Stating that ethnic issues should receive more attention in studies on internationalization, given the formation of subcultures generated by high mobility of people
in the global economy, the authors conducted a number of interviews with representatives of SME located in the UK, whose owners were Indian immigrants. The central aim of the study was to identify the extent to which networks based on ethnic ties influenced the process of internationalization of the companies surveyed. The findings highlight the important role of these business networks in facilitating the internationalization activities, particularly those companies in which the first generation of immigrants is still in charge. Factors such as family ties, friendship circles, proficiency in a foreign language and cultural identification represent strong pretexts for building relationships business.

The study conducted by Xie and Amine (2009) also brings important contributions on how networks work among immigrant entrepreneurs. Motivated by the impressive growth of the SME participation in the volume of exports from China, the authors sought a better understanding of how these small enterprises moderated their difficulties in obtaining strategic information to enter foreign markets, especially those countries hit the most by the “diaspora” of Chinese entrepreneurs, such as Thailand, Vietnam, Indonesia, the Philippines and Malaysia. The main conclusion of the study is the existence of “mutual business networks” (guanxi) working as network in different regions of the world, with particular emphasis on how they branch out and articulate throughout Southeast Asia and the strong ties that immigrants have with their local ancestors of Chinese origin. These “family connections” help the Chinese company willing to establish international partnerships reduce uncertainties about government impositions, contracts and how to enter those countries.

Similar conclusions can be found in the study of Jean, Tan and Sincowicz (2011) which addressed the influence of “ethnic ties” in the decisions of foreign direct investment (FDI). By investigating the behavior of 88 Taiwanese businessmen who made direct investments in China, the study sought to identify whether the choice of the investment location was influenced by “ethnic closeness” between the two countries. Their findings pointed to the decisive role of this proximity in obtaining in situ information and sources of funds for the investment.

In the Brazilian context, Costa (2006) sought to establish a relationship between “cultural closeness” and economic dynamism and to explain why Brazil is the main destination of FDI of Portuguese companies. According to the author, although the main motivations to start the internationalization process took place after 1990 were the size and growth potential of the Brazilian market, there was a great influence of cultural closeness. Language and historical ties perceived between the two countries weighed in the decision to approach such distant market and reinforce the use of an internationalization form as demanding and expensive as installing production subsidiaries.

The influence of cultural closeness is a recurring theme in studies on the difficulties and barriers faced by SME when deciding to enter foreign markets. The research of Musteen, Francis and Datta (2010), conducted with a sample of 155 small Czech companies, sought to investigate whether companies that share cultural aspects with their international partners have a faster internationalization process. Notwithstanding the communication facilities created by Internet applications (web sites, Skype etc.), the authors point out that when using the same language, partner companies tend to give the relationship a greater degree of trust, which facilitates complex demands as the dealing with technical requirements, registration of intellectual property abroad and compatibility with technical standards imposed by the government of the exporting country.

Against the backdrop of the discussion of the relationship between ties of descent, networks and degree of internationalization, the study reported in this article sought to assess whether family ties and cultural identification among businesspeople descending of European immigrants and European
entrepreneurs contribute to explaining the degree of internationalization of SME located in the city of Blumenau. Founded by German pharmacist Hermann Bruno Otto Blumenau in 1850, the city has a distinct cultural heritage of immigrants who settled the region. The availability of skilled workforce, mainly from Germany, was one of the basic underpinnings of industrialization in the region since the late nineteenth century, a time when the regional economy was still typically primary-export. Even with a relatively diversified economy, the food and textile industries stood out. In the 1960s, Blumenau became a major export hub in the Brazilian context, and in the 1990s it was consolidated as a productive hub internationally renowned, including the presence of subsidiaries of its production companies in other countries. Currently, Blumenau has a population of around 309,000 inhabitants and its economy is based on the activities performed by about 17,200 companies (FURB, 2011; SANTIAGO, 2001).

3 METHOD

This is a quantitative cross-sectional study, which used descriptive and inferential statistics. Figure 1 shows the proposed model of analysis that tested the implication relations between immigration bonds of descent and the degree of SME internationalization.

FIGURE 1 – Analysis model with implication relationships between immigration descent bonds and the degree of company internationalization

Source: the authors.

3.1 Sample

The 71-SME sample was not random, with 68% of companies belonging to the manufacturing industry, 22% to services, 9% to trade and only 1% to agribusiness. Regarding occupation of respondents, 65% of respondents were founding partners, only 15% were partners and 20% were employees. As for the foundation year, 10 companies were founded between 1935 and 1968, 44 between 1971 and 1999 and 15 from 2000 onwards. Regarding the export activity, 15 companies have no activities, 37 of them started exporting between 1964 and 1999 and 19 started their activities between 2000 and 2010.

The reference population was the set of firms in the Business Association of Blumenau (Acib). Currently, the organization has 914 member companies, among which 209 are commercial enterprises, are 168 manufacturers and 537 are service providers. For this study, the SME notation refers to companies that have up to 499 employees. In the sample, 61% of companies had up to 49 employees and 37% between 50 and 499.

3.2 Data Collection Instrument And Procedures

The data collection instrument was a questionnaire containing 24 questions organized...
into four blocks. The first one sought to characterize the firm’s industry of activity, number of employees and year of foundation. The second one focused on the company’s degree of internationalization: exporting frequency, how they entered foreign markets, the number of partner countries, and the percentage of foreign sales in company revenue. The third one, due to a specific filter, was answered only by participants who reported having descent ties with European immigrants who used these bonds to consolidate business with the country of origin, questioning the type of business relationship, the importance of the factors that contributed to business relationships abroad, the frequency of contacts, the importance of the ties of descent and level of cultural and political identification with the country of descent. The final part contained questions to characterize the respondents: age, gender, educational level and contractual relationship with the company.

The draft questionnaire was tested with executives of four Acib exporters, and contributed to instrument adjustments, especially in language and wording of the questions.

The instrument was designed in an electronic version and the access link was sent to all Acib member companies. Data was collected from March 8 to December 8, 2011, period in which the research webpage was available to respondents.

### 3.3 Data treatment procedures

Because of the small sample size, we used the G*Power application in which we set the desired level of significance (p < 0.05) and standard test power in the programs that statistically analyze data (i.e., 0.80), in order to use the regression analysis to evaluate the relationships of predicting ties in the degree of SME internationalization. Results indicated that, for a sample of 71 cases, only two predictors could be used in the regression analysis. Because of this limitation, correlations to elect the two predictors that could be used were made. Data was submitted to the verification of the assumptions of normal distribution of errors (JUDD, McCLELLAND; RYAN, 2009). For other treatment procedures and data analysis, we used the SPSS (Statistical Package for Social Science) version 18.0.

The calculation of the variable degree of internationalization of the participating companies was prepared based on Sullivan’s (1994) model. Some variables of this model, however, were not included in the calculation of the degree of internationalization for the purposes of this research because they are little applicable to the SME reality as “foreign assets on total assets” and “number of overseas subsidiaries on the number of domestic subsidiaries.” From Sullivan’s model, we included in the calculation only those variables most relevant to the SME reality: “foreign sales on total sales” (export intensity), “international experience” (number of modes to enter foreign markets) and “physical dispersion of sales abroad” (number of countries of destination of exports). Moreover, we also employed the “export rate” variable used by Sebrae study (2010).

The degree of internationalization was defined considering all these four variables (each with values ranging from 1 to 3), ranging from one (1) to twelve (12) points, as detailed in Table 1.
### Variable 1 – Export frequency

<table>
<thead>
<tr>
<th>Category according to standard taxonomy</th>
<th>Characteristics</th>
<th>Adjusted category²</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-exporter</td>
<td>Has not exported during the period under analysis.</td>
<td>Exporter with no experience</td>
<td>01</td>
</tr>
<tr>
<td>Fresh exporter</td>
<td>First exported after 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quitting exporter</td>
<td>Has exported during the period under analysis, but with no sales to parties abroad for the past two years</td>
<td>Irregular exporter</td>
<td>02</td>
</tr>
<tr>
<td>Non-continuous exporter</td>
<td>Exported irregularly during the period under analysis, with up to one year without exporting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous exporter</td>
<td>Continually exported during the period under analysis, and has not failed to export within periods longer than one year.</td>
<td>Regular exporter</td>
<td>03</td>
</tr>
</tbody>
</table>

### Variable 2 – Export intensity

<table>
<thead>
<tr>
<th>Category according to standard taxonomy</th>
<th>Adjusted category²</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 10% of total revenue</td>
<td>Low export intensity</td>
<td>01</td>
</tr>
<tr>
<td>Between 11% and 20% of total revenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between 21% and 30% of total revenue</td>
<td>Medium export intensity</td>
<td>02</td>
</tr>
<tr>
<td>Between 31% and 40% of total revenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between 41% and 50% of total revenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between 51% and 60% of total revenue</td>
<td>High export intensity</td>
<td>03</td>
</tr>
<tr>
<td>Over 60% of total revenue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Variable 3 – Geographic dispersion of foreign sales

<table>
<thead>
<tr>
<th>Number of countries to which the company exported</th>
<th>Categories adopted in this study</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to two countries</td>
<td>Low geographic dispersion</td>
<td>01</td>
</tr>
<tr>
<td>Between three and six countries</td>
<td>Medium geographic dispersion</td>
<td>02</td>
</tr>
<tr>
<td>Seven countries or more</td>
<td>High geographic dispersion</td>
<td>03</td>
</tr>
</tbody>
</table>

### Variable 4 – Number of modes to enter foreign markets

<table>
<thead>
<tr>
<th>Modes of entry considered</th>
<th>Categories adopted in this study</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect export by means of a trading company, Brazilian exporting company or international agent.</td>
<td>Up to one mode of entry</td>
<td>01</td>
</tr>
<tr>
<td>Direct export using own structure of foreign sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint ventures or technology transfer arrangements with foreign companies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International franchising</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation of offices abroad</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Licensing production abroad</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation/acquisition of a distribution unit abroad</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation/acquisition of a production unit abroad</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between two and three modes of entry</td>
<td>Medium diversification</td>
<td>02</td>
</tr>
<tr>
<td>Four or more modes of entry</td>
<td>High diversification</td>
<td>03</td>
</tr>
</tbody>
</table>

**CHART 1** – Operationalization of the “degree of internationalization” variable

**Source**: the authors.
To calculate the “export rate,” we used Sebrae taxonomy (2010): non-exporter (never exported during the period under analysis), fresh exporter (exported for the first time after 2009), quitting exporter (already exported during the period under analysis, but made no sales to parties abroad over the past two years), non-continuous exporter (exports irregularly during the period under analysis, with up to a year without selling to parties abroad) and continuous exporter (exports continuously for the period under analysis, not failing to export for over a year). The geographical dispersion of sales abroad was defined after the data collection based on the observed frequencies being categorized in up to two countries, between three and six countries, and over six countries. The diversity of modes of entry into foreign markets was defined based on the Johanson and Valhne (1977) model: indirect export, direct export, joint ventures, licensing, commercial subsidiary, and production subsidiary.

We also attempted to calculate the relevance of networks in effecting business with partners located in the country of descent of the respondent. The relevance of the networks was measured by two variables: content of the ties and the strength of ties (Granovetter et al., 2000).

The component “content of ties” reveals the factors that contributed to the consolidation of the relationship, such as family ties, friendship circles, facility with foreign languages, cultural identification, among others. Because of the diversity of these factors, we decided to split this component into two distinct categories: personal ties and identification ties. As the specific questions included multiple choice, we assigned a value of one (1) point for each factor recorded for the responses in each category; a total of four (4) points may be achieved, as in Table 2.

The component “strength of ties,” in turn, indicates the frequency of the contacts between the company and the companies/entities located in the country of descent of the respondent. As a question with only one answer, we assigned values between one (1) and four (4) points for each of the frequency bands provided.

<table>
<thead>
<tr>
<th>Variable 1 – Content of ties</th>
<th>Value</th>
<th>Identification ties</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal ties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family ties</td>
<td>01</td>
<td>Identification with the country culture</td>
<td>01</td>
</tr>
<tr>
<td>Friendship ties</td>
<td>01</td>
<td>Identification with the country image</td>
<td>01</td>
</tr>
<tr>
<td>Residence in the foreign country</td>
<td>01</td>
<td>Trust in country’s institutions</td>
<td>01</td>
</tr>
<tr>
<td>Proficiency with the country’s language</td>
<td>01</td>
<td>Trust in country’s companies</td>
<td>01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable 2 – Strength of ties</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rarely</td>
<td>With no representativeness</td>
<td>01</td>
</tr>
<tr>
<td>Occasionally</td>
<td>At least once every six-months</td>
<td>02</td>
</tr>
<tr>
<td>Frequently</td>
<td>At least once a month</td>
<td>03</td>
</tr>
<tr>
<td>Very frequently</td>
<td>At least once a week</td>
<td>04</td>
</tr>
</tbody>
</table>

CHART 2 – Operationalization of the “network relevance” variable

Source: the authors.

Complementarily, given the sample size obtained, we also correlated the degree of internationalization and the reasons that led the company to opt for the international market in order to seek issues underlying the role of networks in the internationalization process. The reasons for internationalization listed in the questionnaire are presented in Table 3.
4 DATA ANALYSIS

Initially, descriptive data on key variables of the study will be presented. Subsequently, we will present the correlations results, and finally, the results of the regression analysis, aiming to test the study hypotheses.

4.1 Descriptive analysis of the degree of internationalization and descent ties

Regarding the degree of internationalization, which ranged from 1 to 12 (see Chart 1), 15 companies were at level 1, 11 between levels 3 and 5, 28 between levels 6 and 8, and 17 between levels 9 and 11. No company was at level 12, which is the most advanced degree of internationalization. In order to provide more details on this data, we will present the results of each of the indicators used in the overall calculation of the degree of internationalization variable.

Regarding exporting frequency, 21% of SME in the sample had no exporting experience, 8% started in exports during the period under analysis, 14% quit export during the period, 16% and exported irregularly, and 40% exported continuously. Regarding the intensity of export activity, 49% had low intensity, 49% medium and only 2% fell within the high intensity level. Regarding the geographic dispersion of foreign sales, 22% exported to up to two countries, 50% between three and six countries and 28% for seven or more countries. Finally, with respect to the modes to enter foreign markets, 47% used only one mode, 45% between two and three, and only 7% used four or more modes to enter foreign markets.

With respect to the descent bonds, 79% (n = 56) of the sample answered affirmatively. The results enabling us to relate the country of descent to the countries with which business relationships are maintained are presented in Table 1.

<table>
<thead>
<tr>
<th>Respondent’s country of descent</th>
<th>%</th>
<th>Countries receiving the exports</th>
<th>% in 56 cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>61</td>
<td>Argentina</td>
<td>68</td>
</tr>
<tr>
<td>Portugal</td>
<td>13</td>
<td>Germany</td>
<td>61</td>
</tr>
<tr>
<td>Italy</td>
<td>8</td>
<td>Chile</td>
<td>43</td>
</tr>
<tr>
<td>Austria</td>
<td>7</td>
<td>Netherlands</td>
<td>29</td>
</tr>
<tr>
<td>Spain</td>
<td>3</td>
<td>USA</td>
<td>29</td>
</tr>
<tr>
<td>Poland</td>
<td>3</td>
<td>Mexico</td>
<td>22</td>
</tr>
<tr>
<td>Netherlands</td>
<td>3</td>
<td>Portugal</td>
<td>20</td>
</tr>
<tr>
<td>England</td>
<td>2</td>
<td>Uruguay</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spain</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>China</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Italy</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Colombia</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>South Korea</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: the authors.

With regard to personal ties (ranging from 1 to 4), the average was 2.51 (dp = 0.86) and for the identification ties (ranging from 1 to 4), the average was 2.91 (dp = 0.64). In the case of personal ties, the score involved family and friendship relationships, having lived in the country and be proficient in the language. The higher the score, the greater the personal tie with the country of descent.

In the case of identification ties, the score included identification with the culture and image of the country, in addition to trust...
in its institutions and businesses. The higher the score, the higher the identification tie. Finally, the strength of ties was measured by the frequency with which relationships with the country of descent were maintained, which could range from 1 to 4. Average was 3.11 (\(dp= 0.64\)), indicating that the contacts occurred on average once a month.

Regarding the reasons that gave rise to the export activities, very relevant ones were: (a) “we were approached by a trading company” (35.8%); (b) “we had contacts abroad/family and friendship circles” (28.3%); (c) “we had prior knowledge of the foreign market/culture, customs and language” (17.0%); (d) “we took part in export support programs” (13.2%); and (e) “we sought not depend solely on the domestic market” (13.1%).

4.2 Correlations between descent ties and degree of internationalization

In order to assess the strength of the association between the main variables of the study and decide for two predictors that could explain the degree of internationalization, the degrees of correlations were analyzed. Table 2 presents these results, by highlighting that only the strength of ties (frequency of contacts) is associated with the degree of internationalization and the other variables that form the ties of descent score (personal and identification ties).

**TABLE 2** – Correlation between variables of the study: internationalization and descent ties

<table>
<thead>
<tr>
<th>Variables 1</th>
<th>Degree of internationalization</th>
<th>Personal ties</th>
<th>Identification ties</th>
<th>Strength of contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of internationalization</td>
<td>-</td>
<td>0.27</td>
<td>0.12</td>
<td>0.40**</td>
</tr>
<tr>
<td>Personal ties</td>
<td></td>
<td>-</td>
<td>0.52**</td>
<td>0.38*</td>
</tr>
<tr>
<td>Identification ties</td>
<td></td>
<td></td>
<td>-</td>
<td>0.19*</td>
</tr>
<tr>
<td>Strength of contacts</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

Source: the authors.

** p< 0.001 and * p< 0.05

In an attempt to test the relevance of the tie content for the degree of internationalization, we also tested the correlation between the degree of internationalization and the reasons cited by respondents to internationalize, since two of them directly mentioned the role of personal and identification ties with the country of descent (see Table 3).

**TABLE 3** – Correlations between the degree of internationalization and reasons to internationalize

<table>
<thead>
<tr>
<th>Variables 1</th>
<th>Degree of internationalization</th>
<th>Approached by a local trading</th>
<th>The foreign market was a natural option to expand sales</th>
<th>Increase productivity by seeking new partnerships</th>
<th>We took part in export support programs</th>
<th>We had contacts abroad (family and/or friendship circles)</th>
<th>We had previous knowledge of the target market (language, culture, customs)</th>
<th>Exchange policy was favorable to exports at the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of internationalization</td>
<td>-</td>
<td>-0.16</td>
<td>0.40*</td>
<td>0.22</td>
<td>0.34**</td>
<td>0.34**</td>
<td>0.40**</td>
<td>-0.01</td>
</tr>
</tbody>
</table>

Source: the authors.

*p < 0.05 and **p < 0.001

The correlation test revealed a moderate strength of association with statistical significance between the degree of internationalization of the sample and four types of reasons for
internationalization: foreign market as an option for expansion \((r = 0.40)\), participation in export support programs \((r = 0.34)\), overseas contacts/family and friendship circles \((r = 0.34)\), and previous knowledge of the language and customs of the target market \((r = 0.40)\), which indirectly indicates the existence of an association between the degree of internationalization and some types of personal and identification ties.

4.3 Regression analysis: testing the prediction power of contact frequency in the degree of internationalization

Because of correlation between degree of internationalization and strength of contacts has been found, we decided to analyze the linear regression to test the predictive value of the contact strength (frequency of contact with their country of descent) in the degree of SME internationalization.

Figure 2 shows a dispersion diagram that enables the visualization of relationships between the frequency of contacts and the degree of SME internationalization. Two blocks can be clearly identified, which suggests that there is a minimum level of contact that corresponds to internationalization. From there, other variables not identified in this study appear to contribute to the level of internationalization.

FIGURE 2 – Dispersion diagram: strength of ties vs. Degree of internationalization

Source: the authors.

The results of the association between frequency of contact and degree of internationalization help us understand the results of the regression analysis which are presented in Table 4.

**TABLE 4 – Regression analysis: predictive value of the strength of ties in the degree of internationalization**

<table>
<thead>
<tr>
<th>Variables</th>
<th>( \beta )</th>
<th>SE ( \beta )</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.37</td>
<td>2.09</td>
<td></td>
</tr>
<tr>
<td>Strength of ties</td>
<td>1.63</td>
<td>0.66</td>
<td>0.40**</td>
</tr>
</tbody>
</table>

Source: the authors.

Note: \( R^2 = 0.13 \) (\( N = 34 \)), **\( p < 0.001 \)), \( a \) Beta non-standard, \( b \) Standard error of Beta and \( c \) Beta standard

The results indicate that SME in the sample of this research are in the early (36%) or intermediate stages (40%) in the scale of the degree of internationalization. Only 24% had levels between 9 and 11, and none had the highest degree of internationalization. These results can be explained by analyzing the individual components of the degree of internationalization. Corroborating what is discussed in the literature, SME tend to have low export intensity, low geographic dispersion of foreign sales and use few entry modes (FREEMAN, EDWARDS, SCHRODER, 2006; HOLLENSTEIN, 2005). In contrast to this trend, however, the sample of this study presents a significant proportion of SME (40%) regularly exporting, i.e., not exporting continuously without foreign sales for over a year, and use more advanced modes of entry.

The analysis of the country of descent in conjunction with countries to which products are exported allows us to infer the importance of ties in the business relationship, with highlight to Germany, which is the second country in destination of exports. Space for the application of the psychic distance concept is open, insofar as some social bonds may be associated with this
finding. The list of major export destinations includes countries of non-descent, but of geographical closeness, as is the case of Argentina, the main export destination, and Chile, which is in the third position. These results corroborate the studies of Bell (1995), Chetty (1999) and Ojala and Tyrväinen (2007) which show the tendency of companies to start their exporting journey by electing geographically closer countries.

The correlation test showed no association between the degree of internationalization and the occurrence of personal ties in the execution of business relationships with a foreign partner, or identification ties. We expected to find this association, given the characteristics of the study population, as well as the results of similar research, such as Hayer and Ibeh (2006), Xie and Amine (2009) and Jean, Tan and Sincowicz (2011). These are studies that suggest that these family connections are critical factors in establishing international partnerships to obtain insider information on market potential, register of potential buyers, government requirements, local contractual practices, among others.

The strength of ties was measured by the frequency in which the contacts between the respondent and his business partner located in the country of descent are made. The correlation test showed a strength of “moderate” association ($r = 0.40$) between the degree of internationalization of enterprises and frequency of contacts with business partners located in the country of descent. The results of the regression analysis suggest that only the strength of ties (frequency of contacts) contributes to explaining the degree of internationalization.

The dispersion diagram shown in Figure 2 demonstrates significant company concentration in the “once a month” (value 3) range of contacts. One can also see that the highest number of hits of the “often” or “very often” (once a week) range of contacts focus on the higher values of the degree of internationalization of the sample, highlighting the range of degree 8. Nevertheless, as mentioned above, there are cases of companies that make monthly contacts and are at the same level of internationalization of companies that have weekly contact, which suggests the need to adopt strategies to expand the sample and include other variables to better explore their impact on explaining the degree of internationalization, such as organizational characteristics, strategies of international operations of these businesses and leadership.

The study of Musteen, Francis and Datta (2010) that sought to explain how the dynamics of communication (involving contact) between international partners who share similar cultural issues can influence the export performance has concluded that there is a positive correlation between the frequency of contacts between the partners and the speed with which the internationalization of the companies investigated is processed in culturally close markets. This finding was mainly observed in the early stages of internationalization, when ignorance about foreign trade practices and the operation of foreign markets is more evident. For the authors, despite the communication facilities created by Internet applications (web sites, Skype, etc.), companies that share similar cultural patterns tend to give a greater degree of trust to the relationship, and facilitate complex demands as forms of payment of the transaction, registration of intellectual property abroad, and dealing with legal standards.

Adopting the same line of reasoning, Rauch (2001) has argued that trust between companies in different countries is fueled by the intensity with which the contacts are made by the networks. For this author, trust is seen as a key link in establishing guaranteed international business relationships of mutual cooperation legitimized over time by a positive feedback cycle.

5 CONCLUSIONS

Understanding the phenomenon of enterprise internationalization remains a challenge for research in the management science field. Although there is a strong commitment to search for internationalization models able to explain the new contours of this phenomenon, the field
of enterprise internationalization is far from consolidating a single, ultimate theory.

Researching the strength of the association between immigration ties of descent and the degree of internationalization of local companies also proves to be a challenge. This is shifting the focus of economic rationality to an underlying context mediated by family ties and trust relationships, and strengthening the idea that to understand the market, it is necessary to know the nature of social relationships in which it is inserted.

The results of this study provide evidence that the association between the degree of internationalization is restricted to only a few aspects related to the ties of descent, and that further studies are necessary with a broader and more diverse sample to test the strength of these relationships. The hypothesis that family ties and cultural identification with the country of descent would explain the degree of SME internationalization was not supported by this sample. The test of the second hypothesis indicates that the frequency of contacts helps explain the degree of internationalization, although one cannot generalize this result to other samples in view of the low power to explain variance (13%) of this variable in the degree of internationalization, as well as the small number of cases included in the calculation (n = 34 of 71 respondents comprised the total sample).

This does not mean that there is no association against other studies that brought evidence of the relationships between these variables. It is believed, however, that in part, the results reveal problems in the sample, as only companies belonging to the membership base of the Business Association of Blumenau took part in the survey. Moreover, of the 71 companies responding the survey, only 56 actually had some export activity, and little sample variability, which considerably limited the data analysis and the use of other statistical procedures.

Like all scientific research, this article has methodological and conceptual limitations, which may take different proportions depending on the risks and difficulties particularly encountered in its development. Undoubtedly, a major limitation lies in the representativeness of the sample. Although the state of Santa Catarina has tradition in the exporting activity, which qualifies it for the study of company internationalization, one is not sure that it represents the heterogeneity of Brazilian SME. This imposes limits on the generalization of the study results to this large segment of companies. Another limitation is that company leaders (or employees of trust) were responsible for answering the questionnaire. It is recognized that the perception of the entrepreneur about the actions of their company is influenced by subjective biases that often distort the facts.

As scientific contribution, this research offers a perspective for analyzing networks based on its structural attributes (content and strength). Although the major publications in the field of internationalization will emphasize the importance of networks in the context of international business, we understand that they are predominantly extensive and cross-sectional studies, which prevents a more qualitative analysis of the substance of these social relationships. One of the difficulties faced in conducting this study was that distance with what actually happens “inside” these relationships, requiring that the researcher look for greater familiarity with what actually takes place in these companies on a daily basis. This need was detected during some personal contacts with entrepreneurs who participated in the survey. A quick conversation was enough to realize the value of historical issues, rules and shared customs and conventions that guide corporate life within the limits of a region with peculiar social and economic characteristics.

A proposal for future research in this field is the use of ethnographic methods in research on internationalization focused on networks. This methodological approach could favor greater familiarity of the researcher with the reality of the business, thus enabling the interpretation of how the system of cultural meanings is organized and how it influences internationalization decisions, particularly the choice of international partners.
NOTES
2. Frequency and export intensity categories were adjusted (reduced) given the low volume of valid answers. Accordingly, we obtained more numerical representativeness in each new category.

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