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THE IMPACT OF RELATIONAL CAPABILITIES ON THE INTERNATIONALIZATION PROCESS OF INDUSTRIAL SUBCONTRACTORS

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ABSTRACT. ***This paper sets out to investigate the internationalization process of industrial subcontractors, focusing on subcontractors' capability of linking to the local hubs of internationalized networks and using them as springboards to international markets.***

The main contribution is to provide deeper insight into the causal relationships between subcontractors' relational capabilities and their degree of internationalization, mediated by the level of subcontractors' involvement with local firms and the networks linked to international markets. While confirming the existence of a strong connection between subcontractors' relational capabilities and the level of subcontractors' involvement with local hubs of international networks, it was found that subcontractors' dependence on multinational enterprises could hamper their expansion into foreign markets. More specifically, the study offers only partial support for the so-called 'springboard' effect, i.e. the role exerted by local hubs of internationalized supply networks in projecting small subcontractors abroad.

KEYWORDS: SME internationalization, international Business relations, buyer-supplier relationships, subcontractors, customer integration capabilities.

JEL classification: F23, M16, L14, M11.

Introduction

The management of business relationships has become a highly relevant issue for companies and an emerging topic for academic scholars. Recent contributions highlight the importance of internal abilities in shaping the performance of joint activities with external partners, thus introducing the concept of relational capabilities (Capaldo, 2007; Jacob, 2006; Lorenzoni, Lipparini, 1999; Möller, Törrönen, 2003; Balboni *et al.*, 2013). Relational capabilities refer to a firm's ability to select partners and maintain high-quality relationships with them using the appropriate administrative mechanisms (Johnson, Sohi, 2003). Despite the fact that many attempts have been made to define this concept (Capaldo, 2007; Johnson, Sohi, 2003; Lorenzoni, Lipparini, 1999), the majority of these definitions are perceived to be applied in alliance formation processes (Capaldo, 2007; Kale *et al.*, 2002; Sivadas, Dwyer, 2000) and are barely considered within vertical business-to-business relationships (Croom, 2001; Johnsen, Ford, 2006).

Historically, literature on supply management has often stressed the importance of supplying firms in cultivating internal resources and capabilities, such as technological skills (Flor, Oltra, 2005), innovation ability (O'Cass, Ngo, 2012) and design capabilities (Scheer *et al.*, 2010). However, the evolution of the literature on buyer-supplier relationships and the emergence of new business practices have highlighted the many potential benefits related to the collaboration between buyers and suppliers (Dyer, Singh, 1998; Ring, Van de Ven, 1994). As a consequence, the proprietary assumptions of the resource-based view, concerning a firm's internal resources and capabilities, have gradually shifted externally (Dyer, Singh, 1998). Within this perspective, business relationships act as vehicles to acquire new resources and capabilities.

Against this background, the current study investigates the internationalization process of industrial subcontractors. In fact, industrial subcontractors and suppliers differ significantly in their internationalization processes. While for industrial suppliers a high level of product standardization can positively affect the speed and the extent of their foreign expansion (Andersson, 2002), for subcontractors, the opposite is true: the higher their capability of

meeting their customers' specific requirements, the higher their chance of developing long-lasting relationships which, in turn, will result in international growth as their customers move their businesses and invest heavily in foreign market development (Andersen *et al.*, 1997; Andersen, Christensen, 2005; Camuffo *et al.*, 2007). This process is consistent with the network model of internationalization where network relationships are seen as the major initiators in SMEs' internationalization processes (Bodur, Madsen, 1993; Johanson, Mattsson, 1988). Within this research stream, many studies have focused on the role exerted by the network on determining firms' market selection and mode of entry (Coviello, Martin, 1999; Coviello, Munro, 1997; Moen *et al.*, 2004; Zain, Ng, 2006).

This research aims to obtain a deeper insight into the role of subcontractors in creating conditions to be driven in international markets by their customers. By integrating the network perspective and the resource-based view, this paper answers the call for more research on the link between resources and the pursuit of opportunities in foreign markets through network relationships (Rialp *et al.*, 2005; Wright *et al.*, 2007). More specifically, its main contribution is to analyze the role of subcontractors' relational capabilities in linking to local hubs of internationalized networks and using them as a springboard to international markets. To the best of our knowledge, only a few studies have examined this topic and all of them have indicated the need for further research (i.e. Andersen, Christensen, 2005; Camuffo *et al.*, 2007).

From a managerial point of view, since industrial subcontractors tend to be 'pulled' (or 'piggybacked', as stated by Raines *et al*., 2001) abroad by their clients, establishing strong links with domestic but highly internationalized customers, such as local branches of multinational firms, is of crucial importance to them (Andersen *et al.*, 1997; Raines *et al.*, 2001). In other words, developing network relationships has become crucial for industrial subcontractors in order to remain connected to their major clients, like multinational enterprises (MNEs), and highly internationalized firms and networks, and thereby gain more opportunities to internationalize their business (Camuffo *et al.*, 2007; Furlan *et al.*, 2007). But in the case of small industrial subcontractors, taking part in the supply network of big international players is neither automatic nor simple. They collaborate with business clients and suppliers in several activities: from design (e.g. co-design processes) to quality assurance (e.g. free-pass and zero-defects practices), from logistics (e.g. just-in-time) to innovation (e.g. products and processes co-development). Thus, the development of relational capabilities by industrial subcontractors in an international context represents a highly complex process which is worthy of investigation due to the gap in theoretical literature and empirical work, especially regarding the managerial implications.

Whilst marketing and management scholars have made a few attempts to examine the role of relational capabilities in the internationalization process of industrial subcontractors (Andersen, Christensen, 2005), our research hypotheses relied on the assumption that relational capabilities allow subcontracting firms to connect firmly to highly internationalized firms and networks (of firms): the stronger these connections, the higher the international profile of subcontractors. Using survey data, we developed a valid structural equations model that investigates the links between networking opportunities and the degree of internationalization of industrial subcontractors, and between relational capabilities and networking opportunities.

1. Literature Review and Research Hypotheses

1.1 Internationalization Routes of Subcontracting SMEs

The first step in understanding internationalization in subcontracting activity is to uncover the boundaries of this activity. While a minimalist definition was acceptable thirty years ago, i.e. 'the execution of a job order in which the customer establishes the technical standards while the subcontractor produces it' (Lorenzoni, 1979), today it is no longer suitable. During the last few decades, subcontracting relationships have changed significantly. Terms like 'integrated/strategic outsourcing' and 'supplying partnership' have become quite common in the supply management area.

At the same time, many professional buyers have started incorporating suppliers' most advanced capabilities, such as innovation capacity, co-design and co-prototyping capability, just-in-time delivery and total quality production, into their models of evaluation and selection (Chen *et al.*, 2004; Xu, Beamon, 2006).

Since business-to-business relationships have begun to be extended for longer periods, a new concept of subcontracting has gradually emerged. In this regard, Kimura (2002) argues that 'there also seems to be a general consensus that subcontracting is a long-term arrangement' and that 'a one-shot transaction cannot be called a subcontracting arrangement'.

The main characteristic with respect to subcontracting activity is that it now requires a higher level of inter-firm coordination than the simple supply of standardized products. As Grossman, Helpman (2005) observe, a subcontracting firm is 'a partner with which a firm can establish a bilateral relationship and having [it] undertake relationship-specific investments so that it becomes able to produce goods or services that fit the firm's particular needs'.

The peculiarity of subcontractors is also reflected in their internationalization paths. As Andersen *et al.* (1997) explain: 'in their process of internationalization, industrial subcontractors are usually very close to their customer [. . .] in such a way that it suggests a collaborative process of internationalization'.

Of course, simple suppliers can adapt their products or services to their customers' needs as well. Standardization and adaptation can be represented as two extremes of a continuum, inside of which it is possible to identify an infinite number of alternative options (Vianelli *et al.*, 2012; Alon *et al*, 2013). The ideal combination could be defined by considering the advantages and disadvantages of the two alternatives (Johansson, 2000). Andersson (2002) points out that the standardization level positively affects suppliers' internationalization processes, since the more standardized the products, the less the adaptation costs to different clients and markets.

With regard to subcontractors that aim to expand their business activities abroad, 'piggybacked' processes are not the only achievable option. Andersen *et al.* (1997) identified four internationalization patterns that are typical of industrial subcontractors:

1. Internationalization by following domestic suppliers to the international marketplace;
2. Internationalization through integration into the supply chain of an MNE;
3. Internationalization in cooperation with domestic and foreign system suppliers; and
4. Independent internationalization.

The above taxonomy reveals explicitly that three out of the four patterns provide for the existence of a third party in the role of 'process catalyser'. This catalyser is always a client even if it takes different shapes: it is a domestic customer in the first route, an MNE in the

second and a system supplier in the third. The latter normally corresponds to a bigger firm that stays upstream in the supply pyramid, such as in the case of 'system suppliers' (Helander, Möller, 2007).

1.2 The Link between Networking Opportunities and International Profile

While it is largely accepted that subcontractors' internationalization patterns are frequently driven by their customers, it is also necessary to point out that this does not imply that the subcontractor remains passive in the process. Managing business relationships with business customers can trigger subcontractors' internationalization processes. However, this is neither automatic nor simple to do since long-lasting business relationships are built on a solid foundation. From this perspective, the subcontractor's internationalization process relies both on the resource-based view of the firm (Andersen, Kheam, 1998; Karagozoglu, Lindell, 1998) and on the network perspective of the internationalization process (Coviello, Munro, 1997; Johanson, Mattson, 1988).

The network perspective helps us to explain how companies' network relationships affect their internationalization status (e.g. Coviello, Munro, 1997; Johanson, Mattsson, 1988; Loane, Bell, 2006).

Also, Johanson, Vahlne (2009) in revising the 'Uppsala' model had to recognize that 'internationalization depends on a firm's relationships and networks. We thus expect the focal firm to go abroad based on its relationships with important partners who are committed to developing the business through internationalization' (p.1415). In the case of the subcontracting firm, the network model of internationalization is more likely to be driven by local customers than foreign ones (Johanson, Mattson, 1988). Typically, subcontracting firms start developing business relationships with firms that are also well linked to internationalized networks. Despite being local, these relationships act as a bridge to new markets and can expose subcontractors to a full range of international opportunities (Balboni *et al.*, 2013; Bradley *et al.*, 2006; Moen *et al.*, 2004; Raines *et al.*, 2001).

Moving from the conclusions of Andersen *et al.* (1997), in this study we focus on two kinds of local relationships that can support subcontractors' international growth: those with internationalized domestic clients (typically, system suppliers) and those with manufacturing branches of multinational companies. We define supply network involvement (SNI) as subcontractors' belonging to local supply networks with international scope (Ganesan, 1994). The strength of subcontractors' collaboration with local subsidiaries of multinational companies has been considered and accordingly labeled as subcontractors' dependence on multinational enterprise (DMN).

The main assumption underlying both variables is that the higher the subcontractors' involvement in local but internationally open business relationships, the higher their degree of internationalization (DOI). In fact, internationalized customers can support subcontractors' internationalization aspirations by facilitating their access into new foreign markets (Bradley *et al.*, 2006; Di Guardo, Valentini, 2006; Raines *et al.*, 2001) and by transferring new knowledge to them (Saarenketo *et al.*, 2004). Subcontractors rely strongly on these relationships, particularly to select and expand into foreign markets, as they facilitate the acquisition of experiential knowledge about these markets (Loane, Bell, 2006).

Even if this knowledge learning takes place within the relationship, the knowledge that is being created is not necessarily relation-specific, however subcontractors can extend it to other and more general aspects of their business, e.g. how to deliver in specific markets, how to bargain with foreign customers, how to fund international sales and cover the relative risks,

etc. They can then further exploit new business relationships and markets at a lower cost (Johanson, Vahlne, 2009).

Given these premises, we hypothesize that:

Rh_1: The level of subcontractors' SNI has a positive and significant influence on subcontractors' DOI, and

Rh_2: The level of subcontractors' DMN has a positive and significant influence on subcontractors' DOI.

1.3 The Link between Relational Capabilities and Networking Opportunities

Subcontractors' relational dependence is not the effortless output of a passive behavior but is rather a consequence of the use of an adequate set of capabilities in order to establish, maintain and develop exchange relationships (Johanson, Mattsson, 1988; Mort, Weerawardena, 2006; Ojala, 2009). Hence, the central node now becomes: what kind of capabilities should be developed by subcontractors in order to maximize their opportunities of linking to internationalized networks and their local hubs.

The resource-based view supports the assumption that firms' behavior is shaped by the evolutionary paths they have experienced. History, past investments and accumulated capabilities constrain their behaviors (Barney, 1991; Teece *et al.*, 1997), including the decision to internationalize. In this way, the accumulation of critical resources and capabilities (Andersen, Kheam, 1998; Karagozoglu, Lindell, 1998) as well as experience (Johanson, Vahlne, 1977) facilitate firms' internationalization process. In particular, firms that have developed capabilities to link networks, i.e. relational capabilities, can achieve a potential competitive advantage in terms of international growth and performance (Dyer, Singh, 1998).

Several attempts have been made in order to define the concept of 'relational capabilities' by, for example, Capaldo (2007), Croom (2001), Johnson, Sohi (2003), Lorenzoni, Lipparini (1999), and Möller, Törrönen (2003), among others, and to differentiate it from 'alliance capabilities' and 'network capabilities'. From the existing literature, we can ascertain that the three concepts seem to refer to the same phenomenon but that the studies rely on different theoretical backgrounds (Äyväri, Möller, 2008).

The concept of 'alliance capabilities' has been introduced in order to explain the heterogeneous success rate of firms' alliances (Kale *et al.*, 2002). These studies were mainly focused on alliance capabilities' development and inter-organizational mechanisms that explain or lead to them (Kale *et al.*, 2002; Kale, Singh, 2007).

The 'network capabilities' concept relies on IMP and relationship marketing literature (Möller, Halinen, 1999). Network capabilities can be considered as a firm's abilities to develop and use inter-firm relationships, which can be measured by task execution and qualifications (Ritter, Gemunden, 2003)

The 'relational capabilities' concept is mainly based on the resource-based view of the firm and, in a recent development, on the knowledge-based theory of the firm and on the dynamic capability view. Relational capabilities encompass the ability to select the right partners, and to establish and maintain relationships with other firms (Johnson, Sohi, 2003; Lorenzoni, Lipparini, 1999) in order to access external knowledge and resources through inter-organizational relationships with customers and suppliers (Sivadas, Dwyer, 2000). This means that relational capabilities are dynamic capabilities by which firms are able to develop critical competencies beyond the boundaries of the firm, bringing together complementary resources and capabilities from network relationships (Kale, Singh, 2007).

While many studies focus on the role of relational capabilities in accelerating firms' knowledge and access to networks (Kale *et al.*, 2002; Lorenzoni, Lipparini, 1999), improving firms' ability to communicate and coordinate business interactions (Day, Van den Bulte, 2002; Dyer, Singh, 1998; Jacob, 2006; Paulraj *et al.*, 2008), supporting and facilitating the formation of trust and reliance within relationships (Baker, 1992; Sivadas, Dwyer, 2000), not as many have used this concept to explain firms' internationalization paths (Mort, Weerawardena, 2006; Pagano, 2009). With regard to suppliers' involvement in their clients' operations, Croom (2001, p.35) defines firm's relational competencies as 'those competencies obtaining to the processes of communication, interaction, problem resolution and relationship development'.

In shaping subcontractors' relational capabilities, our understanding is similar to that of Möller, Törrönen (2003) where suppliers' relational capabilities are the result of a dynamic process and refer to a limited set of activities that have a prominent operational content (from technological support to proactive innovation). Since subcontractors act as connective nodes within the local and global supply network (Andersen, Christensen, 2005), their relational capabilities can be deployed upstream and downstream (Camuffo *et al.*, 2007). Subcontractors should be able to effectively collaborate with their customers in many areas, such as technology development, design, quality assurance, logistic aspects and innovation processes. In other words, they should develop customer integration (CI) capabilities in order to provide customised solutions for their industrial customers (Flor, Oltra, 2005; Jacob, 2006; Smirnova *et al.*, 2011). The ability to implement solutions to customers' problems enables subcontractors to strengthen and streamline inter-organizational relationships so that they can result in mutual gains for both parties (Camuffo *et al.*, 2007). Therefore, subcontracting SMEs could use their CI to establish bonds with domestic networks, local branches of MNEs and/or highly internationalized firms (typically domestic customers) and, subsequently, use these domestic networks as a springboard to form network relationships with foreign actors. We therefore hypothesize that:

Rh_3: Subcontractors' CI has a positive and significant influence on SNI, and
Rh_4: Subcontractors' CI has a positive and significant influence on DMN.

The increase in outsourced relationships and the need of rationalizing the supply base and simplifying the relationships (Chen *et al.*, 2004; Shin *et al.*, 2000) have meant, for many suppliers, being forced to evolve from simple manufacturers to coordinators of complex supply systems. This change has brought several suppliers to enlarge their sub-supplier and subcontractor portfolio, and consequently develop more organizational capabilities on the supply side (Camuffo *et al.*, 2007). For subcontracting firms, and especially for first-tier subcontractors, the ability to orchestrate a sub-supply system can have significant importance in terms of strengthening their competitive profile and their business relationships with major customers (Shin *et al.*, 2000). Hence, we assume that a subcontractor should own and develop supply management (SM) capabilities in order to increase its chances of linking to multinational companies and getting involved in the internationalized supply network. In more formal terms:

Rh_5: Subcontractors' SM have a positive and significant influence on SNI,
Rh_6: Subcontractors' SM have a positive and significant influence on DMN.

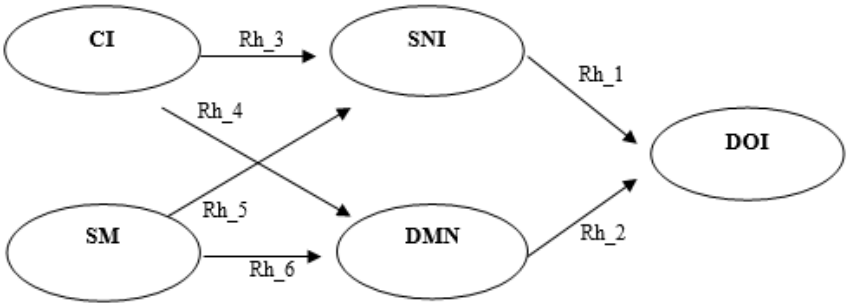

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Figure 1. **The Research Model**

Figure 1 summarizes the hypothesized relationships between the variables and shapes the model.

2. Research Method

2.1 Data Collection and Sample Description

The data used in this study collected from an online questionnaire survey on industrial subcontractors in Italy. The level of analysis was the company or the business unit for multi-unit firms. Respondents were entrepreneurs or companies' managers in charge of subcontracting activities. A random sample of 824 subcontractors selected with the support of SubforNet, a committee of seven regional chambers of commerce supporting networking among subcontractor companies. A pre-test was performed by the authors submitting the questionnaire to three entrepreneurs and three companies' managers in order to evaluate whether or not any misunderstandings could be found in the survey items. The final measures are shown in the *Appendix*.

Table 1. Composition of the final sample

	Category	Percent
Industry	Mechanical	73.1%
	Plastic	8.7%
	Textile and Fashion	6.7%
	Electronics	5.8%
	Furniture	5.8%
Type of export	No export	37.3%
	Occasional export	27.1%
	Systematic export	35.6%
Areas of international expansion*	West-Central Europe	57.7%
	East Europe	28.8%
	North America	14.4%
	East Asia	12.5%
	Others	9.6%

Notes: *The sum is higher than 100% because some of the companies operate in more than one area.

Source: own calculations.

The online questionnaire was administered directly by SubforNet with a briefly explanation of the research objectives and how the results would be published at the end of

the research process. In accordance with Kaplowitz *et al.* (2004), an email delivery was repeated after 15 days. In all, 117 completed the survey, with a response rate of 14.1%. In order to separate subcontractors from simple suppliers in responding companies, we chose to define a subcontractor as a company realising a minimum of 50% of its turnover through subcontracting activities. We therefore asked respondents to indicate how much of their turnover (as a percentage) came from subcontracting activities and how much from non-subcontracting ones. After careful screening, we selected 107 respondents that had declared that more than 50% of their turnover was generated through subcontracting activities. Even if the response rate was quite low, the literature points out that this represents a common problem in online surveys (Grandcolas *et al.*, 2003). However, the final sample was made up of companies operating in different industrial sectors, various foreign countries and with different internationalization modes, as described in *Table 1*.

2.2 Item Measurement

Existing measures were extracted from the relevant literature and adapted to the current context. A complete listing of all the measures used in the study is provided in the Appendix. The constructs were measured with multi-item scales.

Customer integration capabilities were operationalized by adapting a four-item scale originally developed by Jacob (2006) in order to measure customer integration competence. In contrast to the original scale that measured the three sub-competences of integration capabilities (Jacob, 2006), we focused on the main activity domains of CI developed by the subcontractors, i.e. product development, design, quality assurance and logistic activities.

Supply management capabilities were measured by applying the supply management orientation scale developed by Shin *et al.* (2000). This construct included four items that measure long-term orientation in supply management, suppliers' involvement in subcontractors' activities, and the efficiency and effectiveness of the supply network.

Supply network involvement was estimated using a perceived measure of subcontractor's internationalized network involvement (Coviello, Munro, 1997), based on a two-item scale that captures the entrepreneur's assessment of their participation in an internationalized supply network and the degree of its turnover that comes from local network (Belso-Martinéz, 2006; Ganesan, 1994).

The dependence on multinational enterprises was measured by a two-item scale delineated by the perceived length of the relationships with these enterprises (Di Guardo, Valentini, 2006) and the degree of subcontractor turnover that is generated from multinational firms (Ganesan, 1994).

With regard to the degree of internationalization, a great variety of measures were found in the literature. Export sales on total sales (ESTS), number of foreign markets and FDI presence were some examples of one-dimensional measures while other scholars prefer multi-dimensional measures. Manolova *et al.* (2002), and Hollenstein (2005) focus on firms' internationalization 'modes'. Brush *et al.* (2002), and Mol *et al.* (2004) move from Johanson, Vahlne's (1977) 'psychic distance' concept and suggest more sophisticated measures of a company's internationalization scope. Ruzzier *et al.* (2007) developed a Luostarinen's intuition, and identified and tested a four-dimensional construct in order to estimate the DOI of a company.

We decided to leverage on Brush *et al.* (2002), Manolova *et al.* (2002), Ruzzier *et al.* (2007) and Ruzzier, Antoncic (2007), and tried to capture the multidimensionality of the degree of internationalization through a combination of existing measures (14 items),

summarized into three basic dimensions: export intensity, internationalization modes and geographical scope (see Appendix). Our choice to combine existing scales from previous research was motivated by two main reasons: if used together, their validity could be better established, and they may complement each other (Antoncic, Hisrich, 2001).

2.3 Results

Before testing the hypotheses, we assessed the psychometric properties of the multi-item scales used to measure the variables. We therefore performed a confirmatory factor analysis (CFA) (Bagozzi, Foxall, 1996), applying a structural equation model to estimate parameters (Bollen 1989) using LISREL 8.8 (Jöreskog, Sörbom, 1993). We used the covariance matrix as input and the maximum likelihood fitting function as the estimation procedure. We assessed the overall goodness of fit of the model with a combination of indices: chi-square 71.79; df 55; chi-square/df < 1.50; NFI 0.92; NNFI 0.96; CFI 0.97; IFI 0.97; RMSEA 0.054; SRMR 0.053. An examination of the squared multiple correlations confirmed that the items were appropriate measures for the latent variables. Furthermore, all of the items loaded highly on the factors they belonged to, and they showed suitable t-values. As such, this was a test of the convergent validity of the scale (Anderson, Gerbing, 1988).

Discriminant validity was established using the chi-square difference test (Anderson, Gerbing, 1988). Measurement models were constructed for all possible pairs of the theoretical constructs. These models were tested on each selected pair, and the correlation between the constructs was fixed at 1.0. For all cases, the chi-square difference test was significant at the $p < 0.05$ level, indicating that discriminant validity was achieved.

Moreover, we also tested the discriminant validity by verifying that the average variance extracted (AVE) for each construct was higher than the squared correlation between that construct and any other construct in the model (Fornell, Larcker, 1981). With regard to the reliability analysis, all constructs achieved satisfactory levels of internal reliability, composite reliability (> 0.70) and AVE (> 0.50) (*Table 2*).

Table 2. Reliability and validity of the measures

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
CI	0.84	0.92	0.74
SM	0.91	0.90	0.80
SNI	0.84	0.84	0.72
DMN	0.87	0.91	0.84
DOI	0.87	0.84	0.63

Source: own calculations.

In order to test our research hypotheses, a structural equation analysis was performed using LISREL 8.8. The maximum-likelihood test method was selected for the estimation of the theoretical model. The data analysis confirmed that the model was able to explain the phenomenon adequately. The overall goodness of fit of the model as confirmed by a combination of indices: chi-square 91.08; df 58; chi-square/df 1.57; NFI 0.90; NNFI 0.95; CFI 0.96; IFI 0.96; RMSEA 0.065; SRMR 0.072.

With respect to the six studies' research hypotheses, we found support for five of them and a counter-finding for Rh_6 (*Table 3*).

Table 3. The extended model: findings (significant relationships in bold)

Latent Variables	Squared multiple correlations	Causal Links	St. Est.	Research Hypotheses
DOI	0.33	SNI→ DOI	**0.55****	Rh_1 : Supported
		DMN→ DOI	**-0.32****	Rh_2 : Not supported
SNI	0.37	CI→SNI	**0.35****	Rh_3 : Supported
		CI→ DMN	**0.16***	Rh_4 : Supported
DMN	0.17	SM →SNI	**0.41****	Rh_5: Supported
		SM → DMN	**0.26****	Rh_6: Supported
Chi-square: 91.08, df: 58; RMSEA:0.065; SRMR: 0.072; NFI:0.90; NNFI:0.95; CFI:0.96; IFI: 0.96				

Notes: **$\alpha < 0.01$; *$\alpha < 0.10$.

Source: own calculations.

Findings showed that the relational capabilities, SM and CI, significantly predict involvement within the internationalized local network. In particular, results reveal that SM capabilities are stronger than CI ones in internationalized networking. The amount of SNI's variance explained by its antecedents is 0.37.

The impact of relational capabilities on DMN is statistically significant for SM (St. Est. 0.26; t value 3.09, $\alpha < 0.01$), while the influence of CI capabilities on DMN is significant for 90% confidence interval (St. Est. 0.16; t value 1.86, $\alpha < 0.10$). The amount of DMN's variance explained by its antecedents is 0.17.

With respect to the DOI construct, the high level of explained variance (0.33) is the result of the positive and significant influence of SNI on DOI, as hypothesized in Rh_1. On the contrary, the research findings do not support the direction of influence of DMN on DOI (Rh_2). In fact, this relationship is significantly negative.

An evaluation of the model was completed by comparing the proposed theoretical model with a series of competing models acting as alternative explanations for subcontractor's internationalization processes (*Figure 2*). The acceptability of our proposed model could be determined according to whether or not a better fit could be achieved with any other similarly formulated model (Anderson, Gerbing, 1988; Hair *et al.*, 2006).

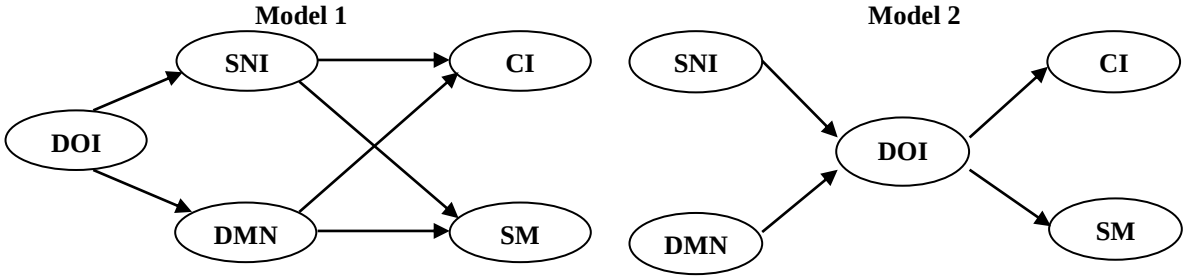

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Figure 2. **Competitive Models**

The first competitive model (Model 1) proposes an inverse relationship between the degree of internationalization and subcontractors' relational capabilities, mediated by their involvement with local system suppliers and multinational companies. Although in our model we hypothesized that capabilities endowment is essential for linking to the local hubs of internationalized networks, it can also be said that a high international propensity might offer

more opportunity for firms to engage with internationalized local customers, suppliers and/or local branches of multinational enterprises. It is in this way that subcontractors could enhance their relational capabilities endowment.

The second competitive model (Model 2) suggests the mediator role of DOI between the involvement with internationalized networks and local branches of multinational companies (SNI and DMN), and relational capabilities constructs (CI and SM). In this view, subcontractors' relational capabilities endowment is considered to be as a consequence of their degree of internationalization, which derives from their relational involvement with local internationalized networks and/or DMN.

Fit measures for the different models have been compared in *Table 4*.

Table 4. Comparison of goodness of fit measures

Fit measures	Theoretical Model	Competitive models	
		Model 1	Model 2
Absolute fit measures			
$\chi 2$	91.08 (P=0.0036)	100.32 (P=0.00064)	120.52 (P=0.0004)
Degrees of freedom	58	59	60
GFI	0.89	0.87	0.86
RMSR	0.072	0.110	0.150
RMSEA	0.065	0.082	0.091
Incremental fit measures			
NNFI	0.95	0.91	0.91
NFI	0.90	0.88	0.88
CFI	0.96	0.93	0.93
IFI	0.96	0.94	0.93
Parsimonious fit measures			
PNFI	0.67	0.66	0.67
PGFI	0.57	0.56	0.57
$\chi 2$/ df	1.57	1.70	2.01
CAIC	269.75.	276.04	289.10

Source: own calculations.

Results show that the proposed model shows better fit indices in the different types of fit measures. The absolute fit measures are favourable in the proposed model, with RMSR and RMSEA below 0.08 (Hair *et al*., 2006). Furthermore χ^2 has the lowest value and the highest likelihood. All the incremental fit measures for the proposed model are higher than those of the competitive models (Bollen, 1989; Hair *et al.*, 2006). Finally, parsimonious fit measures exceed all the values obtained with the competitive models.

In light of these results, our theoretical model can be accepted. These findings strengthen both the empirical and the theoretical basis of this work.

3. Discussion

Overall, the empirical analysis shows a mixed pattern. First of all, the model confirms that subcontracting firms that develop specific CI are more able to link to the local hubs of international networks (SNI and DMN).

In particular, in relation to hypotheses Rh_3 and Rh_4, we found a strong and significant link between the development of customer integration capabilities, and the SNI and DMN variables. In other words, subcontracting SMEs that develop internally specific capabilities in the fields of design and co-design, quality management, logistics (e.g. just-in-time) and new product development, and then apply those capabilities to their business

relationships, have a greater chance of 'capturing' big and internationalized business partners. This result is congruent with previous evidence introduced by Camuffo *et al.* (2007) that discusses the many ways in which integration between customers and suppliers can favor the internationalization of both parties. There is also a strong consistency with Jacob (2006) and Smirnova *et al*'s (2011) findings that established a significant positive correlation between relational capabilities and market success in supply firms. Finally, this research is also aligned to the conclusions of Furlan *et al.* (2007) according to which a positive relationship exists between subcontractors' collaborative capabilities and their export performances.

On the other hand, we also found strong link between the firms' SM, and the SNI and DMN dimensions (Rh_5 and Rh_6). In other words, subcontractors that develop specific abilities in orchestrating business relationships on the supply side seem to have a greater chance of entering into business relationships with big and internationalized firms on the sales side. These results are consistent with earlier studies by Shin *et al.* (2000) and Chen *et al.* (2004) regarding supply management capabilities and their strategic importance to firms. They are also aligned to the empirical contributions developed along the same stream by Dunn, Young (2004) – supply management capabilities reinforce buyer-seller relationships; Andersen, Christensen (2005) – supply management capabilities of subcontractors help them to act as connective nodes in supply networks; Xu, Beamon (2006) – the strategic importance of coordination capabilities within the supply chain; Furlan *et al.* (2007) – supply management capabilities as a proxy of their evolutionary status; and Tunisini *et al.* (2011) – local supplier contribution to the development of leading clusters firms.

With reference to the springboard metaphor, our research results confirm that subcontractors that develop customer integration and supply management capabilities are more able to jump on the springboard (and hence connect to the local hubs of international networks). The problem is that the springboard seems to work only partially. In relation to the link between the SNI variable and the DOI (Rh_1), the intuition of Andersen *et al.* (1997) and Andersen, Christensen (2005) are confirmed since we found this relationship to be significantly positive. In terms of other findings, it seems that subcontracting firms that cultivate a local network of internationalized firms stand a greater chance of internationalizing their own business. However, in relation to the link between the DMN variable and the DOI (Rh_2), there was an unexpected result. According to our model, it seems that being connected to localized multinationals does not help subcontractors to internationalize. On the contrary, it seems that the general effect is significantly negative: the stronger the connection with the MNE, the lower the degree of internationalization of the subcontractor.

This result is entirely contrary to the research of Raines *et al.* (2001), Bradley *et al.* (2006), and Di Guardo, Valentini (2006), among others.

Our experience in the field allows us to believe that our result might be the combined effect of two opposite patterns that cannot be split: a strong negative effect due to locked-in business relationships (subcontractors depending too heavily on local multinational firms) and a positive effect from the other side due to piggyback processes. In any case, further empirical confirmation is needed in order to clarify local multinationals' role in fostering subcontractors' internationalization processes.

Conclusions and Implications

Theoretical implications

This study advances the industrial marketing literature by analyzing the internationalization process of industrial subcontractors. More specifically, given the limited answers provided by the literature regarding the role of subcontractor's relational capabilities in linking to the local hubs of internationalized networks, the findings could contribute in several ways to the development of theories concerning the internationalization paths of smaller firms, and especially of those operating in business-to-business markets.

Testing the research hypotheses on a sample of 107 subcontractors, the study made three arguments:

1. The level of involvement within a local and international supply network has a positive and significant influence on subcontractors' degree of internationalization.
2. Subcontractors' customer integration capabilities have a positive and significant influence on supply network involvement and on subcontractors' dependence on the multinational enterprise.
3. Subcontractors' supply management capabilities have a positive and significant influence on their supply network involvement and on subcontractors' dependence on the multinational enterprise.

First, by confirming the existence of a strong link between the SNI and the DOI dimensions, we were able to provide empirical support for the argument by Andersen *et al*. (1997) that advocates the specificity of subcontractors' internationalization processes. Future empirical studies carried out on a panel of manufacturing firms should take into consideration the distinction between subcontracting/non-subcontracting firms (even in the form of a control variable), since the international dynamics of the two are completely different and these differences can affect scholars' empirical results.

Second, by confirming the existence of a strong connection between subcontractors' CI and the SNI and DMN dimensions, there is further support for well-established literature on the positive effect of customer-supplier relationships within the supply chain. In particular, our results advance the literature by applying the concept of 'customer integration' capabilities to the stream of studies on subcontracting firms. It further provides additional evidence of the preconditions that allow small subcontracting firms to link to big and internationalized clients – conditions that can favor their subsequent evolution. Getting linked to these nodes is a suitable learning method for these companies, and developing those organizational routines is necessary to evolve and grow (Andersen, Christensen, 2005; Furlan *et al*., 2007).

Third, the results provide empirical support for the contention of Chen *et al*. (2004) and Shin *et al*. (2000) by discussing the positive effect that the development of supply management capabilities can have on subcontracting firms in terms of reinforcing business relationships with clients of primary importance.

However, the study found only partial support for the role exerted by those clients in projecting small subcontractors abroad (Johanson, Vahlne, 2009). In particular, the negative relationship emerging between the DMN variable and the DOI was unexpected, and requires further investigation.

Managerial implications

From a managerial point of view, this study found that subcontractor entrepreneurs and managers should devote relevant resources to the development of relational capabilities. More specifically, they should invest consistently in improving staff qualifications in the activities that are developed with customers' and suppliers' involvement, such as design (e.g. CAD system), quality assurance (e.g. free-pass and zero-defects practices), logistics (e.g. just-in-time). Improving these qualifications could be attained both through specific training and enhancing internal collaboration experiences through cross-functional teams (Chen *et al.*, 2004).

A second managerial implication can be derived from the results: collaborating with MNE also brings the risk of remaining trapped within these relationships. Industrial subcontractors, even the more evolved ones, should avoid excessively orbiting single clients and invest in differentiating their customer portfolio. Even better, they should develop some selection methodologies and criteria aimed at evaluating the potential growth that could be achieved, both on local and foreign markets, through a single customer relationship. This requires an evaluation of the benefits and risks of future collaboration with specific clients. It is our opinion that this is a promising but still underdeveloped research area in customer portfolio literature (Terho, 2009).

Limitations and future research

This research has several limitations. The first is that the sample is limited, especially if it is considered that several hundred emails were sent to subcontracting firms across the country inviting them to participate in the survey. Hence, self-selection biases cannot be excluded.

Another limitation of the model is the significance of the link between the SNI variable and the DOI. However, the amount of variance explained by this relationship (SNI→DOI: 0.17) opens other doors. For example, in the case of independent internationalization paths (subcontractors that internationalize on their own), an alternative explanation could be possible. Perhaps in these cases, internal capabilities – such as foreign market knowledge, managers' international experience, financial and managerial R&C – could count more than relational ones.

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SANTYKINIŲ GALIMYBIŲ ĮTAKA PRAMONĖS SUBRANGOVŲ INTERNACIONALIZACIJOS PROCESUI

Bernardo Balboni, Guido Bortoluzzi, Donata Vianelli

Straipsnyje nagrinėjamas pramonės subrangovų internacionalizacijos procesas, akcentuojant subrangovų gebėjimą prisijungti prie tarptautinių tinklų vietos centrų ir jų kaip tramplino į tarptautines rinkas pritaikymą. Straipsnio tikslas yra pateikti labiau išvystytą požiūrį į sąlyginius ryšius tarp subrangovų santykių galimybių ir jų internacionalizacijos intensyvumo. Tai vyksta, kai tarpininkauja subrangovai tarp vietinių įmonių ir tinklų, susijusių su tarptautinėmis rinkomis. Patvirtinta, kad tarp subrangovų santykinių galimybių ir subrangovų susietumo su vietinių tarptautinių tinklų centrais yra glaudus ryšys. Taip pat nustatyta, kad subrangovų priklausomybė nuo daugiašalių įmonių gali neigiamai paveikti jų plėtrą užsienio rinkose. Be to, tyrimas tik iš dalies patvirtino vadinamąjį „tramplino“ efektą, t. y. vaidmenį, kurį atlieka internacionalizuotų tiekimo tinklų vietiniai centrai, siekdami suburti mažus subrangovus užsienyje.

REIKŠMINIAI ŽODŽIAI: MVĮ internacionalizacija, tarptautinio verslo santykiai, pirkėjo–tiekėjo ryšiai, reputacija, tinklai, subrangovai, klientų integracijos galimybės.

Appendix

CI, SM, SNI and DMN measurement

Variable	Items' description and measurement (*Likert scale from 1 = strongly agree to 7 = strongly disagree*)	Source
CI	Our company has the competence to cooperate with our customers on design aspects in order to successfully implement solutions to problems.	Adapted from Jacob (2006)
	Our company has the competence to cooperate with our customers on logistical aspects in order to successfully implement solutions to problems.	
	Our company has the competence to cooperate with our customers on aspects of product development in order to successfully implement solutions to problems.	
	Our company has the competence to cooperate with our customers on quality issues in order to successfully implement solutions to problems.	
SM	We actively and systematically cooperate with our suppliers in new product development activities.	Shin et al. (2000)
	We strive to establish long-term relationships with our suppliers.	
	We rely on a small number of high-quality suppliers that in turn allow us to be more efficient.	
	Quality is our main criterion in selecting suppliers so that we will be more effective.*	
SNI	A relevant quota of our turnover came/comes from business-to-business relationships with highly internationalized local companies.	Adapted from Ganesan (1994); Belso-Martinéz, (2006)
	We actively participate in an internationalized local supply network.	
DMN	A relevant quota of our turnover came/comes from business relationships with local MNEs.	Adapted from Ganesan (1994); Di Guardo and Valentini (2006)
	We have long-lasting business relationships with local MNEs.	
DOI	Export intensity	Adapted from Ruzzier et al. (2007), Sullivan (1996)
	Internationalization scope	
	Internationalization mode	

Notes: * These items were dropped from the final analysis within the structural equation model based on the results of the factor analysis.

Source: own calculations.

DOI measurement

DOI dimensions	Items	Measurement	Range - Score
A) Export intensity (30 points)	01. ESTS (% export on turnover)	ESTS/10	from 0 to 10 points
	02. FSTS (% of exported products)	FSTS/10	from 0 to 10 points
	03. export typology:	03.a no export	0 points
		03.b occasional export	5 points
		03.c systematic export	10 points
		Sum of 01+02+03	from 0 to 30 points
B) Internationalization scope (30 points)	04. West-Central Europe	yes = 1, no = 0	if 1 = 4 points
	05. East Europe	yes = 1, no = 0	if 1 = 5 points
	06. North America	yes = 1, no = 0	if 1 = 6 points
	07. East Asia	yes = 1, no = 0	if 1 = 7 points
	08. Others	yes = 1, no = 0	if 1 = 8 points
		Sum of 04+05+06+07+08	from 0 to 30 points
C) Internationalization mode (30 points)	09. Import of products not in subcontracting	yes = 1, no = 0	if 1 = 2 points
	10. Export of products	yes = 1, no = 0	if 1 = 3 points
	11. Import of products in subcontracting	yes = 1, no = 0	if 1 = 4 points
	12. Strategic alliances	yes = 1, no = 0	if 1 = 5 points
	13. Joint venture	yes = 1, no = 0	if 1 = 7 points
	14. FDI	yes = 1, no = 0	if 1 = 9 points
		Sum of 09+10+11+12+13+14	from 0 to 30 points

Source: own calculations.