Multidyadic relationships: a multi-stage perspective

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Abstract: This paper analyses to what extent the relationship among firms in downstream B2B activities in the supply chain stimulates the relationship in upstream B2B activities. This paper follows a qualitative methodology based on semi-structured, in-depth interviews in seven firms from the plastics industry, in three different countries that led to the preparation of seven case studies. Results and findings suggest that the business relationship with suppliers both encourages and results from a business relationship with direct and indirect downstream customers in B2B markets, driving the development of new products and the international presence of firms. Related to multi-stage B2B theory and NPD activities, the paper suggests that there is a feedback effect between the focal firm (plastics manufacturing firms), upstream suppliers and downstream customers, i.e., the relationship between the focal firm and the customers leverages the relationship between the focal firm and the suppliers. This symbiosis leads to a more technically innovative final product, which encourages more relational contact with the customer, giving rise to a more dynamic form of internationalisation. Moreover, relational links involving a multi-stage perspective in the supply chain are important to ensure a more effective bi-directional relationship among the different stages of the supply chain.

Keywords: multi-stage marketing; networks; supply chain; product innovation; international presence; plastics industry.

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1 Introduction

In today's business world, firms exchange and share knowledge, resources and capabilities in competitive arrangements throughout the supply chain, which we would call networks. The network structure of the supply chain encompasses upstream and downstream relationships (dyadic and multidyadic perspectives with suppliers, customers, or both), which assume crucial roles in the development of competitive advantages (Dyer and Singh, 1998).

Innovation is very important for firms as it involves activities such as market orientation, knowledge management, research and development (R&D) and management of teams (Moreira and Karachun, 2014). Innovation is closely intertwined with new product development (NPD) activities, the integration of suppliers in R&D activities, the involvement of customers in NPD activities, which have consequences for the firms' performance (Moreira and Karachun, 2014). Innovation represents one of the main avenues for building firm-specific advantages (Zucchella and Siano, 2014) and is critical to the growth and success of the firm (Guan and Ma, 2003; Lisboa et al., 2011a). Innovative resources and capabilities are recognised as a major driver of firms growth (Teece et al., 1997), which is an area little explored specifically when firms are addressing direct and indirect customers in foreign markets (Peng and York, 2001; Hillebrand and Biemans, 2011; Lisboa et al., 2011b; Kleinaltenkamp et al., 2012).

Innovation and NPD activities rely on knowledge and skills, which are based not only on intangible knowledge and resource-based capabilities, but also on tangible

technological capabilities, influencing the firm's sustainable competitive advantage *vis-à-vis* competitors (e.g., Teece et al., 1997; Johnsen and Ford, 2006). However, innovation-based networks are important to reduce uncertainty, to share costs and risks and to access to external knowledge among actors in B2B relationships (Pyka and Küppers, 2002; Cozzarin and Percival, 2006; Weber and Khademian, 2008). Moreover, external actors of a network also contribute to the creation and development of capabilities, knowledge and innovation (Caloghirou et al., 2004; Johnsen and Ford, 2006; Blomqvist and Levy, 2006; Kang and Kang, 2009).

Inter-organisational networks, which have been analysed from different theoretical lenses, are important in stimulating firms' competitive advantage and international strategies (Ritter and Gemünden, 2004; Hsu, 2005; Trkman et al., 2007; Franco et al., 2011; Chang et al., 2012). Successful supplier-customer relationships may evolve to larger B2B networks based on long-term relationships that are critical for the actors involved, where the network is seen from a holistic perspective rather than from an unilateral lens (van der Vaart and van Donk, 2008; Henke and Zhang, 2010; Wiengarten et al., 2010; Hillebrand and Biemans, 2011; Kleinaltenkamp et al., 2012).

Cooperative involvement and a high level of integration between suppliers and customers are very important for the supply chain as well as for business performance (Wathne and Heide, 2004; Wuyts et al., 2004; van der Vaart and van Donk, 2008; Nagurney, 2010). There is also literature regarding the importance of innovation and NPD involving supplier-customer relationships (Handfield et al., 1999; Petersen et al., 2003, 2005; Lages et al., 2009; Henke and Zhang, 2010), as well as how interaction and transmissive capabilities are important in dyadic relationships (Johnsen and Ford, 2006, 2008; Moreira, 2009). There is also some literature on multi-stage marketing (MSM) activities (e.g., Hillebrand and Biemans, 2011; Grewal and Lilien, 2012; Kleinaltenkamp et al., 2012; Vedel et al., 2012; Dahlquist and Griffith, 2014; Homburg et al., 2014; Schönhoff, 2014; Geiger et al., 2015), however, there is no literature acknowledging the importance of innovation and NPD in MSM dealing with downstream customers.

As such, this article seeks to complement the knowledge on supplier-customer relationships analysing both upstream and downstream relationships. First, analysing how downstream customers influence the NPD activities of the (focal) firm, and second, analysing how the (focal) firm involves its suppliers in the development of new product. We argue that the firms' critical innovation capabilities extend beyond the boundaries of the firm specifically with suppliers and direct and indirect B2B customers, following a MSM perspective (Schönhoff, 2014). Accordingly, this article explores firms' relationships with their (equipment and raw materials) suppliers and their customers through derived demand and how these relationships stimulate access to, and do business with their B2B partners. This article follows a tripartite analysis on how multidyadic relationships (downstream customers – focal firm – upstream suppliers).

The paper is organised in six sections. The rest of the article is structured as follow: in section two we develop the theoretical framework and a set of three hypotheses. In section three we explain the methodology of this study. Section four presents and discusses the seven case studies analysed, helping our understanding of the relationships between the firm and its suppliers and customers, and their importance for product innovation and for the direct and indirect customers in international markets. The last section includes the main conclusions of this study, as well as the managerial implications.

2 Literature review and conceptual framework

Upstream and downstream relationships allow firms to create interdependencies with suppliers and customers, opening the way to new competitive advantages (Porter and Millar, 1985). The importance of inter-organisational relationships and networks stem from two different sources, as a means of generating competitive advantages (Dyer and Singh, 1998): from within the firm, in which the resource-based view and the dynamic capabilities approach play an important role; and from without the firm (classically the industry structure). Taking into account the support of the three hypotheses put forward, this section is going to be separated in three subsections. The first deals with inter-organisational networks. The second section deals with MSM. The third section presents the main hypotheses.

2.1 Inter-organisational network

The study of inter-organisational network has covered various typologies, functions, characteristics and evolutionary perspectives (Simatupang and Sridharan, 2002; van der Vaart and van Donk, 2008; Bergenholtz and Waldstrøm, 2011; Franco et al., 2011; Wiengarten et al., 2010; Chang et al., 2012; Popp et al., 2014). However, there is no common definition regarding the multidimensional nature of inter-organisational relationships in the supply chain (Wiengarten et al., 2010).

van der Vaart and van Donk (2008) analysed partnership orientation, supplier and customer vision as an extension of the firm, joint responsibility, integrated production planning, shared information and shared inventory management. They conclude that all actors involved differently understand collaborative relationships. Vickery et al. (2003) defend that collaborative arrangements need to include practices and attitudes that reinforce supplier-buyer partnerships.

Soosay et al. (2008) analysed how continuous innovation enhanced networks in the supply chain. They demonstrated that for continuous innovation to take place it is necessary maintaining standardised operations, sharing knowledge and information, sharing processes, which involve synchronising and interfacing cooperative activities.

Trust and commitment among players in the supply chain is essential (Simatupang and Sridharan, 2002; Henke and Zhang, 2010; Nyaga et al., 2010). From the innovation generation perspective, the lack of a relational perspective in supplier-customer relationships hinders the firms' capability to share goals, information, knowledge, problem-solving activities, and joint improvement planning activities (Henke and Zhang, 2010). Nyaga et al. (2010) show that trust and commitment have important consequences for satisfaction and performance in collaborative relationships, as they involve satisfaction measures with the relationship and with the results. Finally, they also highlight that customer and supplier perspectives have more similarities than differences.

In their search for profit and survival in global competitiveness, firms' commitment has led firms to adopt close, long term relationships in both upstream and downstream activities, namely for those who compete in B2B contexts (Holmlund and Kock, 1996, 1998; Nagurney, 2010). In these close, long-term relationships, players might behave as partners, as this type of relationship generates knowledge and benefits for all players with competitive positions in the NPD process (Ragatz et al., 1997, 2002; Handfield et al., 1999; Petersen et al., 2003, 2005) and creates valuable capabilities for all firms involved (Johnsen and Ford, 2006).

Lambert and Cooper (2000) and Wathne and Heide (2004), focusing on upstream and downstream activities, claim that focal firms have the ability to make strategic choices, keeping different relationships with their suppliers or customers in terms of trading transactions, activities or relative power influence.

2.2 Supply chain network and innovation

The constant changes in the global trends for materials, product design, requirements and consumer preferences mean that downstream retailers (shown as level one in Figure 1) have to be sufficiently flexible as intermediaries in the relationship between the end consumer and the manufacturer, which subsequently influences the upstream relationship (level two in Figure 1). In this sense, and in-line with the literature on relational marketing, multidyadic relationships affect the whole supply chain (e.g., Anderson et al., 1994; Wilkinson, 2001; Min and Zhou, 2002; Johanson and Vahlne, 2003; Wathne and Heide, 2004). In other words, the manufacturer, its suppliers and its customers are all affected by and have an effect on business relationships (Anderson et al., 1994). The links between the activities, the dependencies between the resources and the ties between the actors that evolve in this relationship, all develop in connection with a wide network of actors, patterns of activity and a set of resources. Together, these make up the business network reflected in the supply chain of the firm, where each actor takes on a different role in the success of the chain as a whole (Trkman and McCormack, 2009; Popp et al., 2014). This encompassing network facilitates access to knowledge, shared relations, the flow of information, motivation, productivity and innovation (Bergenholtz and Waldstrøm, 2011; Popp et al., 2014), supporting the competitive advantage of firms and bolstering their strategic positions (Johanson and Vahlne, 2003).

In networks, players are willing and expected to show cooperation, ease access to information, technical know-how and financial support, be a source of competitive advantage and knowledge capabilities. As such, NPD activities are expected to play an important role in B2B markets dictating the innovation strategy of the firm, which is reflected both in its upstream relationship (with implications for suppliers of raw materials and equipment), as well as in its downstream relationship with its customers (seeking to expand their activities in international markets). This network is crucial in the NPD process as it supports the product adaptation to international contexts, which is crucial in B2B firms that require multiple product features (Lages et al., 2008a). Moreover, although there is research on product adaptation vs. international marketing strategy and performance (e.g., Theodosiou and Leonidou, 2003; Lages and Montgomery, 2004; Lages et al., 2008a, 2008b; Hultman et al., 2009), there are no studies following a MSM perspective addressing NPD and adaptation to customers and indirect customers.

Cooperation, power and dependence are important to these relationships (Johnsen and Ford, 2008). Experience and inclusion of suppliers/customers in cooperative projects, as well as the influence exercised by the customer and the supplier on the network in areas of knowledge, capabilities, skills, technical aspects, or even the NPD activities and strategies, capitalise the benefits of working together. These relationships also affect the performance of the firms involved (Lemke et al., 2003). According to the power of relationship between the focal firm and its upstream and downstream partners, Chang et al.'s (2012) research focused on strategic actions adopted by firms to capitalise the benefits of supply chain network. Chang et al. (2012) proposes a typology, featuring the

relationship between the focal firm and its upstream and downstream partners, into four types:

1 focal firm dominance

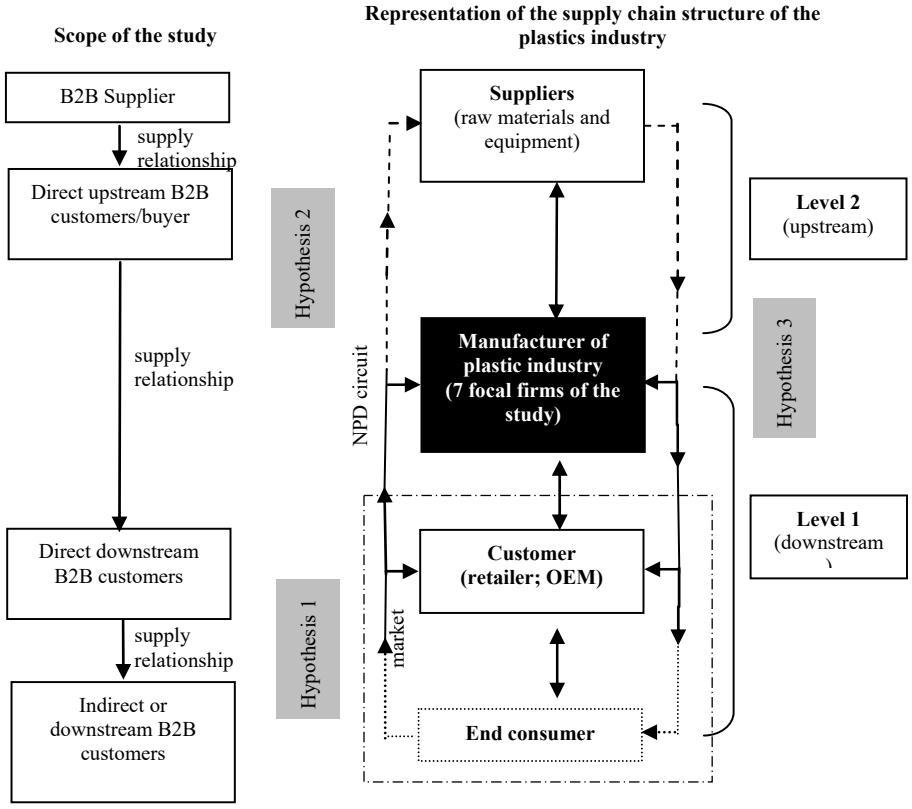
2 upstream network dominance

3 focal firm obedience

4 downstream network dominance.

According to them, the firm's strategy depends on these specific relationship types, which takes place in different contexts/environment within a specific structure of supply chain network.

Figure 1 Illustration of the study scope: supply relationship and example of plastic industry value chain



B2B suppliers have to deal with relationships with not only their direct customers but also with customers' customers (Dahlquist and Griffith, 2014), which leads to valuable information on market characteristics, creates product preferences among customers and stimulates derived demand (Webster, 2000). A multi-stage awareness of MSM is important in B2B markets as the proximity of relationships between suppliers and direct and indirect customers have positive results to each other, avoiding essentially further adjustments of the product (Homburg et al., 2014). As such, customer relationship

management has to shift to a supply chain management, consistent with the pull-push strategy (Homburg et al., 2014). Moreover, a MSM strategy is important for B2B firms (Geiger et al., 2015) as customers further along in the supply chain are often disregarded by marketers (Kleinaltenkamp et al., 2012) and are very important in terms of brand satisfaction (Dahlquist and Griffith, 2014) and customers' willingness to pay (Geiger et al., 2015).

Literature on derived demand or MSM is quite limited when compared to literature on inter-organisational networks. For example, Hillebrand and Biemans (2011) analyse how B2B firms address their marketing activities with their direct and indirect customers and conclude that they normally fail to establish effective relationships with them. Vedel et al. (2012) conceptualised different levels of multi-stage marketing on triadic relationships exploring the concept of interaction and interconnection. They conclude that MSM enables a rich and multi-dimensional understanding of how different business relationships influence each other, which assists managers in progressing from a single-stage relationship to a multi-stage awareness and communication stage that leads to a multi- stage marketing perspective. Kleinaltenkamp et al. (2012) analysed how a manufacturer helps its direct distributing partner to sell its products to the distributor's customers. Dahlquist and Griffith (2014) focused on building brand differentiation based on the relationships with direct customers and customers' customers. They not only conclude that when the component supplier increases its brand differentiation and profits the customer (OEM) tries both to offset the component supplier's gains and to benefit from the customer's customer investments. Homburg et al. (2014) focused their research on B2B supplier's marketing approaches to indirect customers. They concluded that the internal professionalisation of the B2B supplier' organisational structure further strengthens the positive financial impact of each of the specific indirect customer marketing approaches that lead to financial success. Geiger et al. (2015) investigated various types of MSM by a B2B supplier and conclude that when relationships are based on value perception MSM significantly increases purchasing agents' willingness to pay.

The MSM is a topic in its early stages, as such new insights on MSM complementing the traditional-inter-organisational network perspective are necessary as the landscape of marketing activities and relationship among players change (Gundlach et al., 2006; Vedel et al., 2012; Homburg et al., 2014; Schönhoff, 2014; Geiger et al., 2015). As such, this paper seeks to complement previous studies on inter-organisational networks and MSM based on the importance of NPD process dealing with upstream and downstream activities in the international competitive environment combining social and technical disciplines.

2.3 Conceptual framework and hypotheses

This article highlights the upstream and downstream relationships that lead to a more technically innovative final product that in turn facilitates access to international B2B markets. Based on Chang et al. (2012), Figure 1 describes the conceptual framework showing the relationships under analysis:

1 between the manufacturer (focal firm) and the customer (direct and indirect B2B customers)

2 and between the manufacturer (focal firm) and the supplier.

Based on literature on networks and MSM (e.g., Henke and Zhang, 2010; Wathne and Heide, 2004; Homburg et al., 2014; Popp et al., 2014; Franco et al., 2011; Hillebrand and Biemans, 2011), we present Hypothesis 1:

Hypothesis 1 Downstream customers play an important role for the (focal) firm in the creation of new products to serve downstream customers new needs in international new market influencing how the (focal) firm expands to new international markets.

Based on literature on NPD, innovation and upstream relationships (e.g., Henke and Zhang, 2010; Hillebrand and Biemans, 2011; Johnsen and Ford, 2006; Moreira and Karachun, 2014), we present Hypothesis 2:

Hypothesis 2 The NPD needs of the (focal) firm's customers strongly influence the (focal) firm's upstream activities with its suppliers.

Based on literature on MSM (Gundlach et al., 2006; Kleinaltenkamp et al., 2012; Vedel et al., 2012; Dahlquist and Griffith, 2014; Homburg et al., 2014; Geiger et al., 2015), we present Hypothesis 3:

Hypothesis 3 It is the success of the (focal) firm in upstream activities in the development of new products that underpins the success of its success in MSM downstream activities, supporting the (focal) firm in its expansion to new international markets.

3 Research methodology

This work involves qualitative analysis, based on the analysis of seven firms of the plastics industry. The case study methodology used an exploratory research method with an inductive approach, taking into account the relatively unfamiliar grounds of analysing MSM. This approach was considered to be the most appropriate for studies that are at the same time explanatory and exploratory (which centre on the 'why' and 'how'), and most appropriate for uncovering relational aspects which develop over time (Yin, 2008), around B2B interactions among the focal firm and its suppliers and customers. On the other hand, the case study is the most common choice for qualitative research in international business (Marschan-Piekkari and Welch, 2004). We aimed to compare the cases in a systematic way (Ghauri, 2004).

We selected firms from the plastics industry for several reasons that are essential to the study. The plastics industry:

a is an important industrial sector that has been continuously growing by an average of around 9% per year (Plastics, 2010)

b is highly competitive and innovation plays a key role as an interaction mechanism with customers and end users, which allows, among other things, product performance problems to be identified, new solutions to be proposed, and new tendencies to be uncovered (CAVIRC, 2016; ABIPLAST, 2009)

c is a technical sector barely studied on literature, despite being highly competitive and innovative

d is part of strong supply chain network in which suppliers and customers have a crucial role.

The case study firms were selected based on judgmental/purposive sampling (Patton, 2015), which involves the selection of cases that meet a set of criteria important to the research. Seven case studies were selected based around three requirements:

1 experience with the idiosyncrasies associated with international business activities

2 active in B2B relationships

3 manufacturing firm operating in the plastics industry (transforming polymers in a final plastic product: focal firm of this study).

As no substantial further insights appeared to emerge from the addition of other firms, we decided that the seven cases would be sufficient, as there would be no point in carrying out interviews in other firms following the point of theoretical saturation (Eisenhardt, 1989).

Seven (focal) firms were selected, agreed to take part in the study, and were willing to respond to a set of questions previously devised for interview. These firms are representative of manufactures of the plastics industry essentially for two reasons:

1 they were indicated by plastics industry's stakeholders, having European representativeness on the technology segment used for transforming polymers in a final plastic product

2 they comprise several technological segments.

The firms included are from Portugal, Spain and Italy, giving a cross-border character to our study. In addition, the firms in this study represent the two most common productive processes in the plastics industry (injection and extrusion), covering several plastic products (hoses, packaging, sanitary ware). For confidentiality reasons, the firms taking part in this study remain anonymous, being identified by the letters A to G. The firms produce a diverse set of products aimed at different segments of the market.

Data collection involved multiple sources, comprising primary data collection through interviews and secondary data through public sources, such as the websites of the firms, marketing information and multiple observations. The different sources are important for triangulation, in order to ensure the validation and reliability of data (Andersen and Skaates, 2004; Ghauri, 2004). This allowed us to study managerial actions regarding supplier and customer involvement in NPD activities. Such a research method matches our goal of studying downstream and upstream multidyadic relationships and their influence on international markets, in which the identification of new product patterns play an important role in building explanations (Pettigrew, 1992).

First, secondary data were collected (websites and different documents of the firm such as catalogues, flyers, etc.; public sources, such as government and specific plastic industry associations websites, etc.). Then, primary data were collected from semi-structured, in-depth interviews in order to understand the relationship across the supply chain, focusing on specific aspects connected to upstream activities (suppliers of raw materials and machinery/technology) and downstream activities (service activity to the customers). The face-to-face interviews took place with the person responsible for

handling the relationships with suppliers and customers, namely privileged informants with the information required: general managers, heads of R&D, export, commercial, and exports departments.

The interviews began by explaining the research, guaranteeing anonymity, and requesting authorisation to tape-record the interview. The interview script sought to explore the policies used by the firm in their product innovation process: identifying the degree of intervention by both the customer and the supplier; characterising the firm within the plastics industry, its upstream and downstream activities, its types of relationships (relational or transactional), and some relevant aspects of the relationship (how close the NPD process is; requirements of the service provided; technical and commercial process assistance; involvement in what to produce, product specifications, price, quantities, etc.). The interview script included questions to triangulate the information obtained by informants with additional information obtained through the website of the firms and public sources (e.g., firm size, age, international presence/experience, export ratio, export markets, current markets, etc.).

The interviews were carried out with two researchers at the firms (with exceptions of E, F and G cases), which allowed to visit the manufacturing plants and have access to the commercial, manufacturing and R&D departments. This procedure helped make the interviewees feel more comfortable while speaking in their own environment and enabled events and discussions to be observed in their natural setting, instead of solely relying on pre-arranged interviews. The researchers maintained a passive and unobtrusive presence, so as not to interfere with ongoing events and activities.

During the interviews, we explored the downstream relationship. Based on the needs of customers we explored how the new product was developed in the focal firm and how this interfered on upstream relationships and subsequently on downstream relationships. In order to support the results of the interview allowed we asked for concrete examples. The characterisation of the cases is presented in Table 1.

Plastic industry stakeholders supported the identification of the selected firms. From the seven firms analysed, four of them are from Portugal, two from Spain and one from Italy. The E, F and G cases were included on the research because they have an important foothold in Portugal and, more importantly, they give an international approach to the study, supporting a comparison with the Portuguese reality. The interviews lasted between one and a half to three hours. In the case of the Portuguese firms, the interviews took place at the informant's sites. The interviews with the representatives of the Spanish and Italian firms took place at the university (we invited the international market representatives to grant us an interview while they were visiting Portugal on one of their business tours). All the interviews were type-recorded and subsequently verbatim transcribed; two researchers conducted the interviews in order to reduce observer bias (Voss et al., 2002), increase the study potentiality and enhance the reliability of the findings (Eisenhardt, 1989).

The visits to the manufacturing plants helped gain an understanding of the environment through contact with production units and familiarisation with the products produced. In this way, the researchers were able to improve their understanding of the examples given by the interviewees. After each visit, the researchers' impressions were attached to the summary of each interview.

Table 1 Characterisation of the cases

	Firm A	*Firm B*	*Firm C*	*Firm D*	*Firm E*	*Firm F*	*Firm G*
Years since inception	47	62	16	34	21	44	64
Sales volume (M €)	12 €	40 €	2.4 €	160 €	16 €	6 €	70 €
% of export	50%	80%	95%	35%	60%	33%	70%
Average Nº of employees	130	418	30	460	68	45	460
Nº of workers in the export department	5	12	1	2	3	5 (total)	10 (total)
Nº of workers in the R&D department	3	24	1	5	1	1	5
Country of origin	Portugal	Portugal	Portugal	Portugal	Spain	Spain	Italy
Plastics manufacturing process	Extrusion and co-extrusion	Injection	Extrusion blow molding, injection and injection blow molding	Extrusion blow molding and cast extrusion	Extrusion	Extrusion and co-extrusion	Extrusion and co-extrusion
Products	Pipes and hoses	Sanitary ware	Stiff packaging	Flexible packaging	Flexible hoses	Flexible hoses	Flexible hoses
Major international markets	Spain, France, Morocco, Angola and Mozambique	Europe, Russia, Africa, Middle East and South America	Spain, France, Germany and Angola	Spain, Ireland, England and France	France, Africa and East European countries	Germany, England and Portugal	Germany, Sweden, Norway, Holland, Belgium, France, Spain, Denmark and Finland
Customer segments (types of international customers)	Distributors, wholesalers, major end users and OEMs	Modern distribution channel (DIY), professional market and OEMs	Pharmaceutical and cosmetic industries	Industrial sector (film); agriculture (film); trade and services sector (bags); construction (geo-membrane)	Large wholesalers and OEMs	Large wholesalers, distributors and OEMs	Large wholesalers, distributors and OEMs
Years of export	47	37	16	32	20	40	60
Respondents: background/position	R&D manager (11 years of experience); export manager (15 years of experience)	R&D manager and commercial manager (18 years of experience in each area)	General manager (22 years of experience in the plastic industry)	Commercial manager (15 years of experience on that position); R&D manager (11 years of experience on that position)	Export manager (19 years of experience in the plastics industry) and General manager (25 years of experience in the plastics industry)	Commercial manager (ten years of experience in the plastic industry); general manager (17 years of experience on that position)	Export manager (16 years of experience in plastic industry); General manager (28 years of experience in the plastics industry)
Length of interview	3h16	2h56	3h09	2h23	1h54	2h28	2h52

Table 2 The main results of Portuguese firms

	Firm A	*Firm B*	*Firm C*	*Firm D*
Relational perspective in the supply chain	Works in partnership with a close relationship with raw materials and equipment suppliers, helping generate innovative new products and improve international competitiveness (based on price), which influences and motivates the relationships that the firm fosters, primarily with international customers that are more demanding at a technical level and in terms of price.	Establishes a relational contract with the supplier of raw materials, while the relationship with equipment suppliers is reactive (resulting from an internal need for the firm to engage in production optimisation). This means that the upstream relationship with equipment suppliers involved in NPD activities only occurs occasionally. Depending mainly on the complexity of the raw material used in the innovation, the relationship established with the supplier influences the relationship with the customer, especially in international markets. Customer intervention even extends to the development of innovation audits at the firm (ranging from the upstream to the downstream elements in the value chain). The international customer is more demanding at a technical level and in terms of price.	Establishes a relational contract with the customer. The customer defines all intrinsic details of the product, including the raw materials. Because these are very specific details, the relationship with the raw materials supplier is fundamental in achieving the contract with the customer and fulfilling the customer's requirements. Equipment development occurs in partnership with the equipment supplier and is approved by the customer. This helps optimise production and fulfil customer requirements. The customer controls the entire process with audits of the firm's functions: the quality management system, production process, packaging, logistics and environmental conditions, and health and safety in physical facilities. The firm, customer and supplier form an interlocking chain, driven by the market. This is central to the internationalisation of firm C, whose bargaining power, both upstream and downstream, are important in the supply chain.	The upstream relationship (with raw materials and equipment suppliers) is essential in allowing the firm to achieve a controlled cost structure and sufficient technological capabilities to reach the competitiveness necessary (on a price basis) to trade with the customers. The upstream relationship works on a relational basis, however, it is characterised by wide ranging negotiations in terms of price. The firm, the customer and the supplier create a grouping, mutually influencing each other with a focus on the ability to negotiate both upstream and downstream over the supply chain.
Customisation	Characterised by a range of standardised and customised products reflecting customer requirements, particularly for international customers with more extensive technical requirements.	Characterised by a range of customised products, while the standard product lines are of limited importance. This is more the case in the international market where the customer is more technically demanding.	Characterised by a range of fully customised products.	Characterised by a range of fully customised products.

Table 3 The main results for firms E, F and G

	Firm E	*Firm F*	*Firm G*
Relational perspective in the supply chain	The upstream relationship (primarily with raw material suppliers) is fundamental to the value chain. The partnership is essentially based on finding a raw material (capable of being extruded on the existing production lines, avoiding investment in equipment) at the lowest possible cost, and meeting the technical requirements of international customers. The effectiveness of this relationship is dependent on how close the relationship is between firm E and its main raw material provider. At an international level, a close relationship with the buyer is essential: the relationship, primarily with international OEMs, works on a relational basis, where the contracts contain exclusivity clauses for customised products. The relational perspective is based on trust and the commitment to find new customised solutions for the customer. To be able to provide new products, the firm has a solid relationship with the main suppliers of raw materials.	The upstream relationship is fundamental in creating value, stimulating the firm's capacity to serve international customers based on their customers' needs. This is because it is imperative that the firm adapts to the specific requirements of each market, which essentially requires more adaptation of the raw materials of the products than the introduction of new production technologies. The upstream relationship in place, primarily with raw material suppliers, is sustained by the relationship built up with the customers (primarily international OEMs). The customers demand customisation, leading to innovative products (mainly through a need for new materials), requiring more flexibility to adapt materials to the requirements of the international customer and instigating an equally close and stable exchange with the supplier.	The innovation process is largely based on alterations to the raw materials (around 70%) rather than acquiring new technology, in order to adapt the product to the requirements of the international customers. In this respect, the close and long lasting relationship that is established with the supplier of the raw materials when developing new products helps encourage differentiation in the market. This relationship depends on the ability to negotiate and potential shown by the project (understood as an opportunity to increase the sales volume). The upstream relationship of this firm (mainly in terms of raw materials) depends on the relationship with the customers, primarily OEMs that are responsible for around 80% of new products. As such, the relational capabilities, both upstream and downstream, are vital to creating value. As a firm with a long history, it has wide-ranging internal capabilities for technological development, which it employs in the relationship with the equipment supplier.
Customisation	They have a range of personalised products aimed primarily at the international market. This range can be adapted to be part of the standard range, depending on the agreement made with the customer. International customers demand more customised products, signaling an individualised relationship (for each customer and each product) so as to meet the technical demands of each customer.	Adapting the product to the customers' customer needs is essential to gain international market share. OEMs represent around 70% of the R&D projects in this firm, which does not mean that they are a significant share of business. However, they potentially represent a new product that can become part of the catalogue and increase the portfolio of customers, increasing sales volume to levels that are more acceptable to the business. The relational contract and the partnerships with the customers (distributors, wholesalers or OEMs) are fundamental, especially in the international context. This is especially true for international OEMs who more readily drive the development of new products.	Internationalisation requires that the product is adapted to the needs of the market and customers, implying adaptation, primarily of raw materials. Wholesalers and distributors are the most important customers in terms of the sales volume. However, OEMs introduce more product innovations, implying new technology (although this is not always the case) and/or the need for new materials. While the innovation driven by international OEMs is responsible for only a small share of the sales volume across the portfolio of customers, it leads to an increase in the sales volume after having been publicised in the firm's catalogue, increasing the range of the firm and appealing to a wider group of customers. At all times in this process, the existence of a relational, individualised relationship with the OEMs is essential, with implications for the current stable and long-lasting relationships.

Data from all sources were collated and transcribed into single case stories, helping identify missing information. Data were then analysed in two stages: initially each case was analysed separately by building single case studies and only then was a comparison between the cases carried out in order to answer to the research questions (Eisenhardt, 1989). We used prudent qualitative data analysis techniques, so the information obtained through interviews and other sources was cross-verified for validity and reliability and integrated into tables with a summary of each case.

After collecting data from each firm, we performed a within-case analysis based on categories reported in Tables 1, 2 and 3. We conducted the cross-case analysis, looking at the similarities and differences among the cases.

4 Presentation and discussion of the case studies

Case A is a firm founded 47 years ago. The firm produces plastics using extrusion, making pipes and hoses for household and garden products, agriculture, industry and construction. It was recognised for its success in internationalisation by AICEP[1] in 2010 and for the last seven years it has been awarded PME Leader status[2].

Case B is a firm that has been operating for 62 years, producing sanitary ware for the construction sector (notably plastic cisterns). It is known as the largest producer of cisterns in Europe and in 2013 it received first prize for Total Flow Management by the Kaizen Institute in the area of 'excellence and productivity'. This award seeks to recognise continuous improvement and process innovation in firms.

Case C manufactures plastics using a variety of processes: extrusion blow moulding, injection and injection blow moulding. Their products include stiff packaging for the pharmaceutical and cosmetics industry. Firm C was nominated for the PME Leader award and PME Excellence[3] between 2012 and 2013.

Case D is a corporation made up of four firms which manufacture flexible packaging (film and plastic bags) using extrusion cast and blow moulding. Founded 34 years ago in Portugal, they produce for the industrial, commercial/services, agriculture and construction sectors. This group is the leader in the Iberian Peninsula in the production of flexible packaging, with a place among the top 15 in the European producers.

Cases E, F and G are part of the plastics industry that makes flexible hoses. Case E is a firm that has been making flexible hoses since 1995 in Spain. Case F is involved in the same core business as case F and also based in Spain, using extrusion and co-extrusion of plastics to manufacture pipes and hoses for applications in industry, agriculture, construction and gardening since 1972. Finally, the firm behind case G is located in Italy; it was founded in 1952, making it the oldest case in this study.

A brief profile of each of the case study is presented in Table 1. The results are brought together in Tables 2 and 3, relating the interaction between the principal elements of the upstream and downstream networks in the plastics industry, along with other elucidative variables from the study for each of the firms studied. Although there are specific factors relating to each of the firms analysed, there are clear patterns, which will now be discussed.

Based on the analysis of the seven cases we can conclude that the ability to establish long-term relationships with international customers creates a flow of technological skills and changes in the production process of the firm. This is then reflected in widening usage of the product across different markets; new customised products are included in

the standard range, which impacts on the ability to enter new segments of the market, as in the case of firm A, or simply creating a new product to order for a specific customer, as is the case for example with firm C.

The relationships of the firms studied are at different stages/states: not all the customers display an active/dynamic relationship at a technical level (i.e., in acquiring skills and technical changes to the products and the firm). There is a relational interaction, although it is more common that international customers are more actively/dynamically involved in innovation projects and technical development of the product. The role of the customer is essential in this process as part of the value creation chain, helping drive the indirect international presence of the plastics firm. This occurs when the plastics firms manage to develop/adapt the new product to the need of its international client.

We can also conclude that price is the primary factor underlying international competition in the plastics industry. In the international context, firms operate in a market where aggressive pricing is normal. This is reflected in a high level of investment in technology and modernisation of industrial equipment, helping maintain control over the cost structure and release enough margin for the firm to be more competitive in the international market. The competitive market pressures – particularly in the international market – require technical differences and technological innovation, such that the production equipment is capable of optimising the production process so that the product is competitive on a cost basis, while also meeting the technical innovation requirements.

Opinion was unanimous regarding the Portuguese firms: adequately serving the international market – primarily in terms of the more stringent technical demands – allows the new range of products to be subsequently adapted to the international market. In this way, success in serving international customers and adopting the new products to their customers' customer needs open a window of opportunities to the national market; it then becomes essential that there are close relations with the suppliers of raw materials and equipment to generate new internationally competitive products. When this successful feedback takes place Portuguese plastics producers were able to add the new product range to the international market, giving them a competitive edge.

The most valuable differentiating characteristics in this core business, which are decisive in the purchasing decision, can be summarised by: the technological and productive capability of the firm and the flexibility of the customer-oriented NPD process (which includes the guarantee of functionality, innovation and product quality); reduced delivery times, ability to compensate for a lack of price competitiveness in the international market (due to the additional transport costs), which all firms in the study cite; product quality and reliability; product safety, product guarantee and technical support; as well as the follow-up given to the customer. In some segments, as in the case of firms C and D, environmental policy, or criteria of hygiene and safety are also considered at time of purchase. However, the first set of factors drive the ability to build relationships (based on trust) between the plastics industry and its customers. This helps encourage close relationships with suppliers and the international presence of the firm.

Customised products are normal in this core business. This encourages a set of relational partnerships between the firm, the customer and the supplier, built on long lasting and stable foundations. The relationship in place between the firm and the customer for customised products is closer than relationships with customers when they purchase products from the standard range. It is important to note that the product price is very important – although this is truer for the standard ranges than for customised

products. The output in this industrial sector is varied, but for the most part the plastic product involves significant technological input, to the point that emphasis in the marketplace is placed on customer support and assistance, with differentiation through the level of service and delivery times. In this respect, the strategic positioning of the plastics industry seems to be supported by a supply chain that maximises customisation and service. As such, relationships based on mutual commitment are made possible by providing solutions at the development stage to customised products.

The firm's bargaining power with the raw materials supplier is essential to creating value in the plastics industry. The cost of the raw materials in this type of industry is intrinsically linked to the price of oil, a factor that is beyond the control of the firm. As such, the relationship forged with the raw material supplier becomes fundamental when planning purchases subject to oil price fluctuations, in obtaining the quantities and grades required, in guaranteeing the quality of the raw materials and in developing chemical compounds as part of the customisation and development of new plastic products.

The bigger the size of the firm the easier it is to forge partnerships with large international suppliers of raw materials. This provides a competitive edge in the process of value creation from innovation and customisation of the plastics products. This collaboration in the R&D and NPD process becomes easier when projects have more potential, as shown by the amount of business they represent for upstream firms. All this stimulates plastic producers to the point that they gain size allowing them to improve their upstream bargaining power. It is only in this way that the supplier becomes actively involved in the NPD process, rather than just supplying standard raw materials. This is something that is visible in firms B, D and G, where reference was made to the fact that (unlike some competitors) they were able to develop a special relationship with raw material and equipment suppliers based on the relationship that they can develop upstream.

In terms of innovation, there are particular features in terms of the product and the process. The firms E, F and G state that process innovation is important for their competitiveness and that they have the internal capabilities to develop their products, notwithstanding the work they do together with the raw material suppliers. The situation for Portuguese firms is rather different: all of them seek to work together with raw material and equipment suppliers when developing new solutions for their customers. Process innovation is also important in the search for keeping costs as low as possible. As such, it can be stated that Portuguese firms place more emphasis on product innovation than process innovation in this type of industry. This may be the result of differences in the level of technical endowments between Portuguese and foreign plastic producers.

There are certain differences among the technological endowments of the firms, as is the case of the industrial plastics producers or polymer producers. However, one can claim that knowledge of the characteristics of the different segments of the market will also affect the innovation structure in this type of industry, stimulating the development of external relations with downstream markets. External relations (both upstream and downstream) give this sector a continual capacity for product-based innovation and learning, based on economies of scale and on serving indirect customers in international markets. As relationships are built up covering the production flows a firm has with all the actors (i.e., suppliers), the industry sector is energised and evolves. This is reflected in the networking activities upstream and downstream in the supply chain, and from a wider perspective, in its international presence.

The number of workers in R&D compared to the sales volume and the level of customisation suggests that the plastics industry relies on the upstream relationship. However, there are differences between Portuguese and foreign firms, in particular, raw material suppliers are seen as important among Portuguese firms, given that access to process innovation based on technology/machinery is similar in this industry (or at least it is dependent on in-house know how).

The international market for plastics is more diversified than the Portuguese market. This implies a higher level of competition in the international market, particularly at the market entry point. However, after entry it is easier to maintain the relationship with international customers. There is a common characteristic shared by all the international customers in the plastics industry: customised tight requirements both technically and for delivery times. In order to respond to specific needs, international customers try to develop trust-based relationship with their plastic suppliers. Because of this indirect demand, plastic suppliers tend to their upstream to develop specific raw material and equipment. This may to either radical innovation (a completely new product, which may imply a new production process with a high degree of complexity and technical requirements), or incremental innovation (requiring a change in the mix of the raw materials used). As such, to gain entry to international markets and be competitive the plastic producer needs to be able to show responsiveness and flexibility in adapting the products to the technical demands of different markets. In this respect and based on the findings, both upstream and downstream relationships are crucial when considering international acceptance.

Based on these findings and according to Chang et al.'s (2012) framework, the plastics manufacturer can be categorised as an obedient focal firm in the supply chain, the weakest position. These kind of firms have highly customised products and depend on both suppliers and customers, as such one can claim that the centres of the network are located both upstream and downstream where the main network actors are located. The focal firm is constrained by both upstream and downstream actors and plays a complementary role on this supply chain network, as the downstream customers are few but significant, which leads the focal firm to establish customised products based on long-term contracts as a means of having access to a long array of new customers and products.

Based on the analysis of the seven cases, Figure 2 presents a brief summary of the supply chain network of the plastic manufacturer. This figure depicts the hypotheses of our study, as downstream customers and upstream suppliers have an important role for focal firms in the NPD process as the plastic market favours customised products (Hypotheses 1 and 2). Long-term relationships with customers allow focal firms:

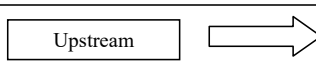
a to create a diversity of new products, involving suppliers in this process, although based on relationships both downstream and upstream in the supply chain

b to have access to new markets/customers in international markets (Hypothesis 3).

A differentiating characteristic between the Portuguese firms (A, B, C and D) and the Spanish and Italian firms (E, F and G) relates to the fact that the latter group saw their national markets as having similar requirements to the international markets. The Portuguese firms, however, were clear in their view that the national market was

significantly less demanding than the international market, particularly in terms of the technology used, which is associated with the complexity of the products being produced. In addition, Portuguese firms unanimously stated that their presence in international markets leads to improvements in the range of products offered to the national market. In this respect, while the highly competitive national markets in Spain and Italy helps their national firms to break into international markets, Portuguese firms use price to compete at this level, allowing them to adopt a new competitive position in the national Portuguese market.

Figure 2 Supply chain network: focal firm obedience



Both upstream and the downstream levels enjoy a relatively high degree of power.
Downstream firms have a power advantage over the focal firm not only because their bargaining power, but also because they serve and know the end customers' needs.
Both upstream and downstream players of the network are highly consolidated industries.

Focal firm's upstream strategies	**Focal firm's downstream strategies**	**Hypotheses**
Strengthen bi-directional knowledge-sharing routines.	Obtain a long-term contracts.	**1** ✓
Avoid lack of resources.	Customise products for critical customers.	**2** ✓
	Provide product information to customers.	**3** ✓

Focal firm Upstream and downstream strategies

Promote the development of complementary resources and capabilities to both upstream and downstream networks.
Adjust focal firm resources and capabilities to being committed to its upstream or downstream partners.
Modify and open its organisational structure to join boundary-spanning activities.
Aim for collaboration.

5 Conclusions and implications

The suppliers (of raw materials and equipment) and the international customers are the fundamental elements of the supply chain network. A strong position with good relationships on a competitive footing, both upstream and downstream in the supply chain, helps firms to produce a more competitive final product, maintaining the quality requirements demanded by the most stringent international customers. This is due to a feedback effect, or in other words, the partnership that the focal firm forges with its suppliers is reflected downstream in the customer, and vice-versa. This then reinforces the trust that the firm communicates to the market when developing new products and in stimulating the relational partnership established with the customer, based on its customers' needs.

This symbiosis leads to a more technically innovative final product, which encourages more relational contact with customers, extending networking activities with international customers and strengthening its competitiveness.

The plastics manufacturing (focal) firms look to their raw material and equipment suppliers as a way of developing and innovating their products. However, they do not forget the importance of the market's demands and the opportunities and needs of their direct and indirect customers in the decision making process.

The plastics industry is highly characterised by the vertical relationship between the suppliers and the customers. In other words, the downstream relationship stimulates the upstream relationship, which in turn leads to more involvement in the downstream relationship. This ensures that the focal firm develops an increased level of loyalty to the customer in international markets.

It is possible to conclude that all firms analysed validate Hypothesis 1, which underpin their international path based on the customer needs. This international demanding environment sparks off an upstream relationship with suppliers validating Hypothesis 2. However, it is the creation of new products and solutions in upstream activities successfully deployed with downstream customers in international markets that give focal firms a competitive edge, validating Hypothesis 3.

Using the concepts of the supply chain and MSM, this article highlights the importance of suppliers and customers as a means of competitive positioning for an exporting firm and defining the strategies of product innovation.

From a theoretical point of view, this exploratory research sheds new light to MSM activities as firms need to bear in mind two important ideas: they need to build relational links and to create close ties with their partners as a way of ensuring more effective product innovation and increased success in serving international customers. This work also supports literature on inter-organisational networks and NPD by presenting power-based relationships among actors in the network. It also provides a comprehensive analysis of B2B supplier approaches to direct and indirect downstream customers within a specific industry, enriching previous research findings by presenting seven case studies, which provide a more comprehensive strategic consideration of the relationship of B2B firms with its suppliers and its customers in a multi-level perspective.

This study has managerial implications. The first one reinforces the idea that by stimulating close relationships, with either the customer or the supplier, focal firms will be facilitating their presence in international markets. We also provide a comprehensive understanding of the complex structure of B2B networks on plastics industry, whose players seek to reduce the uncertainty of their low technology endowments competing successfully in international markets. The interaction with downstream-customers and upstream-suppliers along the supply chain, in which regular information is exchanged, helps firms in their learning and decision-making process and could be considered a window of opportunities to new businesses.

This study focuses on relationships and is based on seven case studies. While the results cannot be generalised, they open doors to other potential studies in the area (namely quantitative studies using multivariate techniques) which might shed light on the importance of the upstream and downstream network for the supply chain when the firm moves into international markets. On the other hand, this study was not concerned with how radical the product innovation was at the seven firms. As such, it would be interesting for future studies to assess the level of product innovation to understand how downstream and upstream involvement/relationships influence the level of radical innovation. Similarly, it would be interesting to define a metric for a firm's level of international presence, as a way of understanding if there is an association with the level of involvement, as well as the 'character' of the innovation (radical/incremental) in relation to the international presence.

References

Andersen, P.H. and Skaates, A.M. (2004) 'Ensuring validity in qualitative international business research', in Marschan-Piekkari, R. and Welch, C. (Eds.): *Handbook of Qualitative Research Methods for International Business*, pp.464–485, Edward Elgar, Cheltenham.

Anderson, J.C., Håkansson, H. and Johanson, J. (1994) 'Dyadic business relationships within a business network context', *Journal of Marketing*, Vol. 58, No. 4, pp.1–15.

Associação Brasileira da Indústria do Plástico (ABIPLAST) (2009) *Caracterização da Cadeia Petroquímica e da Transformação de Plásticos*, Agência Brasileira de Desenvolvimento Industrial [online] http://www.abiplast.org.br/ (accessed 19 January 2016).

Bergenholtz, C. and Waldstrøm, C. (2011) 'Inter-organizational network studies – a literature review', *Industry and Innovation*, Vol. 18, No. 6, pp.539–562.

Blomqvist, K. and Levy, J. (2006) 'Collaboration capability–a focal concept in knowledge creation and collaborative innovation in networks', *International Journal of Management Concepts and Philosophy*, Vol. 2, No. 1, pp.31–48.

Caloghirou, Y., Kastelli, I. and Tsakanikas, A. (2004) 'Internal capabilities and external knowledge sources: complements or substitutes for innovative performance?', *Technovation* Vol. 24, No. 1, pp.29–39.

CAVIRC (2016) *CADSES Area Virtual Clustering Network – Plastic Virtual Cluster* [online] http://www.cavirc.net (accessed 2 February 2016).

Chang, C.W., Chiang, D.M. and Pai, F.Y. (2012) 'Cooperative strategy in supply chain networks', *Industrial Marketing Management*, Vol. 41, No. 7, pp.1114–1124.

Cozzarin, B.P. and Percival, J.C. (2006) 'Complementarities between organizational strategies and innovation', *Economics of Innovation and New Technology*, Vol. 15, No. 3, pp.195–217.

Dahlquist, S. and Griffith, D. (2014) 'Multidyadic industrial channels: understanding component supplier profits and original equipment manufacturer behavior', *Journal of Marketing*, Vol. 78, No. 4, pp.59–79.

Dyer, J. and Singh, H. (1998) 'The relational view: Cooperative strategy and sources of interorganizational competitive advantage', *Academy of Management Review*, Vol. 23, No. 4, pp.660–679.

Eisenhardt, K.M. (1989) 'Building theories from case study research', *Academy of Management Review*, Vol. 14, No. 4, pp.532–550.

Franco, M., Mainardes, E. and Martins, O. (2011) 'A review of inter-organizational networks: evidence from studies published in 2005–2008', *Cuadernos de Administración*, Vol. 24, No. 43, pp.133–155.

Geiger, I., Dost, F., Schönhoff, A. and Kleinaltenkamp, M. (2015) 'Which types of multi-stage marketing increase direct customers' willingness-to-pay? Evidence from a scenario-based experiment in a B2B setting', *Industrial Marketing Management*, Vol. 47, pp.175–189.

Ghauri, P. (2004) 'Designing and conducting case studies in international business research', in Marschan-Piekkari, R. and Welch, C. (Eds.): *Handbook of Qualitative Research Methods for International Business*, pp.109–124, Edward Elgar, Cheltenham.

Grewal, R. and Lilien, G.L. (2012) 'Business-to-business marketing: looking back, looking forward', in Lilien, G.L. and Grewal, R. (Eds.): *Handbook of Business-to-Business Marketing*, pp.3–12, Edward Elgar, Cheltenham.

Guan, J. and Ma, N. (2003) 'Innovative capability and export performance of Chinese firms', *Technovation*, Vol. 23, No. 9, pp.737–747.

Gundlach, G.T., Bolumole, Y.A., Eltantawy, R.A. and Frankel, R. (2006) 'The changing landscape of supply chain management, marketing channels of distribution, logistics and purchasing', *Journal of Business & Industrial Marketing*, Vol. 21, No. 7, pp.428–438.

Handfield, R., Ragatz, G., Peterson, K. and Monczka, R. (1999) 'Involving suppliers in new product development', *California Management Review*, Vol. 42, No. 1, pp.59–82.

Henke, J. and Zhang, C. (2010) 'Increasing supplier-driven innovation', *MIT Sloan Management Review*, Vol. 51, No. 2, pp.41–46.

Hillebrand, B. and Biemans, W. (2011) 'Dealing with downstream customers: an exploratory study', *Journal of Business & Industrial Marketing*, Vol. 26, No. 2, pp.72–80.

Holmlund, M. and Kock, S. (1996) 'Buyer dominated relationships in a supply chain: a case study of four small-sized suppliers', *International Small Business Journal*, Vol. 15, No. 1, pp.26–40.

Holmlund, M. and Kock, S. (1998) 'Relationships and the internationalisation of Finnish small and medium-sized companies', *International Small Business Journal*, Vol. 16, No. 4, pp.46–63.

Homburg, C., Wilczek, H. and Hahn, A. (2014) 'Looking beyond the horizon: how to approach the customers' customers in business-to-business markets', *Journal of Marketing*, Vol. 78, No. 5, pp.58–77.

Hsu, L-L. (2005) 'Supply chain management system effects on performance for interaction between suppliers and buyers', *Industrial Management & Data Systems*, Vol. 105, No. 7, pp.857–875.

Hultman, M., Robson, M. and Katsikeas, C. (2009) 'Export product strategy fit and performance: an empirical investigation', *Journal of International Marketing*, Vol. 17, No. 4, pp.1–23.

Johanson, J. and Vahlne, J-E. (2003) 'Business relationship learning and commitment in the internationalization process', *Journal of International Entrepreneurship*, Vol. 1, No. 1, pp.83–101.

Johnsen, R.E. and Ford, D. (2006) 'Interaction capability development of smaller suppliers in relationships with larger customers', *Industrial Marketing Management*, Vol. 35, No. 8, pp.1002–1015.

Johnsen, R.E. and Ford, D. (2008) 'Exploring the concept of asymmetry: a typology for analysing customer-supplier relationships', *Industrial Marketing Management*, Vol. 37, No. 4, pp.471–483.

Kang, K.H. and Kang, J. (2009) 'How do firms source external knowledge for innovation? Analysing effects of different knowledge sourcing methods', *International Journal of Innovation Management*, Vol. 13, No. 1, pp.1–17.

Kleinaltenkamp, M., Rudolph, M. and Claßen, M. (2012) 'Multi-stage marketing', in Glynn, M. and Woodside, A.G. (Eds.): *Business-to-Business Marketing Management: Strategies, Cases, and Solutions, Advances in Business Marketing and Purchasing*, Vol. 18, pp.141–174, Emerald, Bingley.

Lages, L.F. and Montgomery, D. (2004) 'Export performance as an antecedent of export commitment and marketing strategy adaptation: Evidence from small and medium-sized exporters', *European Journal of Marketing*, Vol. 38, Nos. 9/10, pp.1186–1214.

Lages, L.F., Abrantes, L.J. and Lages, C.R. (2008a) 'The STRATADAPT scale: a measure of marketing strategy adaptation to international business markets', *International Marketing Review*, Vol. 25, No. 5, pp.584–600.

Lages, L.F., Jap, S. and Griffith, D. (2008b) 'The role of past performance in export ventures: a short-term reactive approach', *Journal of International Business Studies*, Vol. 39, No. 2, pp.304–325.

Lages, L.F., Silva, G. and Styles, C. (2009) 'Relationship capabilities, quality and innovation as determinants of export performance', *Journal of International Marketing*, Vol. 17, No. 4, pp.47–70.

Lambert, D.M. and Cooper, M.C. (2000) 'Issues in supply chain management', *Industrial Marketing Management*, Vol. 29, No. 1, pp.65–83.

Lemke, F., Goffin, K. and Szwejczewski, M. (2003) 'Investigating the meaning of supplier-manufacturer partnerships: An exploratory study', *International Journal of Physical Distribution & Logistics Management*, Vol. 33, No. 1, pp.12–35.

Lisboa, A., Skarmeas, D. and Lages, C. (2011a) 'Entrepreneurial orientation, exploitative and explorative capabilities, and performance outcomes in export markets: a resource-based approach', *Industrial Marketing Management*, Vol. 40, No. 8, pp.1274–1284.

Lisboa, A., Skarmeas, D. and Lages, C. (2011b) 'Innovative capabilities: their drivers and effects on current and future performance', *Journal of Business Research*, Vol. 64, No. 11, pp.1157–1161.

Marschan-Piekkari, R. and Welch, C. (2004) 'Qualitative research methods in international business: the state of the art', in Marschan-Piekkari, R. and Welch, C. (Eds.): *Handbook of Qualitative Research Methods for International Business*, pp.5–24, Edward Elgar, Cheltenham.

Min, H. and Zhou, G. (2002) 'Supply chain modeling: past, present and future', *Computers & Industrial Engineering*, Vol. 43, Nos. 1/2, pp.231–249.

Moreira, A.C. (2009) 'Knowledge capability flows in buyer-supplier relationships. Challenges for small domestic suppliers in international contexts', *Journal of Small Business and Enterprise Development*, Vol. 16, No. 1, pp.93–114.

Moreira, A.C. and Karachun, H.L. (2014) 'Uma revisão interpretativa sobre o desenvolvimento de novos produtos', *Cuadernos de Administración*, Vol. 27, No. 49, pp.155–182.

Nagurney, A. (2010) 'Optimal supply chain network design and redesign at minimal total cost and with demand satisfaction', *International Journal of Production Economics*, Vol. 128, No. 1, pp.200–208.

Nyaga, G., Whipple, J. and Lynch, D. (2010) 'Examining supply chain relationships: do buyer and supplier perspectives on collaborative relationships differ?', *Journal of Operations Management*, Vol. 28, No. 2, pp. 101–114.

Patton, M.Q. (2015) *Qualitative Research & Evaluation Methods*, Sage, Saint Paul, MN.

Peng, W. and York, A. (2001), 'Behind intermediary performance in export trade: transactions, agents and resources', *Journal of International Business Studies*, Vol. 32, No. 2, pp.327–346.

Petersen, K., Handfield, R. and Ragatz, G. (2003) 'A model of supplier integration into new product development', *Journal of Product Innovation Management*, Vol. 20, No. 4, pp.284–299.

Petersen, K., Handfield, R. and Ragatz, G. (2005) 'Supplier integration into new product development: coordinating product, process and supply chain design', *Journal of Operations Management*, Vol. 23, No. 3, pp.371–388.

Pettigrew, A. M. (1992) 'The character and significance of strategy process research', *Strategic Management Journal*, Vol. 13, No. S2, pp.5–16.

Plastics (2010) *Plastics – The Facts 2010* [online] http://www.plasticseurope.org (accessed 3 January 2016).

Popp, J., Milward, H., MacKean, G., Casebeer, A. and Lindstrom, R. (2014) *Inter-organizational Networks. A Review of the Literature to Inform Practice*, IBM Center for The Business of Government, Washington.

Porter, M. E. and Millar, V. E. (1985) 'How information gives you competitive advantage – the information revolution is transforming the nature of competition', *Harvard Business Review*, July–August, pp.149–160.

Pyka, A. and Küppers, G. (2002) *Innovation Networks: Theory and Practice*, Edward Elgar Publishing, Massachusetts.

Ragatz, G., Handfield, R. and Petersen, K. (2002) 'Benefits associated with supplier integration into new product development under conditions of technology uncertainty', *Journal of Business Research*, Vol. 55, No. 5, pp.389–400.

Ragatz, G., Handfield, R. and Scannell, T. (1997) 'Success factors for integrating suppliers into new product development', *Journal of Product Innovation Management*, Vol. 14, No. 3, pp.190–202.

Ritter, T. and Gemünden, H.G. (2004) 'The impact of a company's business strategy on its technological competence, network competence and innovation success', *Journal of Business Research*, Vol. 57, No. 5, pp.548–556.

Schönhoff, A.M. (2014) *Does Multi-stage Marketing Pay?: Creating Competitive Advantages Through Multi-stage Marketing*, Gabler Verlag, Berlin.

Simatupang, T.M. and Sridharan, R. (2002) 'The collaborative supply chain', *The International Journal of Logistics Management*, Vol. 13, No. 1, pp.15–30.

Soosay, C.A., Hyland, P.W. and Ferrer, M. (2008) 'Supply chain collaboration: capabilities for continuous innovation', *Supply Chain Management: An International Journal*, Vol. 13, No. 2, pp.160–169.

Teece, D. J., Pisano, G. and Shuen, A. (1997) 'Dynamic capabilities and strategic management', *Strategic Management Journal*, Vol. 18, No. 7, pp.509–533.

Theodosiou, M. and Leonidou, L.C. (2003) 'Standardization versus adaptation of international marketing strategy: an integrative assessment of the empirical research', *International Business Review*, Vol. 12, No. 2, pp.141–171.

Trkman, P. and McCormack, K. (2009) 'A conceptual model for managing supply chain risk in turbulent environment', *International Journal of Production Economics*, Vol. 119, No. 2, pp.247–258.

Trkman, P., Stemberger, I.M., Jaklic J. and Groznik, A. (2007) 'Process approach to supply chain integration', *Supply Chain Management: An International Journal*, Vol. 12, No. 2, pp.116–128.

van der Vaart, T. and van Donk, D.P. (2008) 'A critical review of survey based research in supply chain integration', *International Journal of Production Economics*, Vol. 111, No. 1, pp.42–55.

Vedel, M., Geersbro, J. and Ritter, T. (2012) 'Interconnected levels of multi-stage marketing: a triadic approach', *Journal of Business Market Management*, Vol. 5, No. 1, pp.1–20.

Vickery, S.K., Jayaram, J., Drode, C. and Calantone, R. (2003) 'The effects of an integrative supply chain strategy on customer service and financial performance: An analysis of direct versus indirect relationships', *Journal of Operations Management* Vol. 21, No. 5, pp.523–539.

Voss, C., Tsikriktsis, N. and Frohlich, M. (2002) 'Case research in operations management', *International Journal of Operations and Production Management*, Vol. 22, No. 2, pp.195–219.

Wathne, K.H. and Heide, J.B. (2004) 'Relationship governance in supply chain network', *Journal of Marketing*, Vol. 68, No. 1, pp.73–89.

Weber, E.P. and Khademian, A.M. (2008) 'Wicked problems, knowledge challenges, and collaborative capacity builders in network settings', *Public Administration Review*, Vol. 68, No. 2, pp.334–349.

Webster Jr., F.E. (2000) 'Understanding the relationships among brands, consumers, and resellers', *Journal of the Academy of Marketing Science*, Vol. 28, No. 1, pp.17–23.

Wiengarten, F., Humphreys, P., Guangming, C., Fynes, B. and Mckittrick, A. (2010) 'Collaborative supply chain practices and performance: exploring the key role of information quality', *Supply Chain Management: An International Journal*, Vol. 15, No. 6, pp.463–473.

Wilkinson, I. (2001) 'A history of network and channels thinking in marketing in the 20th century', *Australasian Journal of Marketing*, Vol. 9 No. 2, pp.23–53.

Wuyts, S., Stremersch, S., Van den Bulte, C. and Franses, P.H. (2004) 'Vertical marketing systems for complex products: A triadic perspective', *Journal of Marketing Research*, Vol. 41, No. 4, pp.479–487.

Yin, R. (2008) *Case Study Research: Design and Methods*, SAGE Publications, Thousand Oaks.

Zucchella, A. and Siano, A. (2014) 'Internationalization and innovation as resources for SME growth in foreign markets: a focus on textile and clothing firms in the Campania Region', *International Studies of Management & Organization*, Vol. 44, No. 1, pp.21–41.

Notes

1 AICEP Portugal Global – Trade & Investment Agency is a government business entity focused on encouraging the best foreign firms to invest in Portugal and helping Portuguese firms succeed abroad in their internationalization processes or export activities.

2 The status of PME Leader is awarded by IAPMEI (Public Agency for Competitiveness and Innovation, tasked with promoting competiveness and growth among SMEs, with a basis in innovation and entrepreneurship) using criteria fundamentally related to competitive support and growth strategies.

3 The status of PME Excellence is awarded by IAPMEI using criteria related primarily to profitability, financial autonomy and growth in the volume of business.