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Make or Buy in a Mature Industry? Models of Client-supplier Relationships under TCT and RBV Perspectives

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ABSTRACT

In this paper, we use the transaction cost theory [TCT] and the resource-based view [RBV] to discuss three propositions on the models of client-supplier relationships in mature industries. The two theories seem to advance different organizational forms of the client-supplier relationships, and in some instances are contradictory. How should firms organize to prosper and grow, namely in the international markets? Through the case study of three Portuguese packaging firms, with primary (interviews) and secondary data, we discuss how the three firms deploy three distinct strategic organization models in a mature industry. One firm utilizes market-based governance mechanisms, and concentrates its production in a few selected locations. Another firm vertically integrates almost the entire value chain of the product to provide full service to its clients. The third firm operates in a model of integrated outsourcing, with the installation **wall to wall** with its clients. The client-supplier models adopted by these firms are based on efficient, stable, and trustworthy relationships that permit them to focus on their core competences and reduce transaction costs. The superior performance of firms requires a proper alignment of hierarchical and relational governance, taking the dimensions of their transactions into consideration.

Key words: client-supplier relationship models; outsourcing; TCT; RBV; strategic governance.

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INTRODUCTION

What should firms do in mature industries? Should they make, or should they buy? How do firms in mature industries design the organization models for client-supplier exchanges? These questions have been debated in organization and strategic management research as the dichotomy 'make' or 'buy'. This dichotomy can be traced back to the logic of economic rationale proposed by Adam Smith (1993, p. 759) as "it is the maximum of every prudent master of the family, never to attempt to make at home what it will cost him more to make than to buy", or to the work of Coase (1937) on the nature of the firm. Coase (1937) stated that firms that decide to internalize the allocation of resources, and substitute market-based mechanisms, exist because the transaction costs are high. The essence of Coase's thought is that firms and markets are alternative forms of organization for managing the same transactions. Whether a firm makes or buys is largely a function of the transaction costs of managing the exchanges inside the firm, as compared with mediating the transaction through the market (Williamson, 1975, 1985).

However, despite the extant research, the dilemma over whether to make or to buy is still topical; it is transversal to multiple industries and organizations, and is far from being resolved (Hätönen & Eriksson, 2009; Leiblein, Reuer, & Dalsace, 2002; Parmigiani, 2007). Furthermore, this dilemma has rarely been subjected to questioning in mature industries. In emergent industries, firms may need to internalize more activities of the product value chain to overcome a multitude of market imperfections. Conversely, in mature industries, it is likely that outsourcing relationships dominate as firms seek to concentrate on their competencies (Hamel & Prahalad, 1990), and avoid committing to investments in fixed assets in non core activities. In particular, it seems reasonable to suggest that in mature industries outsourcing relationships may be highly calculative (Hite & Hesterly, 2001) and unstable, and thus at least close to buy off-the-shelf behaviors.

Despite the extensive academic debate on the theory of the firm, there remains a lack of consensus on the conditions that define firms' boundaries (Jacobides & Billinger, 2006). Recent research has suggested that firms benefit from focusing on their core competences (Hamel & Prahalad, 1990). These are the activities in which firms create added value and allow the generation of above normal returns (Mahoney & Pandian, 1992; Peteraf, 1993). Therefore, only these activities should be internalized within the boundaries of the firms, and the remaining operations should be contracted in the market (Coase, 1937). Williamson (1975, 1985) argued the importance of aligning governance structures with transactions, and the selection of the best-tailored organization model for each transaction. Other scholars have argued that only activities where the firms use their valuable, rare, non-imitable, and non-substitutable (VRIN) resources sustain a competitive advantage (Barney, 1991; Chaharbaghi & Lynch, 1999) and should be carried in-house. In fact, while some firms increasingly transact with the market, other firms internalize activities they previously outsourced. Furthermore, the 'make' or 'buy' dichotomy may be overcome with entirely new governance models (see also Powell, 1990; Williamson, 1985) leading Kogut, Shan and Walker (1992) to suggest that the dilemma is not whether to make or to buy but rather whether to make or to cooperate (see also Geyskens, Steemkamp, & Kumar, 2006; Gulati, 1995, 1998; Jacobides & Billinger, 2006), or perhaps assume some other hybrid organization form.

In mature industries, it may be that the choice of governance form is facilitated. Mature industries tend to have many characteristics that tend to reduce market imperfections and transaction hazards. For example, mature industries are typically populated by efficient competing firms, mitigating small number bargaining and the potential for opportunistic behaviors (Williamson, 1985). Mature industries also tend to have well developed institutions that monitor market performance. In addition, in mature industries, competitive advantages generally do not reside in the control of the manufacturing process or tangible resources (Barney, 1991); rather, they tend to be based on the possession of unique firm-specific knowledge (Grant, 1996; Hoopes, Madsen, & Walker, 2003), or manufacturing efficiency (Vernon, 1966). And, finally, it is more likely that firms in mature industries are better able to reduce the transaction costs in the interfaces with their clients.

In this study, we analyze the client-supplier models selected by three firms in the same (albeit heterogeneous) industry, and contrast them using the suggestions of two main research streams. Our research question thus focuses on how firms in a mature industry organize their client-supplier exchanges and whether the transaction costs or the resources held sustain the organizational form adopted. The literature review highlights potential tensions between the transaction costs theory [TCT] and the resource based view [RBV]. In an nutshell, the TCT suggests the internalization of activities whenever the costs and risks of outsourcing are high and some conditions apply, while the RBV advises internalization when the strategic importance of the activities is high and the firm holds the appropriate resources. While one theory focuses on the transaction, the other focuses on the resources held. That is not to say that the theories' **predictions** as to the models adopted are always different, as we examine. We also explore the extent to which an heterogeneous product, different efficient scales, diverse investment requirements in fixed assets, varied transportation costs, and the frequency of client-supplier interaction influence the organization model of these firms. Our exploration goes beyond the TCT or RBV prescriptions to note that the theories do not provide a unique and unified framework for the analysis of how firms organize exchanges with their clients to survive and prosper. The issue is contemporary, as the large multinational corporations look for ways to become ever more efficient, namely by seeking out partnerships for their activities; and particularly those activities that are not related to their core business.

This paper is organized into three main sections. In the first section, we briefly discuss the theoretical background and formulate three basic propositions based on insights from transaction costs and the resource-based view in the context of mature industries. The analysis of the case studies, in the second section, synthesizes a description of the three firms studied and the factors assessed to have a more significant impact on the governance models selected by the focal firms. Finally, the discussion is based on the analysis of the cases, presents limitations and suggests avenues for future research.

SELECTING FROM THE ORGANIZATIONAL MENU IN MATURE INDUSTRIES

Strategic management research conveys several largely disparate perspectives to boundary and inter-firm organization management. For example, transaction cost theory (Coase, 1937; Williamson, 1975, 1985) examines the relative efficiency of alternative governance models. The central issue in transaction cost theory is whether a transaction is more efficiently performed within the firm (leading to vertical integration) or outside it (and hence contracted to independent vendors - market governance). The resource based view [RBV] observes the firms' boundaries supported by valuable, rare, non-imitable, non-substitutable tangible and intangible resources that have the potential to generate abnormal returns (Barney, 1991; Hoopes *et al.*, 2003). This section briefly reviews these two streams of research in the context of mature industries leading to the formulation of three propositions on the design of inter-firm organizational models in mature industries. These propositions will be subsequently discussed utilizing three cases of Portuguese packaging firms.

In the recent decades we have witnessed an outsourcing revolution, changing the way firms compete, the activities they carry in-house and how they invest in resource exploration and in their relationships with other firms (Corbett, 2004). This is happening across industries, from the automobile industry to the aerospace, telecommunications, computers, pharmaceuticals, chemicals, healthcare, financial services and software industries (Carson, 2007; Dahan & Hauser, 2002; Quinn, 2000). Outsourcing is the transfer of activities and processes previously conducted by the firm internally to an external party (Ellram & Billington, 2001). Fill and Visser (2000) refer to outsourcing as the most sustained trend in business and it comes in contrast to the traditional model whereby firms used to be highly vertically integrated and the activities in every link of the value chain were conducted internally.

The success of early outsourcing experiences generated bandwagon effects and many other firms began experimenting. Outsourcing promised it was possible to follow Hamel and Prahalad's (1990)

rationale of focusing on the core competences of the corporation, if firms outsourced activities that were not in their area of expertise and that were not of strategic importance to compete in the market. Outsourcing permitted benefits beyond cost efficiency, such as to access skills, knowledge and processes they did not hold. Eventually, the "strategic outsourcing" models emerged (Quinn & Hilmer, 1994) as firms understood the benefits of establishing closer and more stable relationships with their suppliers and clients. As the world became more interconnected, firms had global access to vendors, the costs of interacting decreased and communication and information technologies improved, firms could rethink the boundaries of their businesses (Doig, Ritter, Speckhals, & Woolson, 2001).

Mature Industries

Although the most firms operate in mature industries, there is noticeably scant research examining how firms compete in mature industries. However, it is well established that firms adjust their strategies to the life cycle of the industry (Bush & Sinclair, 1992; Porter, 1980). For instance, in emerging industries, firms seem to compete to define standards (Tushman & Anderson, 1986), race to place innovations on the market (Schoonhoven, Eisenhardt, & Lyman, 1990), and differentiate from competitors (Porter, 1980). Conversely, in mature industries, cost-based strategies seem to predominate (Porter, 1980) as products become harder to differentiate and firms seek ways to increase manufacturing efficiency. However, this characterization may be incomplete because firms need to adjust to changes in the industry's structure and in the nature of competition. In addition, firms also need to adjust to the clients' response to their own industry's changes (Bush & Sinclair, 1992). For instance, the US producers used to manufacture their own containers, but they are increasingly outsourcing the manufacture of the containers to external efficient suppliers. For small and medium sized packaging manufacturers worldwide, this trend towards outsourcing represents an opportunity to survive and expand. It is important to present at the outset what is meant here by outsourcing. Firms outsource when they contract the one activity in the value chain, or the entire chain of activities, to an outside firm.

In mature industries, holding a competitive advantage does not rely on the control of the manufacturing process; rather, firms are more likely to sustain their competitive positions by controlling intangible assets (e.g., knowledge) embedded in their products, and on customer-oriented strategies (Bush & Sinclair, 1992; Carson, 2007; Porter, 1980). For example, Nike, Inc. internalized the extremes of the value chain (R&D and marketing - where intangible resources are more pronounced) and outsourced the manufacturing process to independent suppliers. Multinational enterprises [MNEs] seem to be major drivers of this shift towards outsourcing in mature industries because globalization forces MNEs to redefine the boundaries of their relationships with clients, suppliers and competitors (see Hätönen & Eriksson, 2009). This change is attributed to macro factors such as the trend towards diminishing transport costs, the decrease in tariff barriers to international trade, the gradual elimination of bureaucratic and administrative barriers (Dunning, 1995), and the reduction of transaction costs driven by advances in communications (Doig *et al.*, 2001). A visible outcome of these changes is that MNEs are rationalizing their production, particularly in undifferentiated product segments, through the concentration of manufacturing in a small number of locations and serving a larger market base from these central points. This has occurred massively in the European Union [EU] during the past two decades. This means that some MNEs as well as domestic firms gradually disintegrate and seek relational forms of outsourcing rather than seeking to maintain a variety of activities in-house. In proposition form, we may thus formulate a general proposition based on received wisdom:

Proposition 1. Firms in mature industries are more likely to use outsourcing models than maintain activities in-house.

In mature industries, given the pressure towards cost efficiency, it would seem reasonable to suggest that outsourcing relationships would tend to be unstable. Competition in mature industries is stereotypically based on achieving the lowest possible cost (Porter, 1980) which is better attained if firms resort to spot transactions (or buy off-the-shelf contracting), and maintain arm's length relations.

In other words, the lowest cost is obtained when firms arbitrage between suppliers in an attempt to obtain the lowest bid for their order. In this case market-based exchanges are unstable, calculative and opportunistic, but they also show firms resorting to the pure market to obtain the inputs needed.

Transaction Costs Theory

The transaction costs theory [TCT] is often used to explain the decision to internalize or externalize activities (Geyskens *et al.*, 2006; Jacobides, 2004; Mayer & Salomon, 2006). TCT seeks to explain why firms exist, and why firms do what they do, or why they do not do what they do not do (Madhok, 2002). Given the neoclassical assumptions of perfect markets, atomistic agents and perfect flows of information, we may reiterate Coase's (1937) and Williamson's (1975, 1985) concerns: why are all transactions not organized through the market, and why instead are some transactions organized within firms? Thus far, scholars seem to agree that the choice of governance model is supported by the analysis of the relative costs and benefits of each governance form and the transaction costs involved in the exchanges. The fact is that, according to Coase (1937), under some conditions, exchanges are not efficiently organized using markets and require internalization. The state of maturity of the industry is likely to change the relative impact of the transaction costs in client-supplier exchanges.

According to Williamson (1985), firms' will internalize activities, rather than resort to external suppliers if three conditions are verified. First, if the degree of uncertainty involved in the transaction is high. Uncertainty is manifested in the agents' bounded rationality that originates incomplete contracts due to the difficulty (or impossibility) of foreseeing all possible future situations in the contracting moment, and the potential for opportunistic behaviors (Kale, Singh, & Perlmutter, 2000) when one of the partners pursues his own self-interest. Without uncertainty, bounded rationality would be irrelevant (Barney & Hesterly, 1996). Second, if the tie-in nature of the investments in fixed assets specific to a relation is high. Specific assets to a relation may have no value for other relationships and thus the party that makes asset-specific investments may be held up in opportunistic behaviors by the partner (Dyer & Chu, 2003; Kale *et al.*, 2000). Therefore, when the exchange requires investments in assets specific to the exchange, the focal firm may opt to internalize the exchange to reduce transaction costs. Third, if the firm has to buy recurrently from the suppliers, recurrent transactions may be better carried out internally in the firm (e.g., vertical integration) rather than in the market (outsourcing) under conditions of uncertainty and potential opportunism.

In mature industries the market tends to be efficient and it would seem reasonable that firms would outsource virtually all operations. This is partly because there are alternative efficient suppliers with the necessary equipment and skills to carry out the activity, therefore reducing their bargaining power, and the likelihood they will engage in opportunistic behaviors. Conversely, it is also reasonable to suggest that it is when the industry is emerging or in a growth stage that firms would benefit from vertically integrating. Vertical integration permits firms to overcome multiple market imperfections, and vertical integration is a plausible organizational form for the reduction of transaction costs, elimination of supply uncertainties, creation of barriers to entry and, in selected cases, for maintaining flexibility to market changes (Porter, 1980; Williamson, 1985). Hence, under a transaction cost perspective, bounded rationality, opportunism, asset specificity, uncertainty and recurrence of transactions will converge to determine which transactions are internalized and which are conducted via the market (Barney & Hesterly, 1996; Williamson, 1985). The general prediction of the TCT is that firms should be performing in-house activities that have high transaction hazards. Hence, in proposition form:

Proposition 2. Firms in mature industries are more likely to outsource activities when transaction hazards are low than when these hazards are high.

In short, the TCT suggests that firms should internalize activities when the transactional hazards are high, regardless of the strategic importance of the focal activity, and externalize (or outsource) when these hazards are low. However, this answer provides only a partial view because the relative stability of the outsourcing relationship will likely be influenced by the strategic importance of the activity,

thus contributing to lowering or increasing the transaction costs involved. For example, activities of low strategic importance may be carried out through unstable relationships - i.e., relationships that are redesigned after each exchange. Conversely, activities of high strategic importance may require stable relationships to prevent unintended spillovers of the knowledge shared, and to promote cooperation in such activities as product innovation (Carson, 2007). The RBV reviewed below is complementary to the TCT in providing explanations to the organization of inter-firm exchanges.

Resource Based Models

The RBV focuses on firms' internal organization and resources to understand how firms achieve a sustainable competitive advantage. The RBV is used to assess the strategic resources available to a firm and its basic tenet is that the basis for a firm's competitive advantage lie in how the firm applies the bundle of valuable resources it holds (Wernerfelt, 1984). The firm has a sustained competitive advantage when these resources are heterogeneous in nature and not perfectly mobile (Barney, 1991; Hoopes *et al.*, 2003; Peteraf, 1993). The RBV argues that the sources of value creation lie in a few valuable, rare, non-imitable and non-substitutable resources (Barney, 1991, 1999; Hoopes *et al.*, 2003). These resources develop in an evolutionary learning process in a path dependent manner shaped by firm-specific histories (Dierrickx & Cool, 1989), and determine the set of activities in which firms are involved (Barney, 1999; Wernerfelt, 1984). Resources may be virtually any factor – all assets, knowledge, processes or organizational characteristics - that is specific and controlled by the firm (Barney, 1991). Mascarenhas, Baveja and Jamil (1998), for example, conclude that successful firms rely on three types of competencies: superior technological know how, reliable processes and close external relationships. Superior resources allow firms to generate above normal rents (Peteraf, 1993).

According to the RBV, firms' competitive advantage is essentially endogenous. Managers will be interested in controlling the resources that are likely to lead to higher added value, and that may expand the set of market opportunities. Thus, from an RBV perspective, firms expand towards similar activities, or activities that require a similar set of resources, routines and skills (Argyres, 1996; Nelson & Winter, 1982), or technologies. In partial opposition to the TCT, the RBV seemingly advises not to outsource those activities where the firm has a superior competitive advantage or those activities that have a significant leverage potential (Jacobides, 2004; Porter, 1980).

According to the RBV, there are some resources that may lead to superior performance and probably to a sustained competitive advantage. Sustainability is a function of the ease by which competitors can imitate, but it is also determined by whether they are adequate for future market requirements, given the usual volatility of the markets and changes in competition. Therefore, firms need to revitalize and develop new resources focusing on their readiness for future market conditions, i.e., firms need to be simultaneously engaged in exploiting their current resource endowment but also engaged in new resource development (Chaharbaghi & Lynch, 1999). Danny Miller's (2003) study showed how some of them were able to build not so much on resources and capabilities as on asymmetries. Asymmetries are typically skills, processes or assets that a firm's competitors do not and cannot copy at an economically affordable cost. In short, not only do firms vary in their current resource endowments, but they also vary on the path taken to explore new resources, both contributing to greater heterogeneity among firms (Hoopes *et al.*, 2003) and conditioning the manner in which they compete and the extent to which they differ. Furthermore, the RBV emphasizes the role of the Executive and of strategic choice given the importance of identifying, developing and deploying key resources to maximize performance, which also entails decisions on what to do and what not to do.

Firms in mature industries are more likely to compete on the basis of their intangible resources, such as brand names or knowledge (e.g., Grant, 1991, 1996; Liebeskind, 1996), than on their tangible resources. Tangible resources are more easily imitated and rents from these resources are not easily appropriated. Therefore, firms may outsource to external firms activities that involve tangible resources, particularly when developing these resources internally, is not likely to be a source of future competitive advantage, and hence are of little strategic importance. Specifically, it is likely that some

form of tacit knowledge resides on the core of firms' competitiveness because tacit knowledge is sticky and cannot be easily transferred (Grant, 1996; Szulanski, 1996). Thus, firms may be more efficient than markets to govern exchanges that involve tacit knowledge, but the explicit knowledge is easily transferred with low marginal costs and therefore it is easily exchanged through outsourcing relationships. In addition, knowledge is likely to be less sticky (Szulanski, 1996) in mature industries because the impediments to knowledge flow are minimized. In mature industries, dominant designs and standards are established, and firms have an architectural understanding of the interconnections between knowledge bits (or components) (Tallman, Jenkins, Henry, & Pinch, 2004; Tushman & Anderson, 1986). Firms' boundaries and inter-firm governance models are then determined by their ability to exploit resources outside traditional technological and/or organizational boundaries. Mature industries are characterized by low transaction hazards, as described above, but the strategic importance of the activity, and not the potential transactional hazards, is likely to determine the client-supplier organizational model selected. Specifically, in an RBV rationale, firms are more likely to outsource activities that are of low strategic importance and not based on the actual resource pool held by the firm.

Proposition 3. Firms in mature industries will be more likely to outsource activities that have lower strategic importance and the firms do not have a specific advantage in performing the activity, an to insource activities that have a higher strategic importance and the firms hold superior resources to perform them.

To conclude, the above literature review highlights possible tensions. The transaction costs theory recommends internalization when the risks and costs of contracting in the market are high, the transaction is of the recurrent type and there is potential for opportunistic behaviors. This is, for example, the case when assets are highly specific to an outsourcing collaboration. Conversely, the RBV confines its suggestion to the internalization of activities for which the firms possess the valuable, rare, non-imitable and non-substitutable resources required and to activities that are of high strategic importance. This can be more clearly represented in Figure 1, below. Hence, TCT and RBV only advance the same prediction when the governance hazards are low and the strategic importance is low (bottom left quadrant) and when both the strategic importance and the governance hazards are particularly high (upper right quadrant).

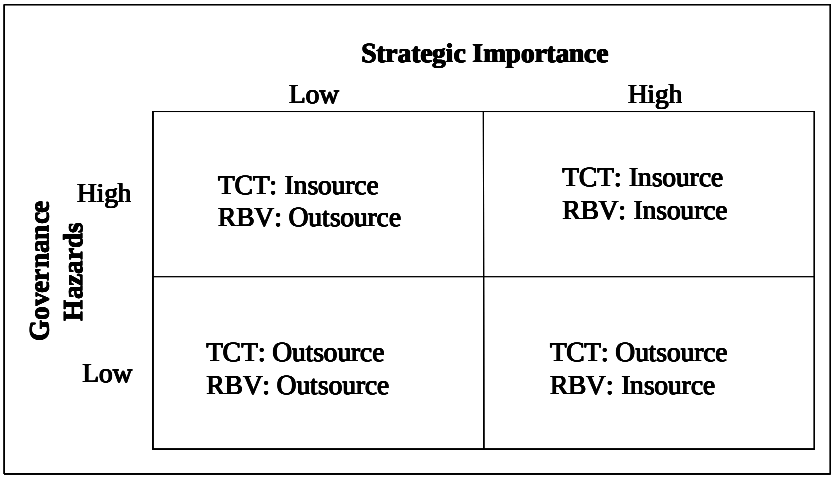

Figure 1: Comparing the Theories
Source: analysis of the authors.

Methodological Aspects

Case studies may focus on single or multiple cases (Ellram, 1996; Yin, 1994), and be used with an array of objectives: descriptive, theory testing or theory generation (Eisenhardt, 1989; Jensen & Rodgers, 2001). The three focal cases seek to examine how firms act and contrast them with the theories, rather than to generate new theories. We followed the methodology proposed by Yin (1984): (a) the selection, description, and conceptualization of the study object, (b) the alternative explanations for the facts observed, and (c) the discussion and conclusions based on the explanations that seem more coherent with the facts. The collection of firms' specific information involved primary (i.e., interviews *in loco* with owners and Top Managers) and secondary sources (e.g., company reports, industry outlooks, news in the media). The research procedure is consistent with Eisenhardt (1989) on case studies data gathering that may involve archives, interviews, questionnaires and observations. The interviews were unstructured and conversational. We sought to understand the firms' decisions and strategic intents concerning their relationships with their suppliers, the competitive environment and the growth strategies of the three focal firms. Although the packaging industry comprises firms whose products are made of paper/carton, glass, metal and plastic, there is a high degree of competitiveness among firms in this industry and very different client-supplier models.

It is worth pointing out that at the time the data was collected the three firms were facing the need to keep their records private avoiding disclosure of information. It suffices to note that one of the firms is still family-owned, even though it is a large firm, one was subject to a management buy out, and the third was acquired by the largest Portuguese conglomerate. The latter two events took place within about one year after this study.

Case Studies

The Companies. Barbosa & Almeida [B&A] is a glass-packaging manufacturer. Founded in 1912, as a **satellite** of the Portuguese national brewing company, B&A throve on continuous technological modernizations. In an oligopolistic reaction to foreign competitor's entry in the domestic market (Knickerbocker, 1973), in 1993 B&A engaged in an international strategy with the acquisition of a company oriented to foreign markets. In 1996 B&A acquired two other manufacturing plants in Mozambique and in 1999 a Greenfield investment in the Spanish Extremadura. Presently, B&A is investing in North Africa, sells more than 50% of its production abroad, and manufactures in foreign countries about one third of its production.

COLEP is a manufacturer of metallic packaging, founded in 1965. Over the years COLEP has been gradually vertically integrating all the activities of the value chain from the cut of the metallic leaf to typography, manufacture of several components (plastic and metallic), production of packaging (plastic and metallic), formulation and filling of containers, and distribution in the Iberian Peninsular. COLEP is a contract manufacturer for some clients, particularly large multinational firms such as Johnson Wax or Colgate, but for other clients it only manufactures the cans. In 1993 COLEP acquired a manufacturing unit in Spain, and in 1999 completed a Greenfield investment in Poland. COLEP is one of the largest contract fillers in Europe.

Logoplaste is a producer of plastic packaging, founded in 1976 from the revolutionary idea of creating small packaging factories at the client's facilities. Currently, Logoplaste has over 30 manufacturing units - or Integrated Production Units [IPU] - in Portugal, Spain, France, the U.K. and Brazil. Logoplaste is one of the largest European plastic packaging producers.

The Models. The client-supplier organizational models adopted by the three firms are deeply differentiated, as illustrated in Figure 2. B&A adopts a classic model of centralization of production in

large factories, from which B&A serves its clients through almost pure market relationships. The manufacturing of glass containers requires the production of large batches of uniform products (high minimum efficient scale) to minimize the unitary production costs, and is only viable for large scale enterprises. B&A is seemingly a classical example of a large supplier in a mature industry supplying a product that is difficult to differentiate.

COLEP shows a level of high vertical integration to respond to the full outsourcing of the clients' manufacturing activities. COLEP lowers the minimum efficient scale [MES] by integrating the different stages of the value chain, although it is evident that the upstream activities have higher minimum efficient scales than the downstream activities. By internationalizing the production of **contract filling** to Spain and Poland, COLEP sought coordination advantages that enable them to maximize the utilization of the production capacity of adjacent integrated activities. This strategy led COLEP to internationalize the highest value added activity: the contract filling operation. The model adopted by COLEP supports an intermediate degree of dispersion but with some degree of coordination among factories.

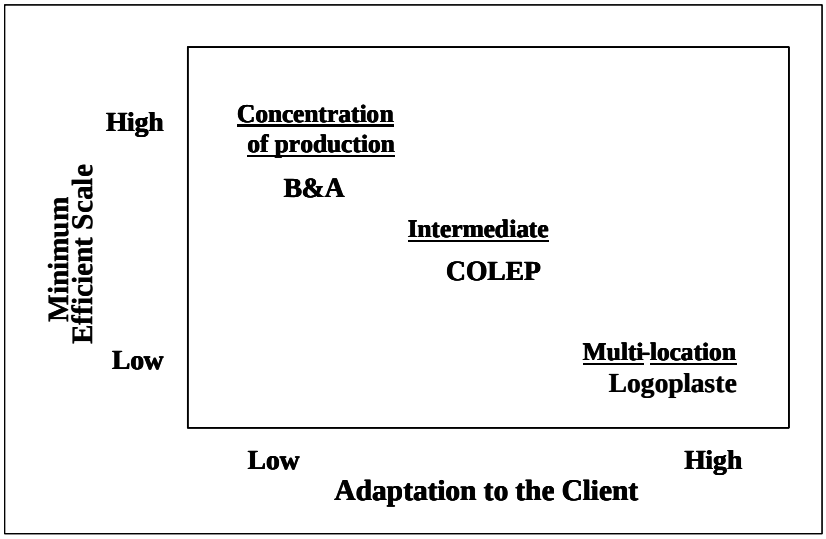

Figure 2: The Adopted Models
Source: analysis of the authors.

Logoplaste developed a **wall to wall** integration model with its clients' productive structure at a level of almost vertical integration. Logoplaste's model seems to accrue from two main factors: (a) the relatively lower minimum efficient scale of plastic containers when compared to the manufacturing scales required by metallic or glass packaging manufacturers, and (b) the higher cost of transporting empty bottles (despite the low weight of the plastic containers, they take up a great deal of space). Logoplaste's model of multi-location is possible due to the low manufacturing scale required by each factory. In fact, each factory is designed to serve one customer exclusively, and the firm is able to project factories that are profitable and highly efficient even at low levels of production. Each of Logoplaste's subsidiaries has a distinct minimum efficient scale, designed to the specific needs of each client. Hence, for Logoplaste, the specificity and nature of the product, associated with the relatively small MES, renders investment in new factories as the most rational mode for both domestic and cross-border expansion.

Transaction Costs. The transaction costs incurred by the clients of the three firms are low. The transaction costs are composed of several items. First, it is not feasible for any of the three firms to integrate the downstream producers of the manufactured goods (wine, beer, preserves, diary products, motor oil, and so forth). In other words, it is not reasonable that the packaging firms would integrate vertically downwards into clients. Second, the existence of alternative efficient packaging

manufacturers guarantees that all three firms maintain competitive prices. As is typical for mature industries, the existence of efficient and quality alternative suppliers is what keeps the bargaining power of the suppliers reasonably low.

Third, exchanges with these three firms render unnecessary multiple market recruiting and reduce supply uncertainty. For example, B&A supplies a wide range of products and clients do not need to contract different bottle formats from different suppliers. COLEP offers a full service (from the manufacturing of the container to contract filling and distribution) that also renders multiple market transactions with different suppliers unnecessary. Finally, each of Logoplaste's subsidiaries is tailor made to the needs of its clients. Logosplaste's model not only eliminates supply uncertainty, recruiting and contracting with other suppliers, but also increases communication and information flows, is transparent, and increases the joint innovative potential.

Fourth, we observe that the client-supplier exchanges require very limited asset specificity, albeit to varying degrees, but it does not seem to justify per se different organization models. In the case of glass packaging, asset specificity is only in terms of the mould, which needs to be adapted to the specific shape of the container, be it a specific shape of bottle or other type of glass container. In the case of COLEP's metal containers, asset specificity is even lower, and the complete manufacturing process is completely adjustable without any significant cost increase to meet the needs of the clients. Only in the case of Logoplaste do we see a model that is supported on the absolute specificity of assets for each project. Logoplaste's asset specificity is technical, location, dedicated assets, and human (employees) (see Williamson, 1985). However, in this case, the high asset specificity is stabilized by a detailed contract between Logoplaste and each client.

Table 1

Comparison of the Three Firms

	Assets' Specificity	Minimum Efficient Scale	Number Of Clients	Size of the Batches	Stability of the Relations
B & A	Low	High	High (a)	High	Medium
COLEP	Medium	Medium	Low	Low/Medium	High
Logoplaste	High	Low/medium	One (b)	Medium	High

Notes. (a) One client per IPU.
(b) B&A maintains about 300 active molds.
Source: analysis of the authors, based on company information.

Finally, the relationships established with the customers throughout the years transmit trust and stability to the relations, and mitigate potential opportunistic behaviors. Interestingly, the three firms work within polygamous relationships (Jones, Hesterly, & Borgati, 1997) - that is, they cooperate with rival clients of whom they hold specific knowledge. For instance, the innovations originated in a relationship with a client could be passed on to other clients. We observed the fundamentally polygamous character of COLEP's ties, in that the partnership COLEP-Johnson Wax coexists with COLEP's contract manufacturing for Johnson Wax's rivals. We found a similar situation in Logoplaste's supply of rival companies (e.g., dairy products, vegetable oil) over which Logoplaste has privileged information. Ceteris paribus, this could indicate potential transaction hazards.

The trust and cooperativeness that is developed over repeated exchanges tends to lower the perceived transactional hazards (Dyer & Chu, 2003; Mollering, 2002). For example, the durable relationships between COLEP and its customers (some for more than 30 years) induce low transaction costs and increase familiarity and trust (Gulati, 1995). COLEP's high level of vertical integration allows it to assume the full outsourcing of its clients' needs. Consider the case, for instance, of the relationship between COLEP and Johnson Wax, where Johnson Wax takes responsibility for the

extremes of the product value chain, but outsources the entire manufacture of selected product segments. For these segments, COLEP is entrusted with the chemical formula of the products for contract filling, which requires that COLEP is able to carry out in-house all the manufacturing stages for those products.

COLEP could be tempted to behave opportunistically but opportunistic behaviors are not foreseeable. For instance, the COLEP could behave opportunistically and release identical products under COLEP's own brand, since the customers entrust COLEP with the chemical formula for the contract filling segments (e.g., shaving cream). However, there is virtually no risk associated with the dissipation of knowledge. In part, the clients protect themselves by outsourcing the contract filling, or more broadly the contract manufacturing, of products in the maturity or decline stage of their life cycles – for which the control of the manufacturing process is no longer critical.

A diverse situation may be described for Logoplaste. The potential of opportunistic behaviors by Logoplaste is lessened by its interest on spatial and inter-temporal relationships (same customer in several locations). Logoplaste's model evidences a form of integrated supplier-customer exchanges that resembles an insourcing solution and is based on absolute trust of its clients. Logoplaste has an almost absolute linkage with the customers' production lines, only possible by locating its factories **wall to wall** with the customers' facilities. This model involves substantial flow of sensitive information which, in order to prevent transactional hazards, Logoplaste regulates by a relational system that incorporates: an **open-book** regime, providing a global service, the full realization of the investment in fixed assets, and the responsibility for the administration of the production lines of the client. For each customer, Logoplaste creates a new factory totally adapted to the product, process, and pace of the client's production. In addition, even the employees' contracts and benefits are adjusted to the specific customer. This model results in high stability of the relationships (e.g., 28 years with Nestlé and Yoplait, 14 years with Coca-Cola and 11 years with Danone and Unilever). The trust developed with the customers favors the replication of the relational model in other markets (e.g. foreign) and sustains international expansion.

Expansion. The notable international expansion of the three firms warrants a short overview of the organizational forms adopted and possible explanations. The three firms have differentiated expansion strategies (see also Figure 2). B&A needs to concentrate production to benefit from using its production capacity. This model is hindered by geographic distance, since the bottles cannot be efficiently transported long distances, forcing foreign direct investment in foreign manufacturing subsidiaries, such as in the recent cross-border acquisitions in Mozambique and the Greenfield start-up in North Africa. Given that intra-firm flow of intermediate products is unfeasible, the possibilities for inter-subsidiaries coordination are insignificant and when the firm wishes to serve a market it needs to establish its own manufacturing activity by either investing in a new factory or acquiring an incumbent firm.

COLEP also tends to concentrate production, but to a lesser extent and only in some activities of the value chain that permit inter-subsidiary coordination. Metallic packaging is highly immobile because the international trade of some types of metallic containers – such as those for paint or food products – is not viable due to the high transportation costs. The international expansion seeks: first, to be located close to clients; second, to permit intra-firm flow of intermediate inputs. Coordination among subsidiaries allows COLEP to maximize the utilization of the different minimum efficient scales of the production stages integrated vertically. For example, lithography has a much larger efficient scale than contract filling and, thus, to maximize the efficient scale in the lithography, COLEP may efficiently ship the metallic leaves to other subsidiaries.

The manufacturing of plastic containers has much lower efficient manufacturing scale economies making possible the Logoplaste's model of wide geographic dispersion. Logoplaste expands in an idiosyncratic model that relies on absolute adaptation of each manufacturing subsidiary to each client. The need for coordination among subsidiaries is minimal, and seeks mostly to benefit from some procurement economies of raw materials and primarily to promote inter-firm transfer of knowledge developed (i.e., innovations) in one subsidiary to other subsidiaries.

Discussion and Concluding Remarks

The economic structure of advanced nations relies increasingly on inter-firm organizational models where specialized firms exchange knowledge and goods. While the classical view of firms as legal entities is framed within the 'make or buy' decision (Coase, 1937), a discussion on how independent entities are re-united in interdependent partnership models (Geyskens *et al.*, 2006; Holm, Eriksson, & Johanson, 1996; Jacobides & Billinger, 2006) witnesses trade-offs that may lead some firms to internalize value chain activities, and others to outsource these activities to external, independent firms (Leiblein *et al.*, 2002; Parmigiani, 2007). Moreover, different outsourcing models may be employed (Hätönen & Eriksson, 2009). This seems incompatible with the transaction costs theory of the firm, which argues that integration is necessary to avoid the potential for hold-up created when irreversible investments are made.

However, resolving conclusions on the benefits and perils of outsourcing require the analysis of not only the transactions costs involved in each exchange, but also firm-specific factors such as the resources and capabilities held by the firm, the firm's ability to establish stable business relationships, the stage of maturity of the industry, the firm's strategic intent, and a focus on the economics of the products (Leiblein & Miller, 2003), i.e., a better understanding of how firms govern their transactions and ultimately what they manufacture and do not manufacture is achieved joining both the TCT and the RBV (Jacobides, 2004; Mayer & Salomon, 2006). Therefore, the three cases studied highlight a number of issues that possibly emerge in other firms and industries, even if we do not aim at generalizing any conclusions, or even test theory driven propositions using our cases. The cases serve the purpose of illustrating a complex situation, not for testing theory.

The analysis of the cases shows that all three firms select different organizational models, despite the maturity of the industry. However, in accordance with our first proposition, all three packaging firms are outsourced by the clients, and it is reasonable to suggest that it is a reflection of not only the maturity of the packaging industry but also of the strategies that these firms deploy, namely concerning a relational approach to their clients (Lavie, 2006; Parmigiani, 2007). It is important to note that it is increasingly accepted that hybrid forms, such as alliances or stable strategic outsourcing models, may be viable alternatives to hierarchy when the market fails, and to the market (at least in its pure form of buy off-the-shelf behaviors) for maintaining high performance. The relational governance modes entail an informal and trust-based component that requires mechanisms such as mutual dependence, trust, parallel expectations and joint action and benefit. These relationships stereotypically grow out of repeated exchanges between partners (Poppo & Zenger, 2002).

Furthermore, the cases illustrate, in a qualitative analysis, how outsourcing relationships may be a solution for exchanges that firms organize in such a manner as to involve low transactional hazards. In fact, the models adopted by the three packaging firms show low transaction costs as a result of firms' strategies. One firm is bound to a strategy of concentration of production in a few locations from which it supplies both domestic and foreign markets. This model is driven by the homogenous and difficult to differentiate nature of the product and the high minimum efficient scale required. Another firm increasingly focuses on the highest value added segment (**contract filling**) to override location constraints. This firm developed a considerable level of vertical integration that rendered it a credible partner for the customers' full outsourcing of the activities of certain products. The third firm emphasized its unique organizational model in the **wall to wall** supply of its customers, with absolute integration and exclusive adaptation to the customer's manufacturing lines. All three firms seem to have developed solutions for maintaining low transaction costs in a relationship that is bound by familiarity and trust with their clients. In doing so, the three firms have technical competences, internal resources or capabilities that make them good partners for their clients. In other words, all three firms assume organization models that, although different, respond to the outsourcing needs of their clients.

We discussed how the competitive ability in mature industries is based more on obtaining low overall production costs, which may be better achieved by stabilizing the relationships with suppliers

to avoid the transaction costs in searching, negotiating and contracting with multiple vendors. This means that a pure buy off-the-shelf behavior may not be the most effective behavior. In mature industries, cost-based competition requires firms to strive for continuous cost reductions. For instance, in the packaging industry, transportation costs of the containers to the client are the major barrier to international trade (exports), justifying foreign and domestic location concerns by the packaging manufacturers. This is a factor related to the economics of the product that lies beyond the direct governance prescriptions of the two theories reviewed. Two main elements in the economics of the packaging stand clear: first, the manufacturing minimum efficient scale that permits the multi-location of small to medium-sized plastic packaging factories, but requires concentration in large scale factories for manufacturing glass packaging. Second, the transport costs of empty containers, as noted above. All three firms entail a reduction of transport costs. Although glass containers have a higher value than their metallic or plastic counterparts, their weight and volume render long distance exports unviable and force B&A to produce closer to customers. COLEP overcomes transportation barriers by focusing on a strategy that is based on increasing the unitary value of its products. The relatively higher unitary value of the contract filled products (e.g. full aerosol cans) permits transport over longer distances. Logoplaste absolutely eliminates transport costs by locating its production facilities contiguous to the clients' - creating a new factory that is completely adapted to each client.

A number of points can be made from this study. First, according to extant research, firms in mature industries have, stereotypically, little potential to sustain competitive advantages based on their tangible resources. The interviews carried out with the owners and top managers of the three firms pointed to the importance of the ties and permitted us to identify a common denominator: stable partnerships with the clients (see also Hätönen & Eriksson, 2009; Lavie, 2006). In mature industries, with stable and diffused technologies, the existence of multiple efficient suppliers guarantees that opportunism is substituted by trust (Coles & Hesterly, 1998; Dyer & Chu, 2003; Parmigiani, 2007). Second, this is more complicated when the clients are in uncertain environments (which to some degree is characteristic of the consumer goods firms – that are important clients of the packaging manufacturers), and the transactions are of the recurrent type (Jacobides & Billinger, 2006), as is the case in the packaging industry. Third, the nature of the product impacts on the ability to exchange in a traditional format and forces firms to search for hybrid formats. Fourth, the firms' strategies may arguably be observable by individual theories. Rather, firms compose their organization models attending to the specific nature of the industry, products, and clients. Hence, propositions on client-supplier models need to be contextual, which supports our case study approach. Our study thus contributes to better understand how inter-firm exchanges are designed and how even medium sized firms may think of their business relationships with large multinationals as they seek to concentrate on their core activities and competences and expand.

Combining the TCT with the RBV in examining client-supplier relations and transactions in a mature industry is interesting. Note that a central tenet of a mature industry is twofold: on the one hand the concern with cost efficiency and on the other a possible focus on maintaining some level of innovativeness that permits retaining a market share. Contrary to the economic rationale of on the spot transactions (or buy off-the-shelf contracting) in such an industry we found rather stable relationships. The transaction costs perspective may partly support this effect insofar as strategic outsourcing resembles an insourcing solution. However, it does support the RBV prediction. It is therefore important to assess the strategic importance of the outsourced activity because it is when these are of high importance that both the TCT and the RBV mostly converge to an insourcing solution.

The theoretical views of transaction costs and resource based view (see Figure 1) do not specifically account for models of strategic outsourcing (Quinn & Hilmer, 1994; Venkatesan, 1992) in mature industries. In mature industries, it would seem reasonable that firms would prefer more often to resort to the market for the inputs they need. Moreover, it would seem reasonable that in client-supplier exchanges the client firms would carry essentially unstable relationships, and would not commit to long-term relationships, but would instead seek occasional suppliers to maximize their own cost-based advantages. However, the cases studied reveal that models of strategic outsourcing reinforce both the supplier and the client firms' specialization in their areas of competence (resources), but these are

balanced with long-term cooperation with complementary agents in the value chain. The low transaction costs may then emerge simply because the firms are interested in maintaining inter-temporal and inter-spatial cooperation.

It is worthwhile to note that while the RBV and the TCT may be complementary (Mayer & Salomon, 2006) they do not offer a unique explanation, or prediction, for how firms should organize their inter-firm ties in all circumstances (see Figure 1). In fact, each theory focuses on either the transaction hazards or the value of the resources and the strategic importance of the activities. Mismatches are likely to emerge, as we noted. In these cases, we may benefit from bringing other theoretical perspectives into play such as the networks theory and research on partnership models (Geyskens *et al.*, 2006; Holm *et al.*, 1996; Lavie, 2006). For instance, when the activities are of low strategic importance but the governance hazards are high, the RBV suggests that the firm should outsource but the TCT suggests maintaining the activity in-house.

Future Research

Future research may evolve in a number of possible paths. One possible future research is to consider an alternative view to the TCT and RBV based on social networks research. Networks are intermediate governance structures between the market and the hierarchy (Powell, 1990) whose essence is fundamentally relational, and therefore neither based on contracts nor on prices per se. Network theory advises the formation of stable and trustworthy outsourcing relationships with selected partners (Dyer & Chu, 2003; Mollering, 2002). However, network literature is unclear as to what is the impact of transaction hazards, as it does not consider explicitly the strategic importance of the activity on the organizational models. Therefore, should firms establish relational exchanges when the transactions carry high potential hazards? Should firms outsource even if the strategic importance of the activity is high? In fact, it is difficult to discern in which circumstances network literature does not advise cooperative relationships. Notwithstanding, the network perspective is based on the idea that collaborations ease access to a variety of resources that enhance the ability of firms to survive and prosper (Coleman, 1988; Hannan & Freeman, 1977; Hite & Hesterly, 2001) and learn through social exchange processes (Rice & Aydin, 1991) to cooperate and coordinate their activities (Powell, 1990). Thus, by entering a network of relations, a focal firm selects which activities it wishes to conduct in-house and which it outsources. Future research may shed light on these strategic options.

Future research may also inquire as to how the role of networks varies along the industry life cycle. In emergent industries it may be that firms are more likely to enter networks to pool resources and jointly influence industry patterns and the institutional environment (Meyer & Rowan, 1977; Tushman & Anderson, 1986). Conversely, for mature industries, entering business networks may be a means to pool resources for commercialization and incremental or competence-enhancing innovations (Tushman & Anderson, 1986). Notwithstanding, additional research is warranted to clarify and verify whether this is the actual case. In this regard it may be reasonable to suggest that stable outsourcing relationships would be more likely when the activity outsourced is strategically important. However, in mature industries the strategic importance is more likely to reside in knowledge held that permits constant innovations, and not on the manufacturing of the container. Consequently, it may be an interesting endeavor to identify whether stable outsourcing models are a strategic option that is particularly relevant for activities of low strategic importance.

Our study has the usual generalizability limitation inherent to case-based studies. Future research may test our propositions empirically. Perhaps an empirical study could resort to surveys to collect data on organizational forms, motivations and a quantitative assessment of the transaction costs. It would be interesting to discover inter-industry patterns in organizational models that overcome the markets or hierarchies debate. Another suggestion has to do with the problem of investment indivisibility. It is not always economically viable to create mini-factories, as is the case with Logoplaste. Furthermore, while governance models seem related to the level of uncertainty (Coles & Hesterly, 1998), it is unclear which extent of uncertainty may lead to one model versus another. Similarly, it is not clear which type of uncertainty most strongly shapes boundary management. Future

research may focus on determining how different forms of uncertainty adduce differentiated governance models.

To conclude, the examination of firms' organization formats needs to assess the transaction costs, the resources held by the firm, the state of maturity of the industry and the firms' ability to retain business relationships. It is possible that a social networks perspective may be complementary when studying organization forms and thus could be used with the TCT and the RBV. We observed that stable business relationships are more important, perhaps more relevant than spot market exchanges for firms' growth and international expansion. For the researcher, this is an interesting issue transcending the traditional prescriptions and encompasses the development and exploitation of firms' capabilities, namely relational capabilities. Given that firms' resources and capabilities co-evolve with boundary decisions (Poppo & Zenger, 1998), the actual question may not be 'make or buy' but, as suggested by Kogut *et al.* (1992), whether to 'make or cooperate' to survive and expand in mature industries.

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