How relational capability influences alliance’s performance through transaction cost

Walter Bataglia  
Mackenzie Presbyterian University  
Centre for Applied and Social Sciences  
batagliaw@gmail.com

Ana Maria Braga  
Mackenzie University  
CCSA  
carlo@macke@hotmail.com

Abstract

The alliance literature has focused the direct impact of the relational capability on the performance of strategic alliances, neglecting intermediate effects that explain the mechanisms through which such capability’s impact occurs. The aim of this work is to discuss the process through which the relational capability affects alliance performance. The study focuses on an inductive approach that permitted a plausible explanation on the phenomenon of interest and the role of the constructs involved. The data about the alliances were collected from managers that participated in their coordination through in deep interviews. Seven contractual alliances in the pharmaceutical industry was analyzed through the technique of categorical thematic content analysis with categories defined a priori. The conclusion to be tested through the variance approach in the future is that the relational capability mediates the relationship between the transaction cost of the contractual alliance and its performance.
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Keywords: Transaction cost, governance structure, contractual strategic alliance, relational capability, alliance performance.
INTRODUCTION

The literature about alliance recognizes the role of relational capability, also named alliance management capability or alliance capability, as an important source of competitive advantage, differentiating organizations (Kor & Mahoney, 2005). From this point of view, the more the company has knowledge and skills related to alliances' management, the more its alliances should benefit from efficiency and effectiveness (Krishnan, Martin, & Noorderhaven, 2006; Sarkar et al., 2001; Schreiner et al., 2009; Schilke & Goerzen, 2010). On the other hand, researches focusing on the make or ally decisions, argue that activities related to relational capability represent costs of coordination and adaptation of the alliance transaction, i.e. secondary transaction costs, negatively affecting its performance, and may even be greater than the cost of vertical integration of activities developed by partners (Bigelow & Argyres, 2008; Jacobides & Winter, 2005; Nogueira & Bataglia, 2018; Williamson, 1991). This situation establishes a paradox in alliance literature, that is, how does relational capability improve the performance of the alliance transaction if it increases management and adaptation costs?

The answer to this question has not yet been presented. The fact is that the alliance literature has focused on the direct impact of the relational capability on the performance of strategic alliances, neglecting intermediate effects that explain the mechanisms through which such capability's impact occurs (Wang & Rajagopalan, 2015). To discuss the process through which relational capability affects alliance performance, this study focuses on an inductive approach that allowed a plausible explanation on the phenomenon of interest and the role of the constructs involved. It is noteworthy that, despite using a qualitative approach, the philosophy of science practiced in this research is the positivism. The inductive approach was chosen only to access the hermeneutics of responding managers and to identify the constructs
and variables important to improve our understanding about the paradox that is object of analysis.

Based on the reasoning developed above emerges the contribution of the present research that is to analyze the relationship between the transaction cost of the contractual alliance and the relational capability of the organizations. Thus, the study sought to answer the problem question: How is transaction cost and strategic alliance performance related to relational capability?

The response to the presented question generates both theoretical and alliance-management contributions. From the theoretical point of view, it puts light on the presented paradox, increasing the knowledge about the relationship between the relational capability, the cost and the performance of the alliance transaction. On the other hand, it also helps to understand how the governance structure can relate to the genesis of relational capability in organizations. From the managerial point of view, it emphasizes that the development of relational capability is a necessary condition for the success of the alliance. It is noteworthy to highlighting these conclusions are non-definitive attempt propositions to be tested in the future through the variance approach.

The pharmaceutical sector was opportunistically chosen to the empirical research due to the high degree of occurrence of the object of study, the contractual strategic alliance, between its companies in function of the complex environment and rapid technological change of this sector of business activity (Powell, Koput, White, & Owen-Smith, 2005). The pharmaceutical sector is of great economic importance in Brazil, having presented significant growth in the last decades. In 2003 Brazil was in 11th place in the world's revenue ranking and in 2015 it jumped to 7th place in the ranking (Sindusfarma, 2015). According to the Union of Pharmaceutical Products Industry in the State of São Paulo (2015), Brazil could
reach 5th place in the world ranking in 2020. Furthermore, Brazilian laws and the sector regulation are changing to allow a competitive pharmaceutical industry.

The strategy used was the study of multiple cases of contractual strategic alliance carried out in companies of the Brazilian pharmaceutical sector. We collected data from seven alliances, of which four are R & D, one manufacturing and two distribution. The collection included primary data and where available, secondary data. The primary data were collected through an in-depth interview through a semi-structured script applied to managers who coordinated the alliances. The data were analyzed through categorical thematic analysis with categories defined a priori with base in the literature review, inducing a structural model presenting attempt non-definitive causal relations from the use of the synthetic approach proposed by Eisenhardt (1989) and Langley (1999) for process studies. These causal-relationship propositions must be tested in the future in terms of statistics validity and generalization.

The article begins by presenting a theoretical synthesis on the constructs cost of transaction, governance structure, contractual strategic alliance and relational capability. Afterwards, the methodological procedures used in the work are explained. Next, the results are presented and analyzed. Finally, the conclusions of this work are presented.

**THEORETICAL BACKGROUND**

**Transaction Costs**

The basic argument of Transaction Cost Economics (ECT) is to recognize that in a world of positive transaction costs, arrangements for exchanges need to be governed and that, depending on the transactions to be organized, some forms of governance are better than others. The proposition is that the less efficient organizational arrangements are replaced by more efficient ones (Milgrom & Roberts, 1992).
According to Simon (1951, 1955), transaction costs arise mainly because of the limits of human cognition. Regardless of any agents’ pretensions to act rationally, there are limitations in capturing, processing and communicating information, which affect the level of rationality of these agents. For the author there are at least three sources of transaction costs. First, individuals are limited in their ability to plan. Despite the best efforts to deal with the complexity and unpredictability of the world around them, individuals lack the knowledge and ability to make accurate predictions and plan for all contingencies that may arise. Second, even if perfect planning is possible, contracting parties find it difficult to develop a common language to describe actions and situations, especially on matters with which they have little previous experience. Third, if parties can plan and negotiate a contract that includes all contingencies, it is still difficult for them to communicate their plans so that an uninformed third party, such as an arbitrator, can enforce the contract in the event of a dispute.

The concept of incomplete contracts was adopted by Williamson (1975) to analyze vertical integration. Transaction Cost Economics is premised on the fact that all contracts are incomplete, either because of the uncertainty of events in the environment or because of the inability of agents to act rationally. One implication of the incompleteness of contracts is that the parties are vulnerable to opportunism, that is, the pursuit of self-interest with possible greed in relationships from calculated efforts to deceive, avoid compliance, cheat, or otherwise take advantage of vulnerabilities of the transaction partners. Agent opportunism becomes a potential source for transaction costs. In this sense, to minimize the costs of opportunistic actions and to avoid contractual risks, agents select the organizational arrangement, also called governance structure, more appropriate for a transaction due to differences in incentives, administrative controls and legal regimes on contracts (Williamson, 1991).

Organizational forms of the market are based on prices to signal opportunities for
autonomous adaptation to changing environmental conditions to exploit new opportunities for profit. The hierarchical governance structure relies on the nature of the firm's unified domain relationship, which helps to establish the corporation's objectives in a clear manner, facilitating the efficient use of physical and human resources to organize transactions and reduce costs, opportunistic behavior (Collis & Montegomery, 2005). Between the market and the hierarchy there are a multitude of contractual forms called hybrids, which can be associated with long-term contracts. They are intermediate forms that represent the combination of market elements (due to the need for negotiation and monitoring) and hierarchy (since they present a degree of coordination superior to the market).

Transactions are characterized by their own attributes, such as the frequency, uncertainty and specificity of assets. The variation of these characteristics exposes the limits of human rationality and facilitates the opportunistic action of the economic agents (Carson, Madhok, & Wu, 2006), being considered micro-level proxies for transaction costs, having a significant impact on the choice of governance structure to better coordinate the company's productive and sales activities (Macher & Richman, 2008; Santoro & Mcgill, 2005; Willianson, 1985). The frequency with which a transaction is carried out raises the degree of trust between the parties, thus reducing the expenses associated with collecting information, elaborating and monitoring more complex contracts to curb opportunistic actions (Farina, Azevedo, & Saes, 1997). The recurrence of a transaction enables the acquisition of mutual knowledge between the parties, creating a reliable commitment of the agents around a common goal, the continuity of the relationship. The uncertainty of the transaction evidences the limited rationality of the economic agents, involving three dimensions. The primary uncertainty relates to the complexity and instability of the competitive environment events in which the transaction is processed. Secondary uncertainty is related to the absence or scarcity of information for decision making in relation to the strategies or plans made by competitors.
Strategic or behavioral uncertainty relates to opportunism among the parties involved in the transaction.

The specificity of an asset is characterized by investments in assets that cannot be re-employed without sacrificing their productive value if the contract is interrupted or terminated prematurely (Geiskens & Kumar, 2006). The specific assets are classified into six different types of specificity: a) locational specificity, whose economic value is associated with the spatial proximity between the partners (Nunes, 2007); b) specificity of physical assets, characterized by investments made by the parties to the transaction, in machines, equipment or facilities (Hoffman, Newmann, & Speckbacher, 2010); c) specificity of human assets, characterized by specific qualifications and skills accumulated by employees who develop the production of goods and services more effectively than other workers (Hoffman, Newmann, & Speckbacher, 2010); d) specificity of the dedicated assets related to the investment amount, whose return, depends on the transaction with a particular agent (Carson, Madhok, & Wu, 2006); e) specificity of the brand, an intangible capital that materializes through investments over the years in the reputation of the company; and, finally, f) temporal specificity, whose value depends mainly on the time in which the transaction is processed, being especially relevant in the negotiation of perishable products.

**Performance of the Strategic Contractual Alliance**

The choice between market-based, hierarchical and hybrid governance structures for transactions is comparative and determined by minimizing transaction costs. Hierarchical structures cost more than market structures. However, they are used when the market is unable to solve transactional problems that can generate significant transaction costs. Hybrid structures are characterized by the sharing of resources between independent partners for the purpose of performing joint activities governed by relational contracts, ie, informal contracts sustained by the parties’ perception that the value of the future relationship is large enough to prevent them from
going back and that the results of the relationship are prohibitively expensive to be specified ex-ante, and only ex post can be observed (Barker, Gibbons, & Murphy, 2002). Among the hybrid forms are the organizational models of subcontracting, network companies, franchises, collective brands, cooperatives and strategic alliances.

Formal contracts are used by hybrids as transaction governance mechanisms (Ménard, 2006), combining clauses that establish formal safeguards, as specific investments to be made by the parties, or informal, as based on reputation; making explicit commitments to quality standards; delegating coordination of the process of adaptation and adjustment between the parties to managers or arbitrators; or establishing rules, schedules and procedures. However, comprehensive contracts are complex and expensive to devise and implement. Usually the contractual clauses are general providing a frame of reference for the relationship that is complemented by other complementary coordination mechanisms with the objective of reducing the transaction costs linked to the appropriation concerns (Ménard, 2012) and to the division and integration of the tasks (Gulati & Singh, 1998).

Among the forms of hybrid governance are strategic alliances, in which two or more firms develop a long-term cooperative relationship involving the exchange or commitment of resources for developing, designing, producing, marketing or distributing products or services (Roijakkers & Hagedoorn, 2006).

The strategic contractual alliances correspond to individual firms’ investments in specific assets that are complementary, establishing a relationship based on complementarity that is managed through formal contracts (Jacobides & Winter, 2005). Contracts may be of long duration with revisions as the parties wish, eg via attachments for specific transactions; or of shorter duration and performed repeatedly among the same partners (Barker, Gibbons & Murphy, 2003). The strategic contractual alliance is the focus of interest of this research.

Evaluating the success of strategic contractual alliances and hybrid forms in general is still a major challenge (Krishnan, Martin & Noorderhaven, 2006). There is no consensus in the literature
about the variables for its measurement. The main variables used are described below. The satisfaction variable is related to the fulfillment of the initial strategic objectives of the projects associated to the alliance's transactions (Krishnan & Noorderhaven, 2006, Judge & Dooley, 2006, Schilke & Goerzen, 2010). Organizational learning originating from alliances is considered one of its main constructions, playing a central role in its success. The achievement of non-financial strategic objectives such as the development of new technologies and products and the development of intellectual capital by alliances are considered indicators of success (Schilke & Goerzen, 2010). Profitability is related to the fulfillment of financial goals by alliances (Krishnan & Noorderhaven, 2006).

**Relational Capability**

Organizational capabilities are deliberate and broad organizational processes that articulate organizational routines to accomplish a set of tasks designed to achieve an end. Routines are recurrent patterns of activities that offer solutions built over time in organizations for problems in response to internal or external stimuli (Dosi, Nelson, & Winter, 2000). Concurrently, routines are embedded in organizations and specific to contexts, being dependent on the firm's trajectory, since they are marked by feedback (Teece & Pisano, 1994). They group complementary assets and individual skills and have the role of harbouring and preserving organizational knowledge as they are distinguished from individuals' individual skills and knowledge by their collective character. The notion of recurrence is proper to the concept of routine, since it is considered a pattern of behaviour that is repeatedly followed, but which is subject to change if conditions vary (Becker, 2004). Routines are associated with coordination and control of organizational capabilities, since they guarantee a ‘smooth’ execution of the interactive tasks, allowing a quick observation of when these interactions go out of control. They generate resource savings in that they reduce governance, decision-making and cognitive costs by focusing attention and facilitating agent processing of
information, reducing uncertainty. Routines are triggered by events and become triggers for new routines.

According to Nelson and Winter (1982), routines can be classified into three categories: (1) operational routines: routine activities of the firm, given its capital stock, equipment, plants and other factors of production; (2) investment routines: activities aimed at establishing the capital stock (production factors that are fixed in the short term) and (3) change or search routines: activities aimed at changes in the operational characteristics carried out by the marketing departments, research and development laboratories, etc. Routines undergo a selection process in the sense that firms with certain routines perform better certain functions than others, and therefore tend to increase their relative importance. Variations generated by search routines that lead to a better fit to the pressures of the competition environment are selected to be retained and internally propagated to firms (Bataglia & Meirelles, 2009). The organization seeks, through learning, to develop its routines and acquire others, focusing on "learning by doing" and "learning from others".

It is of special interest for this study the relational capability (Dyer & Kale, 2007), that is, the capability of management of alliances. Schilken and Goerzen (2010) identified exploratorily the existence of five constituent routines of relational capability: interorganizational coordination, alliance portfolio management, learning, proactivity and transformation.

Interorganizational coordination routines focus on integration activities. As the objectives of the parties are uncommon and information is asymmetrical, there is a need to reconcile interests, manage conflicts and communicate through coordination mechanisms that ensure the necessary adjustments and adaptations. Even when there is no ownership concern, coordination efforts are needed to optimize the relationship of the teams involved according to the degree of interdependence of tasks (Powell & Snellman, 2004).

The interdependence between projects associated with contractual alliance transactions leads to the need to coordinate the project portfolio as a whole (Goerzen, 2005, 2007). The
management of the portfolio aims to avoid duplicate actions and produce synergies (Hoffmann, 2005), to optimize the risk profile of resource applications in projects linked to transactions (Bamford & Ernst, 2002) and reduce conflicts (Parise & Casher, 2003).

The learning routine coordinates the process of generating new knowledge in the selection, negotiation, initial launch, realization and evaluation phases of alliances-governed transactions. It involves activities associated with the transfer of knowledge, such as the codification of explicit knowledge through the generation of printed or electronic documents and the development of tools and/or models to be used as guides at specific stages and decisions throughout the life cycle of knowledge (Dyer & Kale, 2007; Goerzen & Beamish, 2005; Teece, 2007).

The pro-activity routine refers to the exploration activities of the competition environment, allowing the organization to understand and identify new opportunities to obtain resources and generate new alliances (Sarkar, Echambadi, & Harrison, 2001). This routine also involves activities to maintain visibility for external agents, including regulatory agencies and the investing community, about the firm's capabilities and alliances through the coordination and dissemination of information (Kale, Dyer, & Singh, 2002).

The transformation routine aims to renew aspects of existing alliance transactions, ensuring the necessary adjustments when changes occur, requiring interaction and mutual adaptation between the parties over time (Ruer & Zollo, 2000). Examples are contractual revisions, staff variations associated with alliance-related projects, and changes in coordination mechanisms.

The relational capability's routines are interorganizational coordination mechanisms as explained by Ménard (2006, 2012).
METHOD

The overall objective of the study is to analyze how the uncertainties and performance of strategic alliance transactions relate to relational capacity in the Brazilian pharmaceutical sector, more specifically in the human health segment. Starting from the problematic of the objective of the study and its paradoxical and exploratory nature, it was considered convenient to adopt the methodology of 'qualitative research', since it makes possible the understanding of the phenomenon according to the perspectives of the contractual strategic alliances managers themselves. It is congruent with Patton (2002) when he pointed out that qualitative research is intended to seek the understanding of unique situations within a particular context. Thus, the case study strategy was used to allow the preservation of the holistic and significant characteristics of the strategic alliances. We used an explanatory purpose with regard to the researched relationships, developing a multiple case study, with the objective of achieving results considered more convincing and robust (Eisenhardt, 1989; Yin, 1994). It is worth mentioning that the number of cases studied was guided by the logic of information saturation, in which new cases were developed until new subjects were extinguished.

It is worth noting that the choice of the pharmaceutical sector that configures the context of the case studies is justified by the occurrence of contractual strategic alliances in several activities of the companies in this sector (Powell et al., 2005, Santoro & McGill, 2005, Nogueira & Bataglia, 2018).
Table 1 - Type of Alliances in the Pharmaceutical Sector

<table>
<thead>
<tr>
<th>Alliance Type</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>R&amp;D</td>
<td>The firm develops a research program with another firm with a specific purpose of developing a new molecule.</td>
</tr>
<tr>
<td>Clinical Trials</td>
<td>The firm has a partner to develop the clinical trials of the product according to the regulatory government agency for approval.</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>The firm attaches itself to a partner to produce its product.</td>
</tr>
<tr>
<td>License / Commercialization</td>
<td>The firm licenses or obtains a license to market a new idea or product.</td>
</tr>
<tr>
<td>Acquisition Rights</td>
<td>The firm acquires a new idea or patent.</td>
</tr>
<tr>
<td>Supply / Distribution</td>
<td>Partnership for supplying or distributing products.</td>
</tr>
<tr>
<td>Complex Agreements</td>
<td>Agreements that contain more than one agreement of the above listed.</td>
</tr>
</tbody>
</table>

Source: Prepared by authors from Powell et al. (2005)

The cases, i.e. contractual strategic alliances, were chosen through search in specialized publications or in contacts with industry associative entities. The criterion for choosing the cases was that the companies had developed strategic formal contractual alliances in the last 3 years. The companies were asked to participate via e-mail addressed to the presidency and later telephone contact, in which the requirements for participation were explained.

**Procedures**

For most contractual strategic alliance transactions, information about their processes and performances is not available from secondary sources (Reuer, 2001). On the other hand, the use of observation as a source of evidence, while being a powerful and viable instrument, requires considerable resources, since strategic contractual alliances typically last for years; therefore, this research followed the tradition in the field, using systematic interviews to collect primary data and, whenever possible, searching for a documentary survey (Judge & Dooley, 2006).
For the collection of primary data, interviews were developed in each company with the managers who participated in the management of the studied alliances. The interviews were conducted in the companies themselves, involving the chief executive and managers in the areas of new business, marketing, manufacturing and R & D that report directly to the chief executive. This procedure aimed at the integrity of the information, avoiding bias arising from the specifics of the functional areas. After initial contact and company approval for the case study, was chosen through an initial interview with the main executive of the company which alliance would be the target of the study, thus identifying which was the manager responsible for its coordination.

We have established the following criteria for choosing alliances. First, the alliance should be expressed in the form of a formal contract between the parties involved (Powell et al., 2005). Second, the relationship between partners should represent a long-term relationship, perceived as valuable by the parties, independently of the activity currently under development (Ménard, 2012). Operationally, following Baker et al. (2003), there should be a formal general cooperation agreement between the partners, providing additive terms for each jointly developed activity, the current joint activity being expressed via an additive term. Or, there should be at least two other joint activities developed by the same partners, expressed in formal contracts, finalized prior to the beginning of the current joint activity, and developed over the last 10 years. We seek to reduce the occurrence of distortions and failures from the memory of the interviewees by fixing the maximum period of completion in three years and minimum period of beginning of the partnership in 2 years. In each company it was decided to study only a strategic contractual alliance.

Afterwards, in-depth and semi-structured interviews were carried out with the coordinating managers of the alliances identified in the initial interview, characterized by open questions, with a predefined script, but with the possibility of further exploration of
topics of interest as proposed by Eisenhardt (1989). The script was pre-tested in two organizations that were maintained in the research.

The interviews were transcribed for analysis. In order to avoid memory deficits, a descriptive summary was prepared for the case studied and sent to the respondent for ratification. Inaccuracies were corrected by the respondents until the summaries became acceptable, that is, there were enough details to understand what was done and the interviewee's agreement.

In all, seven cases of contractual strategic alliance transactions were studied, four of which are R & D, one for manufacturing and two for distribution. These alliances are presented in Table 2 according to the typology used by Powell et al. (2005). Due to the maintenance of the confidentiality of the cases it was decided to adopt pseudonyms.

Table 2 – Synthetic description of cases, i.e. alliances studied

<table>
<thead>
<tr>
<th>Alliance</th>
<th>Partner</th>
<th>Type</th>
<th>Description</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Pharmaceutical laboratories of Brazilian shareholding control.</td>
<td>Manufacturing</td>
<td>Production of an ophthalmic solution for eye irrigation in cataract surgeries</td>
<td>2009 - current</td>
</tr>
<tr>
<td>A2</td>
<td>Brazilian stock control biotechnology company; Brazilian public university; Brazilian public agency for the promotion of research.</td>
<td>R&amp;D</td>
<td>Development of an innovative product for dental evaluation</td>
<td>2010 - current</td>
</tr>
<tr>
<td>A3</td>
<td>Pharmaceutical laboratory of Brazilian shareholding control; German fine chemicals company.</td>
<td>R&amp;D</td>
<td>Manufacture of a parenteral nutrition product</td>
<td>2009 - current</td>
</tr>
<tr>
<td>A4</td>
<td>Pharmaceutical laboratory of Brazilian shareholding control; Brazilian public university.</td>
<td>R&amp;D</td>
<td>Development and production of a nanotech-based sun protection product</td>
<td>2005 - current</td>
</tr>
<tr>
<td>A5</td>
<td>Pharmaceutical laboratories of Brazilian and Chilean shareholder control.</td>
<td>Distribution</td>
<td>Insertion of a Brazilian pharmaceutical product in the Chilean market</td>
<td>2008 - current</td>
</tr>
<tr>
<td>A6</td>
<td>Pharmaceutical laboratory of American stock control; distribution company of Brazilian shareholding control.</td>
<td>Distribution</td>
<td>Distribution of a pharmaceutical product in the Brazilian market</td>
<td>2005 - current</td>
</tr>
<tr>
<td>A7</td>
<td>Pharmaceutical laboratory of Brazilian shareholding control; Brazilian public university; Brazilian public agency for the promotion of research.</td>
<td>R&amp;D</td>
<td>Development of a molecular product for diabetes</td>
<td>2003 - current</td>
</tr>
</tbody>
</table>

Source: Prepared by authors
The A1 alliance began in 2009 and is characterized as a long-term partnership for the manufacture of an ophthalmic solution for eye irrigation in cataract surgeries. The partner already had the product and opted to outsource its manufacturing. The alliance A2 is characterized as a R & D partnership, starting in 2010, with the objective of developing an innovative product to evaluate the masticatory effect by dentists and speech therapists from the licensing of a new drug complex developed and patented by the partner. The A3 alliance is also characterized as a R & D partnership, starting in 2009, with the objective of developing a new lipid emulsion for parenteral nutrition from patented lecithins and phospholipids supplied by the foreign partner. The parenteral solution is manufactured by the Brazilian partner. The A4 alliance is also characterized as a R & D partnership and started in 2005, with the objective of developing a new product for sun protection with Brazilian biodiversity assets. The A5 alliance is characterized as a partnership for packaging and distribution of Brazilian patent medicine in the Chilean market, starting in 2008. The A6 alliance is characterized as a product distribution partnership for hospitals and government programs in Brazil. The E7 Alliance is a R & D alliance for the development of a new molecule for diabetes.

**Measurement**

As suggested by Yin (1994) and Eisenhardt (2009) to increase construct validity of the research was constructed a script for the semi-structured interview with managers who coordinated alliances from the systematic review of the literature on the involved constructs (Table 3). The constructs are: i) transaction cost; ii) relational capacity; and iii) performance of strategic contractual alliances. Table 3 summarizes the levels of analysis, informing the categories of analysis and, consequently, the observable variables identified a priori.
Table 3 – Matrix of consistency between constructs and interview script

<table>
<thead>
<tr>
<th>Construct</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alliance’s transaction cost</td>
<td>Asset Specificity</td>
</tr>
<tr>
<td></td>
<td>Uncertainty</td>
</tr>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td>Alliance Performance</td>
<td>Satisfaction with the alliance</td>
</tr>
<tr>
<td></td>
<td>Intellectual capital</td>
</tr>
<tr>
<td></td>
<td>Initial strategic objectives</td>
</tr>
<tr>
<td></td>
<td>Profitability</td>
</tr>
<tr>
<td>Relational Capability</td>
<td>Interorganisational coordination</td>
</tr>
<tr>
<td></td>
<td>Alliance portfolio management</td>
</tr>
<tr>
<td></td>
<td>Interorganisational learning</td>
</tr>
<tr>
<td></td>
<td>Pro-Activity</td>
</tr>
<tr>
<td></td>
<td>Transformation</td>
</tr>
</tbody>
</table>

Source: Prepared by the authors

The transaction costs were operationalized in the micro level by the specificity of the assets, the uncertainty and the frequency of the transaction (Carson, Madhok & Wu, 2006; Macher & Richman, 2008; Santoro & McGill, 2005; Willianson, 1985). Asset specificity was analyzed according to the degree of: a) human specificity in terms of specific investments destined for training, the need for expertise, know-how and specific technological expertise of the employees to carry out the transaction (Hoffman, Newmann & Speckbacher, 2010); b) specificity of the physical assets, according to the specific investments for the construction of facilities, equipment and processes dedicated to the study transaction (Hoffman, Newmann & Speckbacher, 2010); and (c) the specificity of the dedicated assets in terms of time and money investments if there is a need for partner change (Carson, Madhok & Wu, 2006). The frequency of the transaction was operationalized according to previous experience with the partners (Santoro & McGill, 2005).

The uncertainty associated with the strategic alliance was measured in three dimensions: a) the uncertainty regarding the alliance partner regarding the lack of ability to make accurate predictions about the relationship requirements; b) uncertainty about the tasks performed by the partner, according to the degree of difficulty to monitor the contributions,
potential and daily efforts of the partner for the success of the task; c) uncertainty arising from norms, methods or changes in task execution; and d) environmental uncertainty, considering market and technological uncertainty.

The performance of the strategic alliance transaction was operationalized from Schilke and Goerzen (2010), considering the dimensions, namely: i) overall satisfaction with the alliance's performance; ii) meeting initial strategic objectives; iii) satisfaction with the accumulated level of knowledge; and iv) profitability of the alliance investment.

The relational capability was operationalized by the incidence of the alliance management routines identified by Schilke and Goerzen (2010), namely: i) interorganizational coordination; ii) management of the portfolio of partnerships; iii) proactivity; and iv) transformation.

**Data Analysis**

The cases were analyzed separately and, later, together. First, the descriptive summary of each case was studied. Next, the data collected in the interviews were submitted to the categorical thematic analysis from categories defined a priori corresponding to the dimensions of the constructs of interest presented in Table 3. We use the synthetic strategy (Eisenhardt, 1989; Langley, 1999), also called of construction of the explanation, that is, we generate propositions for the construction of theory from the analysis of the data collected in the cases studied. By cross-analyzing the categories (Bardin, 1970) in each case individually we induce attempt, non-definitive causal propositions about relationships between the uncertainty and the performance of alliance transaction, and their relations with the relational capacity. For this we distinguished the factors of similarity and divergence, from the variables of interest, at the intersection of each pair of categories, thus identifying the existing causal relationships. Subsequently, these propositions were contrasted with each of the cases to investigate if the
data confirmed the proposed relationships and, if so, allowing a better understanding of the existing dynamics. The final theoretical propositions about the relations between the constructs of interest were generated from classifications and comparisons between the cases. The propositions generated by the inductive process were, finally, improved from their contrast with the existing literature. It should be noted that these are theoretical propositions to be later tested for their validity and statistical generalization.

DISCUSSION OF RESULTS

The present section is devoted to presenting the inductively induced theoretical propositions. The existing theory states that the higher the transaction cost of the governance structure used by the firms for the organization of productive activity, distribution and marketing, the lower the transaction performance (Williamson, 1985, 1991). Thus, the choice of the governance structure must be made from the comparison of the transaction cost associated to the possible governance structures. However, this research brings a different view in the case of the governance structure of the alliance transaction.

In fact, the higher the transaction cost, the lower the performance of the alliance in its dimensions of profitability, learning, and achievement of the initial strategic objectives, since the primary transaction cost refers to the occurrence of sunk costs associated with alliance investment, from the social assumptions of TCE (opportunism of the partners, limited rationality of managers and incompleteness of contracts) and their relationship with uncertainty, specificity of the assets, and frequency of the alliance transaction. Thus, we maintain the already existing proposition in theory as the first proposition of this work.
Proposition 1 (P1): The transaction cost of the alliance negatively influences its performance.

Table 4 summarizes the evidence from this study regarding the relationship between transaction cost and performance of the alliance. Of the 7 alliances studied, 5 cases will be explained below that underlie Proposition 1.

The alliance A2 was based on the development of an innovative product for oral evaluation. There was contractual formalization between the parties: Brazilian stock control biotechnology company; Brazilian public university; Brazilian public agency for the promotion of research. However, technological uncertainties were observed in the product development phase, leading to uncertainty as to the delivery of the final product. The possibility of losses was increased due to the knowledge acquired that cannot be used in another product.

In the alliance A3 there was a substantial investment in the manufacture of a German parenteral nutrition pharmaceutical product in Brazil, which implied, in principle, the transfer of both R & D technology and physical assets related to the production system. However, as the production system is put into operation there has been an incidence of technological uncertainties, making it impossible to manufacture the food and, consequently, leading to the possibility of losing the investment made, since the specificity of the assets constituting this alliance prevents the reuse of the production line.

The alliance A4 involved high investment in the construction of a manufacturing plant and the development of intellectual capital for a nanotechnology-based sun protection product for post-surgical use. In this alliance, the uncertainty of the market appeared related to the fear of the Brazilian medical community in prescribing the respective product and was perceived after 2 years of investments in physical and human assets and could represent a significant risk of loss of investments.
The alliance A5 involved investments related to the adaptation of the packaging and distribution of a Brazilian pharmaceutical product in the Chilean market. However, the uncertainties regarding the partner in solving the problems that emerged, i.e., uncertainties, in the initial phase, more specifically the obstacles imposed by the Chilean government agency during the evaluation process and, consequently, the potential non-approval, i.e., release, for the commercialization in the Chilean market represented a high risk of loss of investments made.

The alliance A6 was based on the relationship between an American pharmaceutical laboratory and a Brazilian national distributor; this alliance was marked by uncertainty about the partner, more specifically the distributor's ability to pay for the pharmaceuticals shipped in a consigned form for distribution. Therefore, the risks associated with the distributor’s default represented a potential loss of investments.

Table 4 – Evidences related to Proposition P1

<table>
<thead>
<tr>
<th>Alliance</th>
<th>Evidences</th>
<th>Associated uncertainty</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>“[…]as problems arise, one or more meetings are needed to resolve them. But when they are not sufficient to reverse the situation…”</td>
<td>Technological uncertainties</td>
</tr>
<tr>
<td>A3</td>
<td>“[…]a pilot test involving new machinery, training, meetings between teams, whatever has to make the situation come back to the expected […]”</td>
<td>Technological uncertainties</td>
</tr>
<tr>
<td>A4</td>
<td>“[…]you will have to explain to the doctors what the benefit of the product is, the benefit, the difference of this new asset […]”</td>
<td>Market’s uncertainties</td>
</tr>
<tr>
<td>A6</td>
<td>“[…]activities involve visits to distributors to solve problems […]”</td>
<td>Partner’s uncertainties</td>
</tr>
</tbody>
</table>

Source: Prepared by the authors

However, contrary to the existing theory, the companies did not analyze the transaction cost to choose the governance structure or analyzed but did not identify the transaction cost before signing the contract. Instead, in all of the alliances studied, the firms identified the transaction cost only after the contract was signed in varying time periods.
The transaction cost was identified after the option made by the organization of production, marketing or distribution activities; always from problems with one of the dimensions indicating the transaction cost. In all situations, companies perceiving problems began to develop transaction cost management activities, establishing task force teams to analyze, plan and execute actions with the objective of eliminating or reducing the perceived transaction cost. The more complex, intense and probable the transaction cost, the more activities were developed by the companies with the purpose of nullifying it. We observed that the largest volume of alliance management activities to decrease the perceived transaction cost is in the early stages of alliances. Following this reasoning, it is argued that:

Proposition 2 (P2): The higher the transaction cost of the alliance, the greater the incidence of activities for its management.

Table 5 summarizes the evidence from this research about the relationship between transaction cost and activities associated with alliance transaction management, i.e. relational capability. It was observed that the technological uncertainties present in alliances A2 and A3 were managed through learning activities substantially based on pilot tests and training. Regarding the market uncertainty present in the alliance A4, it was treated with proactivity activities related to the generation of demand through the realization of strategic cocktails and dinners by the country with opinion formers, communicating the non-existence of risk of the nanoparticles reaching the blood as a function of its size. Of the 7 alliances studied, 5 will be used below to support Proposition 2 above.

The alliance A2 is characterized as an alliance of R & D for the development of a dental product for dental evaluation. However, it was observed that, as R & D activities were being developed, uncertainties regarding technological issues arose, implying a large volume of management activities, as reported by the manager of the alliance: "[...] make adjustments,
develop new tests, generate new activities to solve problems involving staff and assessors [...]"

The alliance A3 was substantially based on the transfer of both R & D technology and relative to physical assets pertaining to the productive system. It is anticipated that the technology transfer implies in the first moment the realization of training and pilot tests, aiming to enable the human partner of the Brazilian partner to deal with the new technologies and the new system of production. However, as the production system was put into operation, there were many problems, implying a significant volume of activities associated with transaction management that involved "[...] effort, areas and people, hours demanded, new pilot tests not foreseen and counted in advance, different degrees of difficulty, depending on each problem that arose. [...] ". In the initial phase of the alliance pilots and extraordinary learning activities were performed as the offspring appeared. With the stabilization of the activities, it was used the organizational project management systems, in this case based on the PMBOK, as well as the use of synchronization schedules and annual audit visits to accompany the partner.

In the A4 alliance the problem arose when the new plant was already in construction completion and was related to the uncertainties of the market. In this alliance the uncertainty was characterized by the fear of the Brazilian medical community in prescribing the respective product, since there was an understanding on the part of the doctors that the nanoparticles could enter the bloodstream. In view of this uncertainty, a large volume of management activities was perceived as generating demand, since they were related to "strategic symposiums at an event ..." which elucidated "[...] for physicians what is the advantage of the product, the benefit, the difference of this new asset", aiming both to develop a market and an awareness of the new product.
The alliance A5 was based on the insertion of a Brazilian pharmaceutical product already marketed in Brazil in the Chilean market. The approval for commercialization of this product in the Chilean market had problems related to the time for evaluation, delaying its approval. The uncertainties that emerged in the A5 Alliance were related to the partner and his role in explaining to the Chilean government agency the effectiveness and safety of the Brazilian product. In view of this, it was observed the performance of management activities related, above all, the allocation of Brazilian human capital, researchers and scientists, in Chile, to meet the demands raised by the government body.

The alliance A6 had as its central objective the synergy between the supplier laboratory and the national distributors; however, because of uncertainties regarding the financial capacity of the partners, the laboratory created dealer portfolios managed by technicians who monitored the distributors in real time with respect to financial and credit indicators to better meet their demand for consigned purchases for distribution. In this way, the risks associated with delinquency were reduced, through daily control mechanisms related to payments made; in other words, there was a daily analysis of the financial capacity of the distributor partners.
According to the existing theory, the higher the first-order transaction costs, the higher the ex-post second-order transaction costs, ie, cost of governance, adaptation and coordination, since there is a greater occurrence of relative activities of management of the alliance transaction (Williamson, 1991). In this research we observed this phenomenon. Therefore, it is argued:

Proposition 3 (P3): The incidence of alliance management activities positively influences ex-post transaction costs.

Table 5 – Evidences related to Proposition P2

<table>
<thead>
<tr>
<th>Alliances</th>
<th>Evidences</th>
</tr>
</thead>
</table>
| A2        | "[...]as problems arise, one or more meetings are needed to resolve them."
|           | "He rolled out a pilot test to see if people were knowing what was to be done, to train too"
|           | "Our R & D personnel and theirs, every time we ran a pilot test, they were there". "At first, we had countless monthly meetings [...]"
|           | "[...]a pilot test involving new machinery, training, meetings between teams, whatever has to make the situation come back to the expected [...]"
|           | "[...]we sought to follow the steps of the PMBOK to facilitate the coordination of the [alliance] process and reduce risks"
|           | "When we do not know the partner. It is the first time that we work together, the control has to be greater [...] over time the problems decrease and we can relax. In our case, we have today the project management system and annual audit visits"
| A3        | "[...]you will have to explain to the doctors what the benefit of the product is, the benefit, the difference of this new asset [...]"
|           | "[...]I do this daily management of our projects. It is a report that I have daily of how they are, if there was delay, there were no such risks. [...]"
|           | "[...]periodic meetings between areas to discuss and solve problems [...]"
| A4        | "[...]we have developed a lot of people who participated in this process for the activities to do [...] We had to allocate a team in Chile to guarantee the progress of the approval process by the Chilean health control agency"
| A5        | "[...]the managers of the portfolio receive and identify stimuli that trigger activities to solve problems in the areas of finance, logistics, marketing [...]"
|           | "[...]activities involve visits to distributors to solve problems [...]"
|           | "[...]we have to monitor distributors a portfolio system in which a set of seven distributors are in each portfolio that is monitored daily via real-time indicators by the portfolio manager [...]"
| A6        | "[...]weekly meeting, where all the projects are analyzed, involving the industrial area, regulatory area, research area [...]"
| A7        | "Source: Prepared by the authors"
On the other hand, increasing the cost to carry out alliance management activities leads to a decrease in alliance performance in the profitability dimension. Following this reasoning, it is argued that:

Propositon 4 (P4): The ex-post transaction costs associated with the incidence of alliance management activities negatively influence the performance of the alliance.

Table 6 summarizes the evidence from this research about the relationship between ex-post transaction costs associated with the incidence of alliance management activity with alliance performance. Of the 7 alliances studied, 4 will be used to support Propositions 3 and 4 above.

In the alliance A3 it was observed that the problems, ie, technological uncertainties, arose as the operating system was running which implied in a second moment in carrying out management activities such as, for example, the allocation of human capital from a country to the other to identify problems as well as propose new solutions.

The alliance A4 presented a high degree of transaction costs based on market uncertainties. To neutralize or even eliminate this uncertainty, management activities related to demand generation were carried out, by raising the awareness of physicians about the safety of the product for the health of users.

The success of the alliance A5 was dependent on approval for the commercialization of the Brazilian pharmaceutical product in the Chilean market. To achieve this, management activities related mainly to the allocation of Brazilian human capital, i.e. researchers and scientists, to Chile, were carried out to meet the demands, i.e., issues raised by the government agency. The alliance A6 dealt with the uncertainties related to the partner, through interorganizational and proactivity activities, to reduce the risk of default.
In all cases, it has been observed that, as uncertainties arise, alliance management activities are developed with the aim of solving them. This leads to an increase in ex-post transaction costs and, consequently, causes a reduction in alliance performance.

Table 6 summarizes the evidence from this study about the relationship between uncertainties of the alliance transaction, the increase in ex-post cost and consequent performance reduction. It was observed in the alliances that the uncertainties of the transaction are related to environmental and market aspects (Williamson, 1985), specificity of human and physical assets (Hoffman, Newmann and Speckbacher, 2010) and the partner (Santoro & Mcgill, 2005; Becker 2005). All these uncertainties fostered proactivity through control activities and follow-up of alliances, as in cases 3 and 6; inclusion of persons on the establishment plan, as in cases 3 and 5; acquisition and implementation of new physical assets, as in cases 3 and 4; and qualification of the staff, as in cases 3 and 4.

<table>
<thead>
<tr>
<th>Alliance</th>
<th>Evidences</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>“Adjustments can be made, new tests developed, new activities generated to solve the problems [...]”&lt;br&gt;“[...]as problems arise, one or more meetings are needed to resolve them”&lt;br&gt;“[...]I need to allocate people and resources to ensure integration with partners.”</td>
</tr>
<tr>
<td>A3</td>
<td>“[...]He rolled out a pilot test to see if people were knowing what was to be done, to train too [...]”&lt;br&gt;“[...]Our R &amp; D personnel and theirs, every time we ran a pilot test, they were there. They acted together, talked, exchanged ideas, experience, and tricks. [...]”&lt;br&gt;“We have to prevent the outcome from falling. What will be done, the effort required, areas and people involved, hours demanded, degree of difficulty depends on the problem [...]”&lt;br&gt;“[...]pilot test involving new machinery, training, team meetings [...]”&lt;br&gt;“When we do not know the partner. It is the first time that we work together, the control has to be greater.”</td>
</tr>
<tr>
<td>A4</td>
<td>“[...]type strategic symposiums at an event [...]. And all those meetings that were done all over the country [...]”&lt;br&gt;“[...]periodic meetings between areas to discuss and solve problems [...]”</td>
</tr>
<tr>
<td>A6</td>
<td>“[...]monitor the stimuli they receive, and trigger problem-solving activities in the areas of finance, logistics, and marketing that support the various business units [...]”&lt;br&gt;“[...]monitoring, control and adjustment of demand and inventory on the channel [partners]”&lt;br&gt;“[...] activities involve visits to distributors to solve problems or seek information [...]”&lt;br&gt;“[...]monitoring of the quality of the work of distributors [...]”</td>
</tr>
<tr>
<td>A7</td>
<td>“[...]has a weekly meeting, where all projects are analyzed, involving the industrial area, regulatory area, research area [...]”</td>
</tr>
</tbody>
</table>

Source: Prepared by the authors
On the other hand, the current theory of alliances states that alliance management activities directly and positively influence their performance. However this work brings a different vision. The alliance management activities that companies develop reduce the cost of the transaction, that is, the uncertainty in the transaction and the associated sunk costs, positively affecting its performance.

Consequently, alliance management activities mediate the relationship between transaction cost and alliance performance. That is, as the incidence of alliance management activities occurs, it simultaneously lowers the transaction cost, leading to a decrease in the intensity of its negative influence on performance or even leading to the cancellation of its negative influence on performance. Thus, it is argued that:

Proposition 5 (P5): The incidence of alliance management activities mediates the relationship between transaction cost and the performance of the alliance transaction.

Table 7 summarizes the evidence from this study regarding the relationship between the incidence of transaction management activities, transaction uncertainties and alliance performance. From the 7 alliances studied, 4 are presented below to substantiate the proposition P5.

As the new production line was established a significant volume of problems occurred which characterized the alliance A3. However, while management activities occurred, technological uncertainties were dissipated, neutralizing the transaction cost and generating better alliance performance. Leading to a decrease in alliance management activities, as the manager reports: "[...] In the beginning, we had numerous monthly meetings, nowadays we undergo annual audits of the partner to evaluate our quality system, to even evaluate the conditions of production ".


The alliance A4 involved the production and insertion of an innovative sun protection product based on nanotechnology. However, the market uncertainty occurred due to the fear of the Brazilian medical community in prescribing the respective product due to lack of knowledge. To neutralize the market risk, the company developed lunches and cocktails with opinion makers across the country for a period of one year, generating demand. The central objective was "to explain to physicians what the advantage of the product is, the benefit, the difference of this new asset." Therefore, as informational meetings, ie, management activities, occurred, the market uncertainties related to the product were substantially reduced by the Brazilian medical community, neutralizing the uncertainties and, consequently, providing both profitability of the alliance such as the achievement of the strategic objectives established in the initial phase of the alliance.

The alliance A5 has reported the insertion of a Brazilian pharmaceutical product in the Chilean market, which implies its adaptation to the regulatory requirements of the country of destination. Because of the uncertainties related to the partner, alliance management activities stand out, since they created a Brazilian task force that was sent to Chile to respond to requests from the regulatory agency. The transaction management activities took the leading role in the release and, consequently, authorization to market the product in the Chilean market. In this way, alliance management activities neutralized the cost of the existing transaction, implying greater profitability, development of intellectual capital, and achievement of the alliance's strategic objectives, positively influencing alliance performance.

Similarly the alliance A6. The uncertainty about the partner as to its ability to pay, more specifically the risk of default of the partners was neutralized through control activities, guaranteeing the profitability of the alliance.
Table 7 – Evidences related to Proposition P5

<table>
<thead>
<tr>
<th>Alliance</th>
<th>Evidences</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>&quot;[...] we have <strong>learned a lot</strong> [in alliance management activities] with each alliance. And, mainly, the owners are very satisfied, the evolution of the company and the profitability is being very positive.&quot;</td>
</tr>
<tr>
<td>A2</td>
<td>&quot;<strong>Knowledge gains</strong> come from monthly meetings that ensure constant learning and transformation&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;[...] important is satisfaction with <strong>accumulated learning</strong> with partners&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;[...] <strong>important to learn</strong> how to make innovative products that compete with international competition&quot;</td>
</tr>
<tr>
<td>A3</td>
<td>&quot;We have to prevent the outcome from falling. [...] It can be a pilot test involving new machinery, training, meetings between teams, whatever has to make the situation come back as expected&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;It was a new process, once it was established, <em>it never changed</em> [...]&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;[...] important is satisfaction with <strong>accumulated learning</strong> with partners&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;[...] <strong>important to learn</strong> how to make innovative products that compete with international competition&quot;</td>
</tr>
<tr>
<td>A4</td>
<td>&quot;The degree of excellence of our activities is measured by the result. And the result comes from the periodic meetings between areas to discuss and solve problems, [...] this has been able to create synergy that sustains the profit of the partnerships&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;[...] <strong>control activities</strong> of partnerships generate value both in terms of knowledge that is applied in other activities and effective products that are on the market...&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;[...] <strong>generated innovation</strong> in the company, meeting its strategic objectives. In addition, it allows sharing operational risks when it comes to, for example, manufacturing&quot;</td>
</tr>
<tr>
<td>A5</td>
<td>&quot;<strong>We have developed a lot of people</strong> who participated in this process through the activities to make the partnership work. The return comes from there&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;It reduced costs and <strong>generated experience</strong> that became part of the company and ensures that the objectives are achieved&quot;</td>
</tr>
<tr>
<td>A6</td>
<td>&quot;[...] <strong>the structure we have for monitoring distributors</strong> is essential to ensure profitability...&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;[...] reducing potential risks of delinquency and delays and ensuring the quality of the work of distributors&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;[...] there were <strong>more than 100 distributors</strong> serving Brazil in this line. Today, we <em>work with 14 distributors</em>, we sort of concentrated the distribution, clearly defined the roles, learned&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;[...] monitoring of distributors is essential ... <strong>reducing potential delinquency risks and delays</strong>...&quot;</td>
</tr>
</tbody>
</table>

The structural model, which is based on the 5 propositions discussed above, is shown in Figure 1. Partner organizations manage strategic alliance transactions through contractual and non-contractual mechanisms. Proposition 1 (P1) confirms the assumptions contemplated in the TCE regarding the impacts of transaction costs on alliance performance; in all the studied alliances it was observed that, the uncertainties translate into a potential loss of investments made. Proposition 2 (P2) shows that alliance management activities include informal mechanisms, which are carried out throughout the transaction; this proposition
proves that, as uncertainties emerge, economic agents strive to neutralize or nullify them through management activities of the alliance. Propositions 3 (P3) and 4 (P4) relate; in other words, as the uncertainties emerge, we observed in the studied alliances that there was an incidence of transaction management activities to neutralize them, which translates into ex-post transaction costs. Proposition 5 (P5) states that transaction management activities mediate the relationship between transaction costs and alliance performance; therefore, transaction management activities reduce or nullify existing transaction costs, which favors alliance performance.

**Figura 1 - Modelo estrutural**

CONCLUSION

The present study aimed to analyze the relationship between costs and performance of alliance transactions and the relational capacity of companies in the Brazilian pharmaceutical sector, human health segment. For that, a multiple case study was developed, analyzing the relationship between the constructs of interest from systematic interviews with executives who participated in the management of 7 cases of strategic contractual alliances. This objective has been fully achieved. The paper advances the theory by developing the
proposition that relational capacity mediates the relationship between transaction costs and the performance of contractual strategic alliances, reducing transaction costs dynamically, simultaneously with their performance, influencing the reduction of transaction cost and consequently their influence on the performance of the alliance transaction. This explains why strategic alliances insist on remaining in some sectors although the theory suggests that the costs of management or coordination may be greater than the cost of integrating the activities developed by the partners.

It is also possible to think that the integration of the approaches to organizational economics and capabilities, developed in this work from the constructs of transaction cost and relational capacity, is promising. It seems to be possible to explain from the governance structure and the attributes of the transactions the source of the differences in the capacities of the organizations. It is important in future studies to test the explanatory model proposed in this paper, using cross-sectional and longitudinal cross-sectional surveys using multivariate and econometric statistical techniques. It also seems that the organizational economics approach can be enhanced by analyzing the influence of organizational capabilities, such as relational capacity, transaction costs, and the governance structure itself.

The contribution of this work at the management level involves three facts. The first is that the executives responsible for or participating in the management of contractual strategic alliances should expect the activities of the relational capacity routines to occur in an overlapping fashion. It seems clear that in this context the organizational and individual competencies of working in multifunctional teams and of conflict resolution are mandatory. It is up to those responsible for managing partnerships to ensure that the company and the participants in the activities linked to the partnerships develop such competencies. The second fact is that experience with various alliances enhances the relational capacity of organizations. In this sense, companies that are in competitive environments in which alliances are important
should develop a relational strategy. The third fact is that the legitimacy of organizational capabilities seems to give visibility to organizations in the proactivity routines of potential partners. This leads to the need for institutional management and branding in competitive environments in which alliances are relevant.

It is worth mentioning that, based on the methodology adopted, the propositions resulting from this work should be understood as tentative, not definitive, propositions to be confirmed in future research. One limitation of this study is that although it is recognized that the alliances between the actors of the pharmaceutical sector can also be informal, in this work the strategic alliances were operationalized considering only the formal alliances.

REFERENCES


