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Transactions Cost Theory influence in strategy research: A review through a bibliometric study in leading journals

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ABSTRACT

Transaction cost theory (TCT) is widely used in several management disciplines. Its value for explaining organizational phenomena and managers' decisions is well accepted and has been recognized with two Nobel laureates (Ronald Coase and Oliver Williamson). In this paper we examine the impact of the TCT on extant research in top tier management journals. We conduct a bibliometric study supported in the analysis of citations and co-citations to uncover the connections between authors and presumably theories. We conclude that the TCT, albeit its specific focus on the transactions as the unit of analysis, is present in a majority of management- and business-related research.

Keywords: transaction costs theory, bibliometric study, strategy research, review

INTRODUCTION

The recent Nobel prize award in Economics to Oliver Williamson, in 2009, recognizes the importance of Transaction Costs Economics Theory (TCT) namely for the "... analysis of economic governance, especially the boundaries of the firm" (Royal Swedish Academy of Sciences, 2009). It reinforced the impact of the Nobel award in Economics, in 1991, given to Ronald Coase's (1937) (Royal Swedish Academy of Sciences, 2009) for his work on the nature of the firm that is considered as seminal work for the TCT.

Transaction cost theory (TCT), or transaction cost economics (TCE), has become an increasingly important anchor for the analysis of a wide range of strategic and organizational issues of considerable importance to firms (Williamson, 1994; Ghoshal & Moran, 1996; Williamson, 1996; Jones, 1998; Madhok, 2002). In particular, the TCT has been employed in studying firms' boundaries, vertical integration decisions, the rationale for conducting an acquisition, the networks and other hybrid governance forms. The TCT has expanded its breath to strategic management and international business in seeking to explain how firms internationalize and the structural arrangements required to improve the odds of success. In fact, it is reasonable to put forward that the TCT has become a pervasive theory in organizational studies.

In this article we analyze the Transaction Cost Theory's influence in the academic research in strategic management, by noting its use in extant published research. Specifically, we examine the theoretical contribution and the most influential authors by performing a bibliometric study of the TCT in the following selected top tier academic journals: Academy of Management Journal (AMJ), Administrative Science Quarterly (ASQ), Academy of Management Journal (AMJ), Management Science (MS), Organization Science (OS) and Strategic Management Journal (SMJ). We thus seek to better understand the intellectual structure that connects theories and authors (White & McCain, 1998; Ramos-Rodriguez & Ruiz-Navarro, 2004).

This article is structured as follows. First, we review the most important issues and assumptions of the TCT. Then, we discuss the

evolution of TCT. In the third part, we present the method, sample and procedure for data collection. This section is followed by the results and analysis. We conclude comparing and contrasting TCT with other theories and suggesting additional future research avenues.

IMPORTANT ISSUES AND ASSUMPTIONS IN TRANSACTIONS COST THEORY

Transaction Costs Economics is part of the New Institutional Economics research tradition. The main focus of TCE is the definition of the determinants of coordination of the transactions through markets or hierarchies (Joskow, 1988). In this sense, the boundaries of the firm should be a function of the governance structure (Holmström & Roberts, 1998; Williamson, 2002, 2005), especially when we consider that this governance structure would assure the optimal adaptability of the firm to changes in the conditions of supply and demand. One important aspect of TCE is that it focus not only on the two extremes of transaction governance (that is, hierarchy vs. market), but also on other hybrid forms and long term contracts.

The main research question that transaction cost theory (TCT) seeks to address is why economic transactions are organized in the way that they are in the modern society (Williamson, 1994). Specifically, why are some economic transactions internalized within the boundaries of firms while others are procured to external parties? Stated more simply: why do firms do what they do? Or, as recently exposed by Madhok (2002) why don't firms do what they don't? The general conclusion is that activities are internalized inside the firm when there is some form of market failure, and most notably market failure of intermediate inputs. TCT argues that there are costs to conduct transactions through the market; these transaction costs can be reduced through mechanisms other than markets (Coase, 1937; Williamson, 1975). Specifically there are costs to "drafting, negotiating, and safeguarding any exchange or transaction" that are "friction" impeding smooth transactions (Williamson, 1985: 20). TCT claims that these transaction costs driving economic organization are as important as production costs, or perhaps even more important. While production

costs are easier to assess than transaction costs, transaction costs are an important part of the total costs of a firm. Transactions costs comprise the ex-ante costs of (1) searching and information, (2) drafting and negotiating an agreement, and (3) costs of safeguarding the agreement. The ex-post costs entail the costs of (1) evaluating the input, (2) measuring the output, and (3) monitoring and enforcement (Williamson, 1985).

TCT emerges from the relative failure of neoclassical economic theory to adequately address and explain economic phenomena. Centered on the perfect competition paradigm, the neoclassical view of the firm as a production function is often criticized as being reductionistic, simplistic, and unrealistic. The organization we call the firm “was a black box. Into this box went labor and capital, and out came products” (Alchian & Woodward, 1988: 65). Efficiency in neoclassical view is measured by the input to output ratio. Researchers of TCT (in particular the new institutional economics) opened up the “black box” to further examine how it actually operates. In contrast to the neoclassical view, TCT considers the firm as a hierarchy that adds value by economizing on transaction costs. Efficiency in TCT is conceptualized as pareto efficiency where governance modes are compared according to their ability to facilitate transactions until the point at which it is impossible to make one party better off without making the other party worse off (Jones, 1998). TCT claims that the firm, in many cases, provides a relatively more efficient method of organizing relative to the market because of optimization of transaction costs or overall value. Therefore, TCT is about efficiency and views economic organization as being principally concerned with the relative efficiency of optimizing on transaction costs. TCE poses the problem of economic organization as a problem of contracting (Williamson, 1985: 20).

Assumptions of TCT

TCT rests upon several key assumptions about human behavior and environmental characteristics (Williamson, 1979; Williamson & Ouchi, 1981; Williamson, 1985). These assumptions elucidate why firms may face superior costs for market-based transactions and why firms may be relatively more efficient than markets at organizing transactions. The firm

will select the governance form, from the various alternatives amongst the organizational menu, that minimizes transaction and production costs.

Assumptions about human and human behavior

Opportunism with guile. In neoclassical economics, humans are viewed as self-interested; individuals pursue their own self-interest in their own activities (i.e., simple self-interest according to Williamson (1985)). Opportunism with guile takes this assumption a step further to assume that individuals may engage in behavior that is both subtly and overtly deceitful *ex ante* and *ex post* to agreeing on contracts. As Williamson (1985: 48) puts it "Plainly, were it not for opportunism, all behavior could be rule governed". In fact, it is precisely because sometimes some individuals behave opportunistically that there are costs to exchange (e.g., contracts can not be written and enforced perfectly or costlessly). The opportunism assumption is about the motivations of human behavior (Williamson, 1985). This assumption is central to TCT because, in the absence of potentially opportunistic behaviors, contracts would be costlessly enforced and there would be no reason for other forms of economic organization besides the market.

Bounded rationality. The neoclassical theory assumes that individuals have perfect information and act as utility maximizers with calculative rationality. In sharp contrast, the TCT views human as boundedly rational - individuals are "intendedlly rational, but only limitedly so" (Simon, 1961 as cited in Williamson, 1985). Bounded rationality reflects individuals' inability to process large degrees of information and their difficulty in assigning probability values to the occurrence of future events. It is worth noting that bounded rationality does not imply that individuals seek to be irrational. In fact, they seek to make rational decisions but within the limits of their imperfect cognitive abilities and in conditions of imperfect information.

Assumptions about environmental characteristics

Asset specificity. Williamson defined asset specificity as "durable investments that are undertaken in support of particular transactions, the opportunity cost of which investment is much lower in best alternative uses or by alternative users should be original transaction be prematurely

terminated" (1985: 55). In contrast to the neoclassical economics which treats exchanges of standard nature, transactions according to TCT often involve idiosyncratic attributes so that contracts cannot be written costlessly due to, for example, the unknown idiosyncrasies beforehand. In this respect Williamson (1985: 53) states that "[transactions that are supported by investments in durable, transaction-specific assets experience 'lock in' effects, on which account autonomous trading will commonly be supplanted by unified ownership". Hence contractual and organizational safeguards (i.e., firms) become necessary for transactions involving these nonstandard assets.

Transaction costs theory focuses rather strongly the asset specificity and its role in determining how to better organize exchanges. The broad advice is that when assets are not specific to an exchange the market may be the most efficient way (or the best way for minimizing costs) to organize it. The asset specificity makes specific reference to the extent to which an asset can be redeployed to alternative uses and/or by alternative users without a substantial sacrifice of its productive value (Williamson, 1989: 141). And, it is possible to distinguish six different types of asset specificity: site specificity, physical asset specificity, human asset specificity, dedicated assets, brand name capital and temporal specificity (Williamson, 1989: 141-142). The degree of asset specificity ranges from nonspecific to mixed to idiosyncratic (Williamson, 1979, 1985). The asset specificity assumption might be called the locomotive or driving assumption of TCT as Williamson himself states "the importance of asset specificity to transaction cost economics is difficult to exaggerate" (1985: 56).

Uncertainty. Uncertainty is a straightforward assumption and it contrasts with the perfect-information assumption of the neoclassical view. Information about past, current and future states is not perfectly known, for various reasons. Without the existence of bounded rationality and opportunism, uncertainty would be much less of a problem because general rules would generally prevail (Williamson, 1985). However, given these assumptions uncertainty is especially critical. Uncertainty arises from, for example, not knowing about future states or/and the inability to determine who is more prone to behave opportunistically (Williamson, 1993b).

Because it is very difficult to determine *ex ante* who will engage in opportunistic behavior, contracts are not costlessly written and enforced (Williamson, 1993b).

Frequency of the transactions. If transactions are infrequent then the costs of alternative governance structures may not be justified. A larger frequency or larger volumes of transactions, however, gives rise to justification for alternative governance structures such as the firm. Therefore the volume, number, and/or temporal spread of transactions are important to be considered because even given the previous assumptions if they are infrequent alternative governance structures may not be necessary or feasible. The degree of frequency ranges from occasional to recurrent (Williamson, 1979, 1985).

In sum, Williamson (1975) identified three determinants of the transaction costs: (a) the agents' bounded rationality, that originates incomplete contracts due to the impossibility of foreseeing, in the contracting moment, all future situations; (b) opportunism that is originated when one of the partners pursues his own short-term self-interest; and (c) the assets specificity, this originates that the owners of production factors will incur costs if they deviate the assets to another use, and leads to the conclusion that the best use is improved by internalization. Internalization will be preferred to externalization if three conditions are verified: (A) The degree of the transaction uncertainty is high - that is, if it's difficult to guarantee the execution of the contract - the supplier may have an opportunistic behavior that impairs the customers; (B) If the assets involved in the transaction are specific - if just a restricted number of suppliers possess the necessary equipment to the accomplishment of the activity, his bargaining power increases - affects negatively the price of the transaction; (C) If the transaction is the recurrent type, that is, if the firm has to buy regularly large quantities of the product to the suppliers these will be able to demand better conditions.

Governance implications

The main governance implication of TCT is that the most efficient governance structure for organizing economic exchanges will depend on several characteristics of the transactions themselves. For instance,

nonspecific transactions of both occasional and recurrent contracting will be principally governed by the market. As assets became more and more specific, other forms of governance will be needed ranging from trilateral to unified governance structure (the firm) (Williamson, 1979, 1981, 1985).

Williamson (1979, 1985) argued that asset specificity actually drives vertical integration, which contrasts with the traditional arguments of monopolistic market power. This has important policy implications because vertical integration is often viewed as being anti-competitive and subject to anti-trust litigation. When the transaction cost logic is applied and the concept of relative efficiency is introduced the benefits of vertical integration are more clearly understood (Williamson, 1979, 1985; Klein & Shelanski, 1994).

EVOLUTION AND CRITICS TO THE TCT

The evolution of TCT

Although the above review of TCT relies primarily on Williamson's work over the past few decades (Williamson & Ouchi, 1981; Williamson, 1979, 1981, 1985, 1994), there are other notable scholars in this line of research exploring the very issue of why firms exist and do what they do. For example, over six decades ago Ronald Coase (1937), best known as the forefather of transaction cost theory, foresaw the transaction costs that arise when transactions are conducted through the market. The core insight awarding him the Nobel prize is that decision makers are situated at a boundary where using a pareto efficiency approach they have to constantly compare the transaction costs of using the market against those of managing exchanges internally. Internalizing the transactions optimizes the relative value of the exchange. In essence, the market price mechanism is replaced by fiat.

It is worth noting that the value added from internalization is relative efficiency – that is the costs of conducting transactions through the market *versus* the relative costs of internalizing them (Jones, 1998). Hence, it is not saying that there are no transaction costs related to internalization but that they are relatively lower when compared to those of carrying the exchanges in the market. Moreover, the theory does not say that it is

always relatively more efficient to internalize transactions but rather that under certain conditions that will be the case.

Notwithstanding it is not absolutely clear from Coase's work what are the factors that affect the level of transactions inside a firm (Coase, 1988; Jones, 1998). Albeit Coase's main purpose was to explain why economic activity was organized within firms, since the works of Williamson, the TCT has shifted away from Coase's initial and more general treatment to concerns with issues such as appropriation, ownership, alignment of incentives, and self-interest.

Williamson and Ouchi (1981: 367) state explicitly that the core methodological properties are (1) the transaction is the basic unit of analysis; (2) the human agents are subject to bounded rationality and self-interest; (3) the critical dimensions for describing transactions are frequency, uncertainty, and transaction specific investments; (4) economizing on transaction costs is the principle factor that explains viable modes of contracting; and (5) assessing transaction cost differences is a comparative institutional exercise.

Other authors have made significant contributions to our current understanding of TCT. Alchian and Demsetz (1972), for instance, examined team production, information costs, and economic organization – contrasting transaction and production costs. Meanwhile, they tended to disagree with the typical characterization of the hierarchy as a form of authority. For instance, they argued that the employee-employer relationship is not characterized by any more authority or fiat than any other type of relationship. The firm is a contractual structure with joint production, several input owners, one party who is common to all the contracts of the joint inputs, who has rights to renegotiate any input's contract independently of contracts with other input owners, who holds the residual claim, and who has the right to sell his central contractual residual status (Alchian & Demsetz, 1972). Their work is influential to a larger degree because of their full explanation of the factors giving rise to different types of organizations. Spence (1975), on the internal economics of the organization, suggested that resource allocation processes that are

internalized are those which are not efficiently carried out in a decentralized manner (that is to say, where equilibria are inefficient).

Due to the nature of many of the important constructs central to TCT, there is scarce empirical work effectively measuring these constructs. Because of the positivist view dominating much of the organizational sciences research, the quantification and measurements have been emphasized (Eccles, 1987). The TCT suffers the criticism of lack of sufficiently tested hypotheses. Nonetheless, Klein and Shelanski (1994) in a comprehensive review of the empirical research using TCT, found that the empirical research on vertical integration whose findings suggest that asset specificity and uncertainty are important drivers of vertical integration. Empirical work also found general support for TCT predictions for complex contracting, long-term commercial contracting, informal agreements, and franchising contracting (Klein & Shelanski, 1994).

Critics on TCT

Notwithstanding the tremendous impact of TCT of management research in the last two decades, TCT has been subjected to multiple criticisms. The TCT arguments have not remained unchallenged. Critics to TCT have relied on many facets and reasons albeit the relative merits of those critics is arguably. The most common criticism is that the central assumptions of TCT are flawed. For example, the assumption of opportunism has been criticized for ignoring the contextual grounding of human actions and therefore presenting an undersocialized view of human motivation and oversocialized view of institutional control (see, Granovetter, 1985). Williamson responded to such criticisms by re-stating that in his model, opportunism or bounded rationality may differ from person to person much as personality or intelligence do, but when transaction costs change they do so because of changes in the environment, not in the person (Williamson, 1993a,b). Jones (1998) took an interactionist perspective rather than a dispositional one, to argue that opportunism may be seen as both a disposition and a psychological state produced by the interaction of personal and situational factors. Alchian and Woodward (1988) offered a refinement of the opportunism assumption in arguing that two types of opportunism should be more clearly identified - moral hazard

and holdup - and that this distinction helps the theory better explain organization phenomena.

Ghoshal and Moran (1996) attacked the validity of TCT on the grounds that the opportunism with guile is bad for practice. TCT is normative or prescriptive theory and if opportunism with guile assumption is taken seriously by managers there will be negative consequences for organizations. Application of TCT will increase the occurrence of opportunism rather than decreasing it. Ghoshal and Moran (1996) also criticized TCT for failing to point out how opportunism is reduced through alternative governance structures. Jones argued that the problem with TCT is Williamson's description of the determinants of opportunism; and that there is a difference between the propensity to behave opportunistically (a behavioral trait) and the psychological state of opportunism. The same uncertainty condition that may lead some individuals to behave opportunistically it may lead others to trust. Under certain circumstances trust or cooperation may be the most rational and efficient self-interested behavior. The propensity to trust or opportunism as a state is a much more realistic assumption about human behavior given uncertainty (Jones, 1998).

Albeit far less voiced, the criticisms on the assumption of bounded rationality and uncertainty still exist. Williamson's model views people as being passive and defensive when confronted with the vagaries of an uncertain environment. Williamson treats environmental uncertainty as a threat that must be managed through the governance structure that allows managers to economize on transaction costs. Jones (1998) adopted a positive or entrepreneurial view and argued that bounded rationality and uncertainty are not problems to be managed and overcome, but rather are opportunities to be taken advantage of. Jones (1998: 42) states that "[t]he advantages of organizations over markets may lie in leveraging the human ability to take the initiative, to cooperate and to learn; it may also rely on exploiting the organization's internalized purpose and diversity to enhance both learning and its use in creating innovations and purposive adaptation".

The TCT has been further criticized as only looking into two relative extremes methods of facilitating transactions that do not really exist. The critics argued that the market versus hierarchy dichotomy is somewhat

misleading since many transactions are actually carried out through a hybrid governance form (e.g., Hennart, 1993). Refuting, Williamson (1985) stated that the distributions of transactions would be a “bell-shaped” normal distribution if discrete transaction would be located at the one extreme (market), highly centralized and hierarchical transactions on the other, and hybrid transactions (franchising, joint ventures, and other forms of nonstandard contracting) in between.

A major critic to TCT is its tautological nature. Eccles (1987) claimed that Williamson failed to operationalize the measurements of transaction costs and there is a tautological flavor in his arguments. Eccles (1987: 604) argued that “ex-post arguments can usually be found that any given structure economized on transaction costs by simply defining these costs in a necessary way. When this can not be done, the argument can be made that the existing structure is a ‘mistake’ and will eventually be replaced by one that does economize on these costs”. The simple comparison of transaction costs under different governance structure is meaningless because the governance structure used to manage a transaction changes the nature of a transaction (Dow, 1987). Jones (1998) also noted that transaction costs appear on both the left and the right hand sides of the causality equation, which is one of the typical attributes of tautologies. Although Williamson distinguished ex ante costs (such as negotiation costs) from ex post costs (such as costs associated with contractual failures), it is hard to find any costs that are not transaction costs. Methodologically, case studies have been the prevalent means of assessing TCT because the main variables of interest to TCT researchers, specifically asset specificity, uncertainty, frequency - are difficult to measure consistently across firms and industries (Klein & Shelanski, 1994).

Finally, TCT is criticized for failing to explain the alternative forms of organization and a lot of other organizational phenomena. However, TCT does not claim itself as panacea for everything; it only attempts to explain a portion of the organizational phenomena: why and under what conditions transactions are organized in certain ways (Coase, 1937; Williamson, 1979). At best, TCT deals with relative efficiency question. Therefore, while

deserving a prominent place among the theories in organization, TCT can and should not be used exclusively to explain organization phenomena.

BIBLIOMETRIC STUDY IN THE LEADING MANAGEMENT JOURNALS

Method

The method used in this paper follows the one described by Ramos-Rodriguez and Ruiz Navarro (2004) in their research of intellectual structure change examining papers published in the Strategic Management Journal. This is a bibliometric study that aims at examining published articles and tries to identify patterns and trends using citation and co-citation analyses (White & Griffith, 1981; White & McCain, 1998).

The citations analysis may use various types of documents (such as books, articles, reports etc) that we use and refer to when writing an academic research. The use of references means that some prior work is important for our own work. Hence, it is reasonable to suggest that articles that get more often cited are more influential for the discipline and the knowledge developed (Tahai & Meyer, 1999).

The co-citation analysis examines possible groups or pairs of articles that are simultaneously cited in an article. So, articles that are cited together in another article, will probably have some common content or are based in common theory. Through this process we may identify groups of authors and themes, or theories, and how they may be related (see, White & Griffith, 1981; McCain, 1990; White & McCain, 1998).

Procedure and sample

The bibliometric study was performed in six academic leading journals top ranked in the most important rankings in the area of management (Wingers & Harzing, 2007): Academy of Management Journal (AMJ), Administrative Science Quarterly (ASQ), Academy of Management Journal (AMJ), Management Science (MS), Organization Science (OS) and Strategic Management Journal (SMJ). These journal articles are available for download in the usual online databases subscribed by the universities.

The sample used in this paper considers all articles found using the following keywords: Transactions Cost Theory, TCT, Transactions Cost

Economics and TCE. These keywords were searched using the option 'topic' that includes the title of the articles, the abstracts, the keywords provided by the authors and the keywords created (KeyWords Plus). We analyzed 16,179 articles published in the entire available online database of the selected journals (see Table 1). We identified 217 TCT-related articles for the citation and co-citation study. We retrieved all important bibliometric information from the articles, namely: journal, title, authors, vol. issue, year, abstract and all the references used in each of the 217 articles.

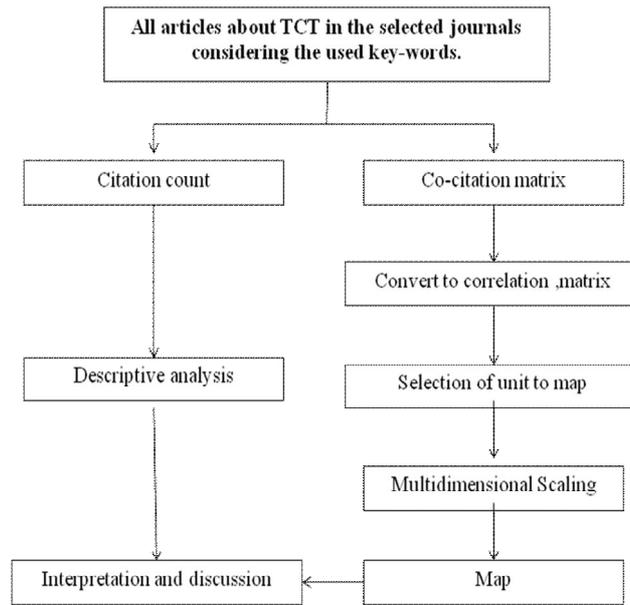
Table 1. TCT articles in the journals selected

| Journal | Period | Total of articles | TCT articles | % in the journal | % of TCT |
|----------------------------------|--------|-------------------|--------------|------------------|----------|
| Academy of Management Review | 86/09 | 1,968 | 32 | 1.63 | 14.75 |
| Administrative Science Quarterly | 72/07 | 3,338 | 12 | 0.36 | 5.53 |
| Academy of Management Journal | 93/09 | 2,820 | 23 | 0.82 | 10.60 |
| Management Science | 91/08 | 5,432 | 26 | 0.48 | 11.98 |
| Organization Science | 92/09 | 869 | 42 | 4.83 | 19.35 |
| Strategic Management Journal | 88/09 | 1,752 | 82 | 4.68 | 37.79 |
| Total | | 16,179 | 217 | 1.34 | 100.00 |

Data was organized with the software Bibexcel¹ which permits us to create the citations descriptive analysis and co-citation matrixes. The matrix was the input for the scaloning multidimensional multivariate analysis (EMD), with Microsoft Excel 2007 and Ucinet 6 software. Figure 1 summarizes the method used, similar to Ramos-Rodriguez & Ruiz-Navarro (2004).

Figure 1. Citation and co-citation method

¹ Available at <http://www.umu.se/inforsk/Bibexcel>



Source: Adapted from Ramos-Rodriguez & Ruiz-Navarro (2004).

RESULTS

Table 2 shows the top 20 most cited articles related to the TCT. These articles were used to build the map presented in Figure 2, that shows the co-citation relationship.

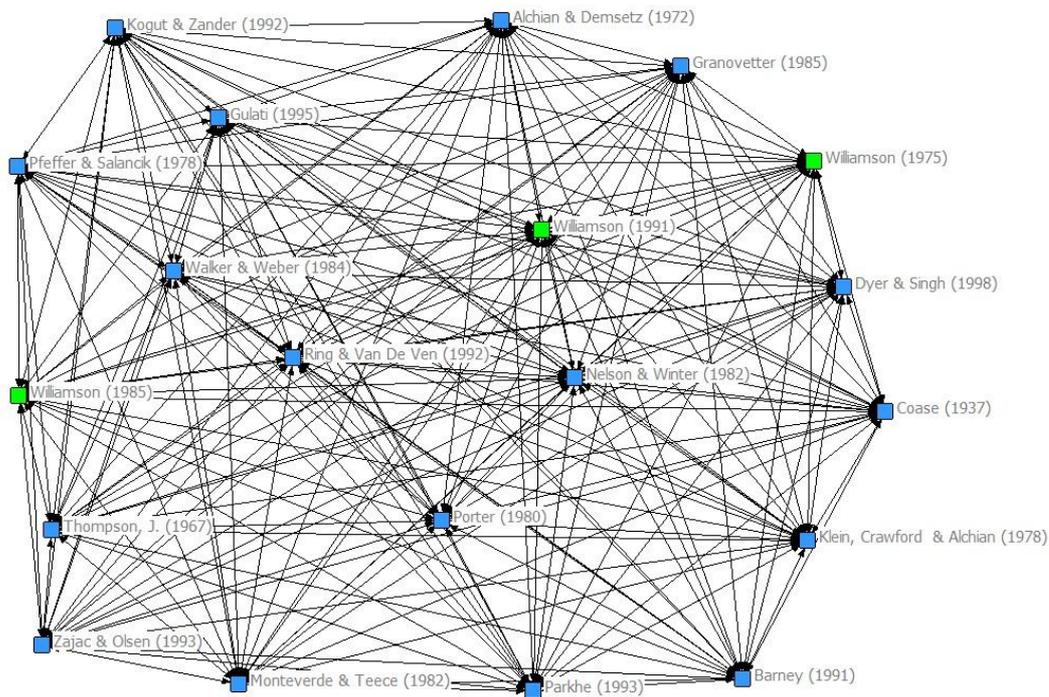
Table 2. Top 20 most cited articles

| # citations | References | % citation in 217 articles |
|-------------|---|----------------------------|
| 150 | Williamson, O. 1985. The economic institutions of capitalism: Firms, markets, relational contracting . New York: Free Press. | 69.12 |
| 108 | Williamson, O. 1975. Markets and hierarchies, analysis and antitrust implications: A study in the economics of internal organization . New York: Free Press. | 49.77 |
| 77 | Williamson, O. 1991. Comparative economic organization: The analysis of discrete structural alternatives. Administrative Science Quarterly , 36: 269-296 | 35.48 |
| 60 | Granovetter, M. 1985. Economic action and social structure: The problem of embeddedness. American Journal of Sociology , 3: 481-510. | 27.65 |
| 58 | Klein, B., Crawford, R. & Alchian, A. 1978. Vertical integration, appropriable rents, and the competitive contracting process. Journal of Law and | 26.73 |

| | | |
|----|---|-------|
| | Economics , 21: 297-326. | |
| 54 | Gulati, R. (1995). Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. Academy of Management Journal , 38 (1): 85–112. | 24.88 |
| 54 | Coase, R. 1937. The nature of the firm. Economica , 4: 386-405. | 24.88 |
| 51 | Nelson, R. & Winter, S. 1982. An evolutionary theory of economic change . Cambridge, MA, Harvard University Press. | 23.50 |
| 47 | Walker, G. & Weber, D. 1984. A transaction cost approach to make versus buy decisions. Administrative Science Quarterly , 29: 373-391. | 21.66 |
| 46 | Barney, J. 1991. Firm Resources and sustained competitive advantage. Journal of Management , 17(1): 99-120. | 21.20 |
| 46 | Zajac, E. & Olsen, C. 1993. From transaction cost to transaction value analysis: Implications for the study of interorganizational strategies. Journal of Management Studies , 30(1): 131-145. | 21.20 |
| 46 | Ring, P. & Van De Ven, A. 1992. Structuring cooperative relationships between organizations. Strategic Management Journal , 13: 483-98. | 21.20 |
| 46 | Pfeffer, J. & Salancik, G. 1978. The external control of organizations: A resource dependence perspective . New York, NY, Harper and Row. | 21.20 |
| 43 | Thompson, J. 1967. Organizations in action . McGraw-Hill: New York. | 19.82 |
| 42 | Parkhe, A. 1993. Strategic alliance structuring: A game theoretic and transaction cost examination of interfirm cooperation. Academy of Management Journal , 36(4): 794-829. | 19.35 |
| 40 | Dyer, J. & Singh, H. 1998. The relational view: Cooperative strategy and sources of interorganizational competitive advantage. Academy of Management Review , 23(4): 660-679. | 18.43 |
| 40 | Kogut, B. & Zander, U. 1992. Knowledge of the firm, combinative capabilities, and the replication of technology. Organization Science , 3: 383-397. | 18.43 |
| 39 | Monteverde, K. & Teece, D. 1982. Supplier switching costs and vertical integration in the automobile industry. Bell Journal of Economics , 13: 206-213. | 17.97 |
| 38 | Alchian, A. & Demsetz, H. 1972. Production, information costs, and economic organization. American Economic Review , 62: 777-795. | 17.51 |
| 38 | Porter, M. 1980. Competitive strategy: Techniques for analyzing industries and | 17.51 |

The co-citation map is shown in figure 2 where the lines connecting authors reflect the co-citations. This graphical analysis clearly illustrates the structure of intellectual union between authors. It is apparent that three of Oliver Williamson's works - Williamson, 1975, 1981 and 1985 - are far more cited than other.

Figure 2. Co-citation map of the 20 most cited articles



DISCUSSION AND CONCLUDING REMARKS

In this paper we sought to review the transaction costs theory albeit parsimoniously, since a thorough review may be found elsewhere, and examine links between authors and theories. This endeavor was carried out examining the papers published in top management journals and using citation and co-citation analysis. In this manner we complement existing research, both theoretical and empirical as well as other works that aim at assessing for instance how the extant research on transactions costs has been empirical (Macher & Richman, 2008).

According to the transaction costs theory, the transaction costs emerge because there are limits to human cognition. In sum, although we

expect people to behave rationally we need to incorporate a bounded rationally constraint in that expectation due namely to the difficulties in gathering and processing information that hinder on how individuals actually behave. The extant research has agreed on three main sources of transaction costs. The limited capacity of individuals to plan for the future given the complexity and pace of change of the environment and lack of knowledge. Uncertainty and incomplete contracts. Moreover, one needs to attend to the difficulties in enforcing the contracts. As such, the parties to a transaction are exposed to opportunistic behaviors. To protect, or prevent, those behaviors, firms seek the best institutional arrangement to minimize the costs involved in a transaction. The outcome is that firms will seek to select from the organizational menu, the organizational form that is best suited to a specific transaction. In some instances, firms will prefer to carry out the transactions internally and in other instances they will prefer to rely on the markets. It is important to note that the higher the asset specific investments required, the more important it will be for firms to control and coordinate the transaction and the higher the a priori tendency to govern that transaction. To conclude, transaction costs theory as been often applied to studies on the boundaries of the firm discussing the rationale for deciding on such an essential matter as to make or to buy.

Figure 2 and Table 2 may indicate some predominant discussions around or involving the TCT. Observing the set of papers in table 2 we identify papers on such disparate issues as strategic alliances and networks (Ring & Van De Ven, 1992; Parkhe, 1993; Gulati, 1995; Dyer & Singh, 1998), and social networks (Granovetter, 1985), transaction costs theory per se (Coase, 1937; Walker & Weber, 1984; Williamson, 1975, 1985, 1991), resource based view (Barney, 1991), industrial organization (Porter, 1980), organization theory broadly captured (Thompson, 1967; Pfeffer & Salancik, 1978; Nelson & Winter, 1982; Granovetter, 1985) and so forth. It is clear nonetheless, that at least some of the most cited papers are seminal papers on the TCT, such as Williamson's (1975, 1985, 1991), Coase's (1937) and Alchian, A. & Demsetz (1972),

The most cited works are Williamson's (1975) paper on 'Markets and hierarchies, analysis and antitrust implications' and his 1985 book on 'The

economic institutions of capitalism'. Williamson's (1991) presents the effects of uncertainty on the organization of production. The work of Klein, Crawford and Alchian (1978) is also considered a seminal work on TCT, looking at the possibility of post-contractual opportunistic behavior as a cost of using the market system. Coase (1937) is often cited as the basis for the TCT, as well as Alchian & Demsetz's (1972) paper on the economic organizations. It is important to note that some of these papers may be cited not only for signaling purposes but also for their critic to the theory itself. In some instances, the critic is based on the need to consider dynamic aspects as a possibility to reduce transaction costs (Teece, 1990). That is perhaps the insight in Kogut & Zander (1992). Nonetheless, it is worth pointing out that scientific knowledge evolves normally (Khun, 1970) and theoretical progress needs to build on previous work, often contrasting, criticizing or complementing received knowledge.

As a contribution to Williamson (1985), Parkhe (1993) added that asset specificity makes exchange partners more committed to the relationships since the related idiosyncratic investments are likely to lose their value upon transfer. The TCT is a core theory in all discussions and theorizing on the boundaries of firms and governance arrangements. As such it will show up in papers dealing with corporate strategy such as vertical integration decisions, horizontal and vertical diversification, acquisitions, and an array of hybrid governance forms that may be suggested, such as network forms. The TCT is further employed in studies on the strategic decisions involving the dichotomy make or buy (later extended to make, buy or ally) and considering production costs, as proposed by Walker & Weber (1984). Indeed, the make or buy decisions are a central concern for instance in the Resource Based View (Barney, 1991) either explicitly or implicitly as firms need to know which resources held are truly strategic and which they need to develop to better compete in the future. That may entail, for example, decisions on the degree of vertical integration or the extent of firm participation in the value chain (Ferreira & Serra, 2010; Monteverde & Teece, 1982).

A well cited article is Granovetter (1985) where he puts forward the concept of embeddedness based on the idea that the relations between

individuals are embedded in social networks and can hardly be thought of in an abstract, impersonal market. Granovetter's criticisms to the TCT were thus founded in the need to include social and cultural factors when examining organization level phenomena. Specifically one may concur that social relations between individuals (or firms) may act to, for instance, reduce transactions costs (Granovetter, 1985). In a complementary view Zajac & Olsen (1993) argue that it is important to go beyond an analysis of costs, in particular concerns over cost minimization, and truly evaluate the value creation of the transactions.

We observe the co-citation of TCT related works with research on networks, alliances and other hybrid forms of governance. Gulati's (1995) research on strategic alliances criticizes TCT for erroneously treating each transaction independently in inter-firm alliances and for ignoring that by engaging in repeated alliances with the same partners, inter-firms trust may emerge diminishing potential opportunistic behaviors and transaction costs. The work of Ring & Van De Ven (1992) on structuring collaborative relationships and Parkhe's (1993) on collaborative strategies proceed in a similar vein, highlighting the benefits of stable, trustworthy relationships as transaction cost minimizers. Dyer & Singh (1998) discuss buyer-supplier relationships considering networks and alliances and resorting to arguments based on different theoretical streams such as the resource-based view, industrial organizational and transaction costs. Albeit in the realms of organization theory, Thompson's (1967) seminal work on coordination mechanisms and interdependence of organizations has straightforward value for this discussion.

Much of the research offers conflicting and complementing arguments, resorting to different theories in explaining organizational phenomena. The Resource-based view of the firm, encompasses the work of several scholars, such as Barney (1991), who has focused on the relative merits of opportunism versus knowledge coordination as the appropriate theoretical basis for a theory of the firm (see also Conner & Prahalad, 1996). It seems reasonable to restate Madhok's (2002) suggestion that TCT scholars have focused mainly on the role of efficient governance in explaining firms as institutions for organizing economic activity. Conversely, the researchers

taking a RBV have tended to emphasize the role of competitive advantage (although Coase 1937 anticipated many of the critical issues that RBV scholars are concerned with today, including the central question of performance differences among firms) and how firms may accumulate capabilities and learn (Nelson & Winter, 1982). While TCT has undoubtedly made important contributions to strategic management theory, particularly in the realm of economic organization, it is nevertheless only a partial solution since it provides, at best, a tenuous link with competitive advantage, arguably the key concern for strategy. According to Madhok (2002) the theory of the firm (TCT) and the theory of performance differences between firms (RBV) should be treated as complementary.

The TCT is further cited along research on the Resource Dependency theory (Pfeffer & Salancik, 1978). The contrast is evident in that the latter asserts that organizations are dependent on the external environment for vital resources and that the main goals of the firms are to obtain valuable resources that are needed to achieve performance goals. The Resource Dependency theory focuses on inter-organization relationships and the unit of analysis is a single organization. In contrast, the TCT treats the transaction as the basic unit and governance structures are selected for given transactions. On the other hand, TCT scholars argued that Resource Dependency theory unduly ignored transaction costs and efficiency concerns (Williamson & Ouchi, 1981).

Porter's (1980) work is usually used together with TCT in comparing the relative merits of different theories. While we may position Porter in the industrial organization group, where the focus is largely on the external environment, be it the industry or the nation (as in his 1990 work on the competitive advantage of nations), the contrast to the focus on the transactions that is postulated by the TCT is clear. In any instance, there is not an evident path linking both streams of research beyond the usual contrasting arguments that characterizes the scholarly debate.

Our presentation on the TCT and the links to other scholars and works is useful in envisioning the current state of the art in the discipline and in understanding how theories and concepts are intertwined in either contrasting or complementary arguments. It would, nonetheless, be

interesting to delve deeper into the frequency of such co-citations to understand better how the TCT is integrated with other organizational theories.

The conflicting assumptions or/and arguments between theories may lead to a more constructive understanding of what is also a social phenomena: firms and individuals interact when they meet in the market. It seems that the TCT's assumptions need to be further refined as suggested by Jones (1998) and Ghoshal and Moran (1996) for clearer empirical tests to be performed. Perhaps a possible avenue for additional research is examining the value optimization rather than simply transaction cost minimization in inter-firm exchanges. Furthermore, several scholars (e.g., Jones, 1998; Gulati, 1995, and others) presented the concept of inter-firm trust that warrants additional research. Lastly, more empirical studies are expected utilizing all relevant methodologies (Klein & Shelanski, 1994), on the basis of further clarification on TCT constructs (Williamson, 1994).

To conclude, it is undeniable the merit of the TCT for examining firms' choices, namely those regarding where to set the boundaries of the firms. Or, as some scholars put it, choices regarding what they do and what they do not. But TCT is "not a flawed transplant from economics but a valuable addition and refinement to organizational theory that has taken the analysis of organizational issues and the theory of the firm to a new level of sophistication" (Jones, 1998: 5). We observed that the influence of TCT is enormous in the management disciplines and albeit we see that other concepts and views are emerging – such as the resource-, knowledge-, capabilities-based view - the TCT will likely maintain its influence in the discipline.

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