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## **A TRANSACTION COST APPROACH TO STRATEGIC ALLIANCES IN TELECOMMUNICATIONS**

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Abstract

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An emerging form of international business organization is the strategic alliance, a species of joint-venture in which an innovator of technology contracts with another firm for the joint exploitation of technology and other assets across a number of national territories. This work will examine international alliances, applying insights from both the transaction cost and foreign investment theories to the telecommunications service industry and asking whether these cooperation agreements are economically efficient or they restrict competition between companies formerly operating in a domestic regulated environment. In this context, alliances have played an increasing role in the development of firms' strategies arising as a rational economic solution to market imperfections caused by high ownership costs (or ownership constraints) and information asymmetry. Thus, most of these alternative institutional forms can be assigned characteristics, which are intermediate between those of the market and the hierarchy and can be viewed as vertical or horizontal integration of economic activities, while ownership remains separate, and preserve the flexibility and economic rents these specific arrangements generate.

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**Key Words:** Telecommunications, Strategic Alliances, Alternative Institutional Contracting Forms

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## 1. Introduction.

A new, information intensive, economic system is currently at work and it is characterized by an increasing level of demand variety. As a particular case of information technologies, telecommunications play a driving role in the new system: They condition the viability of other firms and organizations; they generate a series of incremental and major innovations in the technical and organizational, as well as, the managerial fields, and those changes pervade all other industries (Llerena and Wolff, 1994).

The telecommunications' operators have thus experienced, in the last few years, a radical change in, both, the technological and regulatory framework they were operating. This change is restructuring market shares inside national boundaries and modifying the traditional rules of competition.

In the origins of this situation we can identify, at least, three main factors:

-Technological changes, which imply an important cost reduction in the industrial production of goods (suppliers) and services (operators).

-Increased variety of demand, in services and customers. Manufacturers and network carriers have to face a micromarket phenomenon in an increased global customer base. They must provide a wide range of customized services to multinationals companies.

-Changes in the regulatory framework of the telecommunication sector. First in the U.S.A., and later on in Europe and Japan, market openings and privatizations have altered traditional competition' rules.

Consequently, telecommunications is a strategic sector that suffers a "tough, exacerbated technological competition, which leads to a dramatic acceleration of technical change and rising costs and risks of R&D. Moreover, the internationalization pressures due to deregulation worsen the environmental uncertainty of the service industry" (Llerena and Wolff 1994, p. 263).

The very nature of the telecommunications service industry and the deregulation of many foreign markets has created a bond of cooperation between operators in different countries and fostered the creation of an international network of inter-firm agreements. In this context, global alliances have played an increasing role in the development of firms' strategies and currently are hailed as an effective growth strategy in an era of international markets and multinational corporations.

These contract-based alliances can be distinguished from entity joint-ventures, as they do not involve the establishment and joint ownership of a legally separated firm which exploits the shared technology (Atik, 1993). Although most of the literature focuses on the descriptions and analysis of the different strategic alliances, with little or no analytical framework, several authors have attempted to explain inter-firm agreements from an institutional point of view, either as an organizational hybrid (Hennart, 1988) or a third institutional form (e.g., Atik, 1993, Larsson, 1993) distinct from market and hierarchy that will reduce transaction-costs. Llerena and Wolff (1994), on the other hand, argue that telecommunications' agreements do not minimize transaction costs, as they fail to take in account some dynamic aspects such as flexibility and, at the same time, Garcia Canal (1994) praises joint-ventures as a more stable superior structure than alliances.

In this paper will examine international technology alliances, applying insights from, both, the transaction cost and foreign investment theories, to the telecommunications service industry. The study of economic organizations is approached from a comparative institutional point of view and we argue that alliances are not at all a blended case, but a distinct type of institutional arrangement. As a consequence, it is possible in the organizational continuum proposed by Williamson, to construct and use a third (hybrid) institutional form, congruent with the transaction cost theory while preserving the economic rents these specific arrangements generate.

We will also explore the choice-of-form decisional path with respect to international strategic alliances in telecommunications and asking why this form of joint ownership was preferred to the alternatives of market contracting and internalization and what are the consequences, in terms of market competition, of these kind of international agreements.

Within an alliance the prospect of the realization of significant economic rents is linked to the maintenance of a broad area of cooperation and coordination. International strategic alliances, however, may also constitute explicit strategies for different national markets, including the suppression, in whole or in part, of competition between the firms in some specific markets.

We have, therefore, to consider whether these cooperation agreements are economically efficient or they restrict competition between companies formerly operating in a domestic regulated environment. The possibility that the alliance may be trying to eliminate the competence in a given market, as well as, to artificially reduce the level of technological development on it, can not be ruled out. However, this requires a further analysis of the actual and future market structure, real and potential competitors and scope of existent agreements in the different markets.

## **2. Technology Alliances and the Transaction Cost Theory.**

Interfirm cooperative agreements are broadly defined as explicit interactions between two or more firms, such as the autonomy and identity of the parties are, at least, partly preserved. They thus differ from mergers, acquisitions and other integration operations, but they represent, nevertheless, a way of achieving external growth, based on the development of a new product or process technology and or the commercialization on a new market (Llerena and Wolff 1994, p. 258).

Although interfirm agreements can take a wide variety of institutional forms, as joint-ventures, consortia or other kind of contrats, an emerging form of international business organization is the technology alliance, "a species of joint-venture in which an innovator of technology contracts with another firm for the joint exploitation of technology and other assets across a number of national territories" (Atik 1993, p. 257). A single innovator frequently establishes multiple technology alliances that, often provide for further technological development and distribution. The usual characteristics of the alliance are one in which the main innovator provides the core technology while the second firm provides distribution channels, product line niches, capital or enhancement of reputation.

"Technology alliances, unlike traditional joint-ventures, do not rely on the stablishment of a separate legal entity to resolve latent questions of governance. The participants must engineer contractual structures which can resolve operational and strategic control disputes and which place limitations on unilateral discretion as part of the overall organizational design" (Atik 1993, p. 276). In other words, they are a kind of contract joint-venture and thus can be distinguished from ordinary joint-ventures in which two firms contribute resources to a newly established, commonly-owned legal entity.

Strategic alliances constitute, therefore, a formal, continuing and strategically important relationship between two participating firms that transcend normal third party contracting and as used in this paper, is characterized by the following features:

- An innovating firm, which has developed and continuous to "own" (at least in the legal sense) the core technology.

- A facilitating firm, which provides a mix of capital, inputs and services (typically including distribution services), to be used to develop and exploit the core technology in the foreign territory.

- A contractual structure, by which the two firms coordinate their respective contributions and through which they distribute the economic fruits of their collaboration. This structure includes a) the licensing of the technology and/or b) explicit allocation of particular national markets.

Strategic alliances have certain market-like features, in that the two participating firms continue to conduct discrete exchanges with each other maintaining formally independent roles. On the other hand, certain organization-like features are introduced as well. Contractual limits are placed on the terms of the exchange (1) and overall limitations are set to govern activity with potentially rival firms. Within their areas of respective unilateral authority, the firms use their existing internal hierarchies to coordinate (2).

In our paper we approach the study of the economic organization of international alliances from a comparative institutional point of view, in which transaction cost economizing is the key feature of the strategic trading form. The transaction-cost theory, as formulated by Williamson (1975, 1979, 1985, 1991), begins with the axiom that man is characterized by bounded rationality and opportunism. The theory attempts to answer the question of what institutional form provides the most efficient exchange under those conditions. To this end, transactions (i.e. exchanges between two parties) are analyzed with respect to three dimensions: bounded rationality, opportunism and asset specificity.

While both bounded rationality and opportunism present difficulties, they not necessarily lead to market failures. The key dimension, in this context, is asset specificity, as this refers to "the dependence created through transaction-specific investments. It expresses the amount of value involved in the exchange as such. This value arises from the parties having made investments in the exchange, and from the cost that would be incurred through ending the relation and choosing another exchange party. The second dimension is uncertainty, inherent in situations in which bounded rationality makes humans incapable of predicting the future. The third dimension is frequency, referring to how often the transaction occurs" (Collin and Larsson, p.4).

Transaction cost theory deals with the question of economic organization by focusing on the transaction as the unit of analysis: "A transaction occurs when a good or service is transferred across a technologically separable interface. One stage of activity terminates and another begins" (Williamson 1985, p.1). The theory postulates that particular forms of economic organization will result from the attempt to reduce transaction costs and refers to these forms of economic organization as governance structures.

The core of the theory predicts, then, that the market governs those transactions that are characterized by a low level of transaction-specific investments. On the other end of the continuum ranging from low to high is the hierarchy.

In part this explanatory failure results from misconceptions about the different forms of alliances and the polar question between internalization of transactions and market contracting. Strategic alliances, as we have seen, include co-operation agreements of a

very different kind, some of them with joint-venture characteristics, while other adopt different contractual forms that can be seen under some circumstances, as a rational response to transaction costs, information asymmetry, moral hazard-agency problems and other market imperfections. Therefore, some contractual forms may be a perfectly rational response: a second-best option in a second-best world economy.

Hennart (1992), for instance, argues that firms utilize equity joint-ventures, a form of organizational hybrid, when two conditions are met. First, there must be the possibility of reciprocal market failure, that is, the markets for goods provided by each participating firm are subject to failure. This makes market exchange a less viable means of organizing transactions. Second, the acquisition of the right to use an asset is more efficient than is the acquisition of the asset itself (3). While Hennart does not address the role of international strategic alliances in his work, the two essential conditions he identifies are likely to be present.

However, as the different kind of contract cannot become a catalogue of imperfect competition solutions in the international investing and trading systems, the aim of this paper is to approach the economic organization of strategic alliances from a comparative institutional point of view, to show that it is possible to construct and use a third (hybrid) institutional form that is congruent with the transaction cost theory, while conserving economic rents these specific arrangements generate. It is explored, somehow inductively, the choice-of-form decisional path with respect to international trade by examining the alternative contracting forms and asking why alliances were preferred to market-contracting or internalization.

Under these circumstances, transactions should be organized so as to economize on bounded rationality while safeguarding them against the hazards of opportunism. This is in striking contrast to the imperative of profit maximization derived from classical economic theory. Transaction cost analysis therefore "supplants the usual preoccupation with technology and steady-state production (or distribution) expenses with an examination of the comparative costs of planning, adapting and monitoring task completion under alternative governance structures" (Williamson, 1985).

This line of argument suggests that some contract forms will be used in situations where transaction costs would otherwise prevent international trade from taking place. There are two main circumstances in which transaction' costs are likely to be high:

- When there is significant information asymmetry between the parties.
- When the market is narrow because of scale economies, transportation costs ~~out~~ need to make transaction-specific investments.

Some alliance forms, can then be seen instead as devices to reduce the high transaction costs that affect, among several other, three types of international transactions: the purchase of poorly protected technology, the sale of intermediate services in small numbers conditions and the purchase of marketing services when the distributor needs to make up-front transaction-specific investments (Atik, 1993).

A firm motivated by a desire to integrate horizontally or vertically or to benefit from firm specific advantages would want to apply its capital and technology in the production of services abroad. However, due to high proprietary costs and political constraints, it may be prevented from assuming ownership. In this situation, the imperfections in the markets for capital and technology are not overcome by internalization, resulting in a divergence of economic interest of the user and supplier of capital and technology. This problem is aggravated by the information asymmetry between the user and the supplier and by the absence of future commodity markets in many countries and goods and services.

Strategic alliances can also be seen as a device to reduce the costs of arranging for the international marketing of products and services. There are two ways by which manufacturing and overseas distributions can be integrated. Manufacturers in the home market can establish sales subsidiaries overseas. Alternatively, firms with developed distribution systems in the home market can establish production service facilities in foreign countries.

Assume, however, that the home country restricts incoming foreign direct investment and is either unable or unwilling to set up marketing networks. Co-operation agreements can serve as the next best way to market effectively. By telling investors that they will only allow access to the market if the supplier forms an alliance, can force them to marketing investments they would, otherwise, not undertake. The partner forced to make the investments is expected to make a greater commitment to market the goods because failure to do so would jeopardize future sales.

### **3. International Alliances as a Strategic Choice.**

Since the time of Williamson's (1975) original formulation (4), many criticisms have been leveled at the transaction-cost approach. The recognition that markets and hierarchies by no means constitute a mutually exhaustive set of institutional forms for governing transactions has generated "numerous attempts to develop alternative contracting forms" (Collin and Larsson, 1993, p.5). Williamson (1991) himself, introduced the hybrid as an intermediate form between the market and the hierarchy which involve, regulation, franchising, and various forms of long-term contracting, including strategic alliances.



Internalization and market-contracting are poles on the organizational continuum proposed by transaction-cost theory (Williamson, 1991), but other organizational hybrids have been thought of as middle-points on this continuum (Hennart, 1992) or as a third institutional form, with intermediate characteristics between the market and the hierarchy (Larsson, 1993).

Transaction-cost theory have been, since then, applied to many different business areas and appears, in this context, particularly relevant to the study of the role of international strategic alliances, since producers are likely to be quite concerned about the extent of the difficulties and costs involved in selecting, negotiating, managing, and controlling intermediaries for servicing foreign markets that may be distant and complex (high uncertainty) and that require specialized knowledge and investments (high asset specificity).

Although, many hypothetical forms of organization, "never arise or quickly die out, because they combine inconsistent features" (Williamson, 1991, p.271), we argue that strategic alliances are neither not novel, not at all a blended case, but a distinct type of institutional arrangement. If so, following Williamson's prescription that organizational forms are determined by a comparison of alternative institutional arrangements, the organizational form decision for coordinating international strategies involves comparing from among at least three forms:

- (i) Market-contracting, (ii) Alliances and (iii) Hierarchy.

According to Larsson (1993, p.99) market coordination involves primarily the costs of bringing the products and services to and from the market. Under conditions of hierarchical coordination, in contrast, such marketing and purchasing costs would be reduced to mere transportation costs, although there would be administrative costs in addition to the internalization costs typically neglected in transaction-cost analysis. In the case of strategic alliances, however, the primary costs are related to the process of negotiation, as well as those of achieving an agreement on a joint structure.

**[Here Table 1]**

As developed above, each viable form of governance -market, alliance, hierarchy- is defined by a series of attributes that bear supporting relation. The basic efficiency postulate remains unchanged: the governance structure that finally emerges is the one that minimizes the transaction costs. Telecommunications agreements, according with Llerena and Wolff (1994) generally are in the form of long-term incomplete contracts that take

place in a highly turbulent, unpredictable environment, where the object of the agreement is itself often highly uncertain and legal protection is inappropriate. Transaction costs under those circumstances are likely to be high.

Strategic alliances may be, nevertheless, a superior trade structure to exploit special situations where (i) the prospect of market failure makes spot contracting unreliable (ii) access to the technology can be viably shared without general diffusion but (iii) where enhanced attention must be paid to preserving economic rents. Under these circumstances alliances and other contractual agreements can be seen as attempts to reduce transaction costs by providing what amounts to a bond or hostage (Atik, 1993).

Strategic agreements arise, therefore, as a rational economic solution to market imperfections caused by high ownership costs (or ownership constraints) and information asymmetry. Thus, most of these alternative institutional forms can be assigned characteristics, which are intermediate between those of the market and the hierarchy. Strategic Alliances, for instance, involves a class of international transaction that can be viewed as vertical or horizontal integration of economic activities, while ownership remains separate.

Strategic Alliances represent, nevertheless, only one of the options available to the investor for market entry or the maintenance of market shares, along with other alternatives such as licensing, plant delivery, co-production, subcontracting, joint-venture; joint tendering and tripartite deals (China is a clear example: lately strategic agreements have been declining with the enactment of joint-venture regulations). Some alliances can, then, be seen as a hybrid of joint venture, franchising, vertical integration and foreign direct investment under political and ownership constraints.

The organizational determination to establish a strategic alliance can be more usefully thought of as a set of sub-decisions, including (i) the decision of where to locate various stages of production, (ii) the decision of where to locate the boundary between the firm and the exterior and (iii) whether the organizational boundary should be hard (market-contracting) or soft (internalization). In strategic alliances in the Telecommunications sector, for a host of environmental and institutional reasons, these organizational boundaries often correspond to national market frontiers.

The decision of where to locate specific production phases is dictated by locational advantage. Advantage which may be viewed in terms of returns on productive assets; those assets, be they plant, labor, or distribution channels, which are located in economies characterized by comparative advantage, are more favorably priced.

Complex production may involve distributing production phases over different national territories (that is, by using productive assets located in different national territories). This decision corresponds to identifying which national economy has comparative advantage for a particular production phase; alternatively this may be thought of as commanding (through "transactions") the optional set of immobile productive assets. Multinational companies may be particularly adept at identifying which national economy has comparative advantage for a particular stage of production.

Given that the optional organizational structure frequently requires a transnational distribution of production, the analysis then proceeds to the internalization/market decision. According to Williamson, this involves a comparative analysis of institutional forms, with internalization favored where market transaction costs are relatively high (or equivalent, where markets fail). Similarly, internalization (in the form of foreign direct investment, given a transnational distribution of production) is preferred where firms possess firm-specific advantages which they prefer not to alienate and alliances is used when these advantages are shared (mixed).

The organizational decision, however, is more complex than deciding whether a firm purchases a productive asset (internalization) or its output (market). We describe this more complex decision as an "access decision", in which internalization is only one of a larger set of possibilities. A firm must obtain access to all necessary assets; "transactions" are the exchanges by which such access is obtained (5). The access decision includes whether (i) recourse the asset is on a spot (cash/credit) or continuous (contracting) basis, and (ii) further whether such access is to be exclusive or shared. Consider the following matrix:

[Here Table 2]

The framework, then, considers two dimensions by which access to the markets is obtained. The first dimension expresses whether access to an input/output is on a spot or on a continuous basis; this line of analysis is consistent with transaction cost theory. The second dimension captures whether access to the goods may be shared without destroying economic rents. Note that the spot/continuous access decision follows Williamson's "fundamental transformation" where markets function well spot access is adequate; where markets fail continuous use is preferred in order to reduce opportunism.

The strategic choice of form decision to enter an international transaction is more complex than the usually proposed firm versus market decision. Again, continuous access to an asset will be sought where Williamsonian opportunism is likely: ownership of a productive asset (internalization) necessarily provides continuous access.

However, there is another important dimension to consider: whether the access to the traded asset is exclusive or may be shared. If the Spot versus Continuous access decision reflects a minimization of transaction costs, the Shared/Exclusive access decision is driven by the desire to preserve imperfect competition. Thus, the matrix is perhaps more "eclectic" than are more purely transaction cost explanations.

A strategic alliance may be explained, therefore, as a stable strategy, a superior structure to exploit special assets in cases where (i) the type of service provided or the prospect of a market failure makes spot-contracting unreliable (ii) access to the service can be viably shared without general diffusion but (iii) where enhanced attention must be paid to preserve economic rents. Under the conditions outlined above, strategic alliances it seems, can be transaction cost minimizing, while conserving economic rents these specific arrangements generate.

A firm demands exclusive access to those assets which generate competitive advantages; proprietary technologies are the prime examples of such assets. Other, non-strategic assets may be profitably shared without dissipating rents. Certain goods and services are, however, best exploited through joint access where a limited number of firms share the use of them, but jointly withhold use from all other market participants.

A long-term contract thus sits on the same pole with ownership as providing continuous access to an asset, as both ownership and long-term contracts suppress the need to bargain over a greater period of time.

Strategic alliances are, therefore, peculiar organizational arrangements. They result where (1) access to an asset is to be continuous, (2) shared access is more efficient than exclusive access, yet (3) contract agreements are preferred to the market mechanism.

On the other hand, other contract forms, for instance, arise because what appears to be a shared use is in fact a spot transaction with simultaneous exclusive access to the assets by the companies involved. Those arrangements can also be used to equalize the exposure of the parties (Williamson, 1985 p.191).

We do not claim, nevertheless, to present a general theory of strategic alliances, As Collin and Larsson (1993, p. 7) have pointed out "still is uncertain whether the numerous labels and conceptualizations aim at capturing substantially different phenomena or are merely the result of research fragmentation in attempts to develop a tripolar framework".

#### **4. Co-operation and competition in Telecommunications.**

The deregulation process is still underway in many countries in Europe and elsewhere, but there is not yet an alternative model of competence to substitute it. The technological and regulatory framework in which telecommunications' companies operate is in permanent change and there is no clear reference, for regulators and suppliers, about how the future marketplace will look like. Under those circumstances telecommunications' operators are choosing the more flexible organizational forms, as strategic alliances, to enter or compete in the different markets, instead of commit financial and technical resources in new ventures.

All organizational decisions are provisional; they are subject to constant review and inevitable reversals. This is particularly so with strategic alliances in telecommunications, which can be more easily dissolved than a unitary organization. In order to sum up, it can be said that agreements between telecommunications firms take place within a very turbulent, complex, unpredictable environment, the components of which are strongly interconnected. The degree of environmental uncertainty is thus very high.

This phenomenon of increasing international alliances in the Telecommunications sector, has been interpreted as the effect of growing research costs, of increasing technological and economic uncertainty and the globalization of economic systems. Thus, a specific innovating firm may serve as a nexus for a complex web of technological alliances (6). In the late 80's, in order to reach competitive levels in R&D and scale's economies in distribution, there was a wave of mergers and joint-venture agreements in the industry between the main telecommunications' equipment producers as ATT-Philips (1986), Alcatel-ITT (1987) or Siemens-GTE (1989), and more recently, Siemens-Italtel (1994).

The kind of strategic alliance we are talking about is related, nevertheless, to telecommunication operators, that is, to the production, supply and distribution of telecommunication's services to companies and individual customers, more complex and stable than the simple agreement to share a limited number of activities or start operations in a new market. It is not, however, even if some shares are changing hands in the meanwhile, a takeover or merger of previously independent companies.

In the case of the telecommunication operators, the reasons for the new wave of strategic alliances are more related to the deregulation of markets, breaking of traditional domestic monopolies and changes in the technological environment, which has open the prospects for international network carriers for increased business opportunities (global service to multinationals, private networks, etc.), services that are out of scope for a single

domestic operator. In many countries of the European Union, 1998 is the deadline for market deregulation, and therefore, many telecommunications' consortia and strategic alliances are now underway, some of them with joint-venture characteristics while others agreements (i.e., Worldpartners) have been mainly thought as a way to preserve minimum quality standards and networking compatibilities between partners.

**[Here Table 3]**

Within an alliance the prospect of the realization of significant business advantages is linked, nevertheless, to the maintenance of a broad area of cooperation and coordination. The European Commission has seen, according with Caballero and Peña (1995), the need of cooperation agreements between independent companies to ensure interconnectability and operational transmission of data of the different networks and services, both necessary for the provision of services in an European and global scale, as well as, optimal prices for consumers.

These cooperation agreements, however, can't jeopardize the minimum level of competition between companies that will ensure a growing variety and quality in telecommunications services at market prices. Therefore, it's necessary according to the Commission of the E.U., to ensure the application of competition' rules in all areas, including the forming of strategic alliances.

International Strategic Alliances may also constitute explicit strategies for different national markets, including the suppression, in whole or in part, of competition between the firms in specific markets. International Alliances, usually, involve the designation of specific national territories for joint exploitation. Implicitly, "all other markets are reserved by the participants (7)" (Atik 1993, p. 310). These excluded markets may be currently serviced by either participant, by one participant and another firm in an alliance, by both firms in active competition, or by neither firm.

The firms may allocate tasks differentially within the various markets developed by the alliance. Typically, each firm would undertake distribution in those markets where it has a strong distributional infrastructure, such as its respective home national market. Thus each participant may be a technology supplier as to some national markets and a distributor to the others. The distribution-relation is frequently reciprocated.

There is a need for new market entrants to quickly build up agreements with domestic companies that will allow them to compete with traditional operators in their own core business. Nevertheless, it's often easier for international operators to enter a new market through market niches recently opened up to competition by technological

innovation. This is the case of data transmission, mobile communications and advances in fiber optics or satellite technologies that requires, nevertheless, a further analysis of the actual and future market structure, real and potential competitors and scope of existent agreements. As an example of the above, we can see some of the european consortia recently build up in mobile communications.

[Here Table 4]

Whatever the roles played by the respective participants, the serving of markets by the alliance is likely to produce greater economic benefits than would the alternative of several firms serving the market in vigorous competition. While an alliance may be viewed as procompetitive in certain circumstances (domestic regulated markets), by introducing a new firm or new services to a market, in another sense it is inevitably anticompetitive in that the two parties in the alliance, whether actual market participants or potential entrants, agree themselves not to compete in that market.

We have to consider, therefore, the possibility that the alliance may be trying to eliminate the competence in a given market, as well as, to artificially reduce the level of technological development on it. The Commission has already pronounced his opinion about the role of strategic alliances in European Union, whether they will be old ones, prior to the present deregulation process, as Infonet, or new ones, as BT-MCI or IPSP. The present movement of deregulation of, previously, protected domestic markets, should be followed by a re-regulation process. This usually includes the opening of the market to a second (or third) domestic operator, which often, takes the form of an strategic alliance or joint-venture business.

[Here Table 5]

One important lesson we can draw from the European Union experience in the deregulation process is that "the existence of just two competitors, in a single market, is no guarantee of real competition" (Caballero and Peña 1995, p.7). The existence for many years, of incumbent companies, with a network that covers most of the national territory and the absence of (regulated) price agreements to access the local network, determines the transition process from a monopolistic situation to effective competition and these companies and their governments are tempted, often, to drive the transition process according to their own timing and needs.

Under some circumstances, international telecommunications operators may think that relying on intermediaries may prove advantageous in the classical sense (production costs) but prohibitive in transaction costs. In Williamson's terms, they might rather than

decide to internalize the function or to open it to market competition, to use some kind of structural agreement as strategic alliances.

In the case of cooperation agreements, however, while one or both firms may not have been present in a particular market before the establishment of the alliance, they are both more likely to remain on it after failure in the alliance, in order to capitalize on the investments made and on the acquired local knowledge and goodwill. The transfer of technology across national boundaries, a common element of international strategic alliances in the telecommunications sector, for example, is both subject to market failure and to the shared use condition.

A party controlling the necessary elements of technology can functionally service specific national markets upon alliance failure; legal impediments to serving these markets, however, may remain. The firm possessing the distribution channels used by the alliance and well-developed local goodwill has a substantial advantage in post alliance competition.

In addition, producers may feel uncomfortable with partners who have access to sources of information unavailable to them (asymmetric information); that do not necessarily enjoy the best reputation (perhaps due to past opportunism) or in a business environment where reliance on intermediaries may not have been traditionally encouraged, in general, and by government, in particular (atmosphere).

Nevertheless, to the extent that both firms enter a specific national market previously served by the alliance, the heightened competition is likely to reduce the enjoyment of rents associated with the technology. The prospect of this loss of rents provides a structural incentive to maintain cooperation, contributing to the stability of the alliance.

The opening of some markets (i.e., Germany) have created a bond of cooperation agreements between several industrial groups or public utilities (some of them with little or no experience in telecommunications) with global international operators. The basic target is to obtain one of the licence agreements, that will allow them to operate after 1998. This is a standard situation in several European countries.

**[Here Table 6]**

In conclusion there seems to be evidence that although the negotiation costs of alliances are often high, such contracts may provide, in the absence of equity links, a second-best answer to the problems of marketing and investing in foreign markets.



## **5. Summary and Concluding remarks.**

Services are an increasingly important part of the global economy. On average, about 60% of the GDP of OECD countries come from service industries. In 1990, for instance, services ranged from between 55,7% (Portugal) to 71,7% (Denmark) of GDP among OECD nations (OECD 1992, pp.26-27). Nevertheless, services account for little less than 25% of world trade, with exports at about \$ 750 billion, although this number probably underestimates the actual volume, since exports of services are difficult to track, as services are often sold in foreign markets through the subsidiaries and affiliates of multinational services corporations and hence under-reported.

Among services industries and as a particular case of information technologies, telecommunications are playing a leading role in the globalization of firms and organizations. The very nature of the telecommunications service industry and the deregulation of many foreign markets has created a bond of cooperation between operators in different countries the creation of an international network of inter-firm agreements. In this context, global alliances have played an increasing role in the development of firms' strategies and currently are hailed as an effective growth strategy in an era of international markets and multinational corporations.

These contract-based alliances can be distinguished from entity joint-ventures, as they do not involve the establishment and joint ownership of a legally separated firm which exploits the shared technology. Although most of the literature focuses on the descriptions and analysis of the different strategic alliances, without little or no analytical framework, this paper will examine international technology alliances, applying insights from both the transaction cost and foreign investment theories to the telecommunications services.

The study of economic organizations is approached from a comparative institutional point of view and we argue that alliances are not at all a blended case, but a distinct type of institutional arrangement. As a consequence, it is possible in the organizational continuum proposed by Williamson, to construct and use a third (hybrid) institutional form, congruent with the transaction cost theory while preserving the economic rents these specific arrangements generate. We also explore the choice-of-form decisional path with respect to international strategic alliances in telecommunications and asking why this form of joint ownership was preferred to the alternatives of market contracting and internalization.

Although the basic outlines of the transaction cost model are well known: "transactions are internalized when they can be effected more efficiently within firms and certain types of transactions are more likely, under some circumstances, to be efficiently conducted within firms than across markets" (Williamson, 1991), far less is understood about why more complex structures do coexist; indeed the existence strategic alliances, does not fit comfortably in any of the contemporary theories.

In part this explanatory failure results from the polar question between internalization of transactions and market contracting: Why are certain economic exchanges (transactions) effected across markets while others are conducted wholly within the firm?

Each viable form of governance -market, hybrid, hierarchy- is defined by a series of attributes that bear supporting relation. Given that the optional organizational structure of international trade, frequently requires a transnational distribution of production, the analysis then proceeds to the internalization/market decision. According to Williamson, this involves a comparative analysis of institutional forms, with internalization favored where market transaction costs are relatively high (or equivalent, where markets fail). Similarly, internalization (in the form of foreign direct investment, given a transnational distribution of production) is preferred where firms possess firm-specific advantages which they prefer not to alienate and alliances are used when these advantages are shared (mixed).

International strategic alliances are, therefore, organizational hybrids, intermediate points on the continuum described by Williamson (1991), between markets and complete integration (the unitary firm). While the modern theory of the firm has addressed the determinants of the internalization of economic transactions, a satisfactory explanation for partial internalization remains elusive.

The organizational determination to establish a strategic alliance can be more useful thought of a set of sub-decisions, including (i) The decision of where to locate various stages of production and distribution, (ii) the decision of where to locate the boundary between the firm and the exterior and (iii) whether the organizational boundary should be hard (market-contracting) or soft (joint ownership).

The decision, however, is more complex than deciding whether a firm purchases a productive asset (internalization) or its output (market). We describe this more complex decision as an "access decision", in which internalization is only one of a larger set of possibilities. A firm must obtain access to all necessary assets. The access decision includes whether (i) the recourse to the asset is on a spot or continuous (contracting) basis, and (ii) further whether such access is to be exclusive or shared.

Strategic alliances may be explained in a framework, where access to the assets should be on a continuous but shared basis: a species of mutually-exclusive contract where access to the assets can be shared without destroying economic rents. Other forms may be explained, instead, where access to an input/output should be on a spot basis.

Within an alliance the prospect of the realization of significant economic rents is linked to the maintenance of a broad area of cooperation and coordination. International strategic alliances, however, may also constitute explicit strategies for different national markets, including the suppression, in whole or in part, of competition between the firms in specific markets.

We have, therefore, to consider whether these cooperation agreements are economically efficient or they restrict competition between companies formerly operating in a domestic regulated environment. The possibility that the alliance may be trying to eliminate the competence in a given market, as well as, to artificially reduce the level of technological development on it, can not be ruled out. However, this requires a further analysis of the actual and future market structure, real and potential competitors and scope of existent agreements in the different markets.

We conclude that strategic alliances, as we have seen, can be a transaction cost minimizing trading organization, under certain circumstances, while conserving economic rents these specific arrangements generate.

## **Notes**

1.- Alliances often contain long-term supply arrangements, which control intrafirm bargaining. Royalty provisions in license agreements also tend to lock payment rates.

2.- The effect of the non-competition obligations implicit in an international strategic alliance are considerable, as we will see later on.

3.- Goodwill, know-how (including tacit technology and country specific knowledge) and distribution services are cited by Hennart as intermediate goods subject to market failure.

4.- In his earlier works, Williamson argued that hybrids should be rather rare, likening the distribution of real-world organizations on the continuum of two peaks divided by a deep, broad valley. Later Williamson revised his thinking, acknowledging that the population of complex economic organizations was far greater than he had earlier thought, and that organizational forms was much more evenly distributed.

5.- Hennart (1990) distinguishes methods of organization (price system vs. hierarchy) from institutional choice. Thus, even when a polar institutional form is used, a mix of organizational methods will often be observed. A market transaction will predominantly rely on the price system, but may have hierarchical features (i.e. behavioral controls) as well.

6.- A small USA telecommunications firm, for instance, has reportedly established alliances with over 40 other companies.

7.- Conceivably, non-competition terms could be incorporated into the various structural agreements in order to divide the reserved markets between the participants. In many jurisdictions, however, such provisions would run afoul of national competition law.

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**Table 1**

**Tentative outline of a tripolar institutional framework**

| <b>Institutional</b>   | <b>Market</b>            | <b>Alliances</b>       | <b>Hierarchy</b>                   |
|------------------------|--------------------------|------------------------|------------------------------------|
| Division of adjustment | Self-adjustment          | Joint adjustment       | Imposed adjustment                 |
| Adjustment reference   | Price                    | Contractual agreements | Authoritative orders               |
| Resulting from.....    | Supply and demand        | Negotiation            | Planning                           |
| Primary relative costs | Marketing and purchasing | Searching negotiation  | Administration/<br>Internalization |

Source: Adapted from Larsson, R. (1993, p.99)

**Table 2**

| <b>International Strategic Commitments</b> |                                     |   |
|--|-------------------------------------|---|
| <b>Access</b>                              | <b><u>Spot</u></b><br>(Cash/Credit) | <b><u>Continuous</u></b><br>(Contracts) |
| <b>Exclusive</b>                           | Other forms                         | Internalization                         |
| <b>Shared</b>                              | Market                              | Alliances                               |

Source: Adapted from Atik, J. (1993)



**Table 3**

**Global Strategic Alliances in Telecommunications**

| Alliances   | Partners   | Remarks   |
|-------------|--|---|
| Concert     | BT (ex British Telecom)<br>MCI (USA)                                 | BT acquired 20% of MCI in 1993  |
| WorldSource | ATT (USA)<br>Singapur Telecom<br>KDD (Japan)<br>Telstra (Australia)  | Recently ATT has formed a joint-venture (WorldPartners) that includes ten international operators                     |
| Unisource   | PTT Netherland<br>Telia (Sweden)<br>PTT Suisse<br>Telefónica (Spain) | This year Unisource has formed a joint-venture with ATT, call Uniworld, to supply services to big companies in Europe |
| Atlas       | DBP Telekom (Germany)<br>France Telecom                              | A new alliance with Sprint (USA), is under way  |

**Table 4****European Consortia in Mobile Communications**

| Operator | Country  | System | Main Partners   |
|----------|----------|--------|---|
| OPI      | Italy    | GSM    | Olivetti (36%), Bell Atlantic (11,6%), Alrtouch (10,8%), Cellular Communications (10,3%), Tellia (6,8%) |
| SFR      | France   | GSM    | Générale des Eaux (45%), Alcatel (18%), Vodafone (10%), Southwestern Bell (10%)                         |
| Bouygues | France   | PCN    | Bouygues (38%), Cable&Wireless (20%), Veba (15%), US West (5%)  |
| E-Plus   | Germany  | PCN    | Thyssen (28%), Veba (28%), BellSouth (21%), Vodafone (16%)  |
| Sonofon  | Denmark  | GSM    | GN (36%), BellSouth (29%)   |
| Telecel  | Portugal | GSM    | Bancos portuguesas (62%), AirTouch (23%)  |
| Panafon  | Greece   | GSM    | Vodafone (45%), France Télécom (35%), Intracom (10%)  |
| Telestet | Greece   | GSM    | Stet (74%), Nynex (20%)   |

**Table 5**

**Countries with a second operator**

| Country   | Operators           | Year  | Partners  |
|-----------|---------------------|-------|---|
| Sweden    | Tele 2              | 1991  | 60% Kinnevik<br>40% Cable & Wireless  |
| U.Kingdom | Mercury             | 1982  | 80% Cable & Wireless<br>20% Bell Canada                                       |
|           | > 40 new ones       | 1991  | Energis, Ionica, Cable companies, etc.  |
| Australia | Optus               | 1992  | 51% Consortia Optus<br>24,5% Bell South<br>24,5% Cable & Wireless             |
| Japan     | DDI                 | 1985  | Japanese partners   |
|           | Japan Telecom       | 1985  | 87% Japanese partners<br>13% Pactel   |
|           | IDC                 | 1985  | 82% Toyota and other<br>18% Cable and Wireless                                |
| U.S.A.    | MCI<br>Sprint, etc. |       |   |
| Spain     | Retevisión          | 1998? | Financial Institutions,<br>International operators,<br>Public utilities, etc. |

**Table 6**

**Alliances in the German Market**

| <b>Partners</b>                        | <b>Remarks</b>  |
|--|---|
| <b>BT-Viag</b>                         | <b>A joint-venture (37,5% each) between Viag and Intercom is under way.</b> |
| <b>Cable &amp; Wireless - Veba</b>     | <b>Veba will take 10.5% of C&amp;W and C&amp;W 45% of Vebacom.</b>          |
| <b>BellSouth - Thyssen</b>             | <b>Thyssen will take 60% share control</b>                                  |
| <b>RWE - ??</b>                        | <b>Under negotiations with ATT</b>  |
| <b>Northern Telecom - Daimler Benz</b> | <b>Industrial alliance</b>  |