

**STRATEGIC IMPLICATIONS OF ALLIANCES & NETWORKS  
IN THE TELECOM INDUSTRY: FOCUSING LEADING FOREIGN-  
OWNED AND LOCAL OPERATORS IN BRAZIL**

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**ABSTRACT**

In the face of the competitive pressures created by privatization, many firms in the telecommunications industry in developing countries are establishing strategic alliances with foreign partners, and operating in networks to give their customers better service and also ensure their own and their customers' competitive advantage in global markets. In the literature, various studies can be found on alliances in the telecommunications industry in different countries, but hardly any focus on the strategic implications of alliances/networks of telecom operators in Brazil, a BRIC that is becoming increasingly important internationally. This article presents results of a research that aimed at filling this gap by identifying the opportunities and threats created by the alliances/networks of three highly representative leading telecommunication operators in Brazil, two of which are foreign-owned. The results suggest that alliances, especially with foreign partners, create significant opportunities for boosting their performance in keeping with their new strategic profile.

**KEYWORDS: Developing Economies; Emerging Countries; Latin America, Telecom Operators' Alliances; Strategic Network Perspective**

## **1. INTRODUCTION**

The trend towards globalization of industries has required more effective telecommunications, regardless of frontiers. This explains the initiatives taken by governments worldwide in the last two decades to boost their country's telecommunication (henceforth called simply telecom) industry. Most have been based on the assumption that the sector's performance can be enhanced by opening it up to competition, establishing pro-competitive regulation and ensuring the independence of regulatory bodies (Rossotto, Sekkat, Varoudakis, Dulbea, 2005).

Thus, already in the 1980s, in the US, competition was introduced in the market for long distance services in the wake of AT&T's divestiture in 1984 (Cowhey, Aronson, Richards, 2009). Soon after, the UK and Japan did likewise in local phone services (Cowhey & Klimenko, 2000). In most countries, however, the transition to competition happened only in the 1990s, in keeping with the trend towards privatization of state-owned firms.

In the case of the developing world an effective telecom industry was viewed as critical for competing in the global market. Studies have made evident that it is a determinant for foreign direct investment – FDI, as well as export performance (Rossotto et al. 2005).

Latin America countries were ahead of other developing ones in terms of liberalizing their telecom markets (Rossotto et al. 2005). Chile was the first, in the early nineties, to take the necessary initiatives to do so, followed by Argentina, Peru and Mexico (Cowley & Klimenko, 2000). In 1997, many

other Latin American countries made market access commitments, adhering to the WTO Reference Paper.

In Brazil, the market liberalization process began in the late nineties and included opening it up to foreign capital by way of joint ventures and acquisitions. Indeed, also in the telecom industry, a sector of increasing technological knowledge ambiguity firms have been resorting to alliances and networks that cross geographical borders to sustain their competitiveness (Hoffmann, 2007).

As one of the so-called BRICs – leaders among developing countries – Brazil has been the object of growing attention in international studies. The literature contains many references to investigations into the telecom industry in different countries, especially with respect to the managing of privatizations but also regarding its alliances (e.g. Chan-Olmsted & Jamison, 2001; Jamison, 1998; Oh, 1996; for reviews see Karamanis, 2009, and Jakopin, 2008). However, where Brazil is concerned, most adopt predominantly economic or technical viewpoints. Hardly any can be found that investigate the strategic implications – opportunities and threats - of the alliances and networks of firms in its telecom industry, considering their relational characteristics.

In this article we share results of research that intends to contribute to filling this gap. We focus on three leading operators in the Brazilian telecom industry– Embratel, Vivo and Oi, the first two of which are foreign-owned.

The objective is to verify whether and how the alliances (defined broadly to include mergers and acquisitions), of the operators at issue, provide opportunities for competing more effectively in the current increasingly challenging environment and what sort of threats they may pose for the firms.

Towards this end we carry out strategic assessments of the firms from a relational perspective, i.e. pertinent to their relationships (notably alliances) and the networks formed by them, to identify relevant relational opportunities and threats at industry level. In this way, we also intend to contribute to research that emphasizes the importance of conducting strategic analyses from this perspective (Gulati, Nohria & Zaheer, 2000), especially in today's global context where firms are establishing more and more alliances also to expand internationally (Garcia-Canal et al. 2002). The article attempts to show that from the relational perspective one can capture relevant insights for strategic analysis, also from an international viewpoint, that could not be found by way of a traditional, i.e. non relational approach of, for example, the Resource-Based-View (Barney, 1997, Wernerfelt, 1984), the positioning school (Austin, 1990; Porter, 1980), or even integrative models (Collis & Montgomery, 1998).

This article is divided into seven parts, including this introduction. In the next part, we summarize pertinent facts of the recent history of the telecom industry in Brazil. In the third and fourth parts the theoretical references and research methods are explained. In the fifth, we share relevant results of the strategic analyses of the firms at issue. The relational implications – opportunities and threats - are confronted with non-relational ones in the sixth part. In the last one, we present some concluding remarks as well as suggestions for further research.

## **2. THE TELECOMMUNICATIONS INDUSTRY IN BRAZIL**

In Brazil, the process of opening up the telecom market to competition was a gradual one, guided by the pro-competitive regulatory principles of the WTO agreement. It started in 1997 with the approval of the General Telecommunications Law – LGT, No. 9.472, and subsequent privatization of

its State's telecom company, Telebras, and its long-distance and international operator at the time, Embratel.

Within the scope of the privatization process the Ministry of Communications opted in favor of regional operators instead of nation-wide firms so as to reduce the risk of monopoly and encourage more regional investment (ANATEL, 2009). The country was initially divided into 3 regions, each one served by a firm resulting from Telebras's divestiture. Embratel, would continue its nation-wide operations, thus initially generating competition between itself and the regional operators in inter-state long-distance services.

As the regional operators increased their market shares and investment capacity, there would be no restriction on their operations geographically or in terms of type of service provided.

Note, however, that as of 1998, foreign investors started playing an important role in the sector in Brazil, acquiring control of companies in the industry. Embratel and Vivo as we shall see are cases in point. Another example is that of Tim, controlled by Telecom Itália, that recently acquired Intelig in its quest for leadership. (For an updated list of operators in Brazil, see <http://pt.wikipedia.org/wiki/Operadora> ).

### **3. THEORETICAL POSITIONING**

#### **3.1. Key Concepts**

First, we present the definitions adopted for the research's key concepts.

The concept of **alliances** was defined, in accordance with Gulati (1998, *apud* Gulati et al. 2000), as voluntary arrangements between two or more firms involving exchange, sharing or co-development of products, technologies or services. They are strategic when they contribute directly to a firm's competitive advantage. The research adopted an alliance typology, drawn upon

Contractor & Lorange (1988), and Nohria & Garcia-Pont (1991) that basis itself on the degree of alliance intensity/interdependence. Alliances are classified on a gamut that runs from mergers and acquisitions (more intense) and joint ventures, at one extreme, to short-term agreements and contracts (less intense) at the other.

In order to verify whether the focused firms were part of a **strategic group** the research used Cool & Schendel's (1987) the definition: a group of firms that compete in an industry based on similar combinations of scope and resources.

For **strategic network** Gulati et al.'s (2000) definition was favored: a firm's set of relationships, both horizontal and vertical, with other organizations, including relations across industries and countries; it is composed of enduring inter-organizational ties of strategic significance, including alliances.

The analytical framework adopted in our study was the Strategic Network Analysis – SNA framework of Macedo-Soares (2002, *apud* Macedo-Soares, Tauhata & Freitas, 2004) that uses two other concepts pertinent to alliances/networks: **ego net** and **value net**. Drawing on Knoke (2001), the **ego net** is constituted by the focal firm and by its main relationships with partner-actors as well as those between partners in the context of its value net. According to Brandenburger and Nalebuff (1997), the **value net** includes all players, both partners and non-partners, as well as their interdependencies that influence the distribution of power between the strategic actors and the focal firm, and, consequently, their potential to capture significant value for the firm's competitive advantage.

### 3.2. Tools for Strategic Analysis

A fundamental assumption of the research was that strategic analyses should be based on the classic principle of strategic fit: coherence between all the factors that are strategically significant for the firm is necessary to implement its strategy successfully (Hofer & Schendel, 1978). In a scenario of constant change, this fit should be dynamic (Zajac, Kraatz & Bresser, 2000), which is why potential implications are also considered.

Another underlying assumption of the SNA framework is that, in the case of firms that are members of alliances or networks, the strategic factors to be analyzed should include relational variables. Thus, in this case, the strategy is only considered to be adequate when it capitalizes on strengths constituted by both the firm's internal resources and those provided by the network of relationships, and reduces weaknesses pertinent to both. The aim is to exploit both the opportunities available in the macro-environment and those created by the network, in order to minimize eventual threats. This assumption adapts Barney's concept of "good" (adequate) strategy to a relational perspective. Drawing on Gulati et al. (2000), it is moreover assumed that relational characteristics may be regarded as strengths or weaknesses at firm level and as opportunities or threats at industry level.

Note that other frameworks for analyzing the impact of strategic networks on firm competitiveness were found in the literature (e.g. Contractor, Wasserman & Faust; 2006; Gnyawali & Madhavan, 2001). However, the SNA framework has the advantage of considering relational factors together with significant non-relational ones, within an integrative and systemic perspective, unlike the other relational frameworks that only include relational factors. Another advantage of the SNA framework is that it has already been

successfully applied to various firms and strategic groups in different sectors (e.g. Macedo-Soares, Tauhata; Lima, 2005b; Macedo-Soares et al. 2004).

The SNA conceptual framework includes three components.

1. A methodology - series of steps for conducting strategic analyses from a relational perspective complementing the traditional one. 2. Reference lists of variables to guide data collection. 3. A model (SNA) to help map the firm's ego net.

Below we describe the steps of the SNA methodology focused here.

**Step 1:** characterize the focal firm's strategy, using Fahey & Randall's (1998) constructs for the analysis of its content and scope and Mintzberg's (1998) typology – differentiation (by / price / image-brand /support / quality / design} or non-differentiation).

**Step 2:** identify and assess the strategic implications – opportunities and threats - of the key actors of the focal firm's value net when assuming their roles as rivals, customers, suppliers, new entrants, substitutes (Porter, 1980) and *complementors* (Brandenburger & Nalebuff, 1997), and of the interacting macro-environmental factors (Austin, 1990).

**Step 3:** classify the main strategic alliances of the focal firm's ego net, using the typology mentioned.

**Step 4:** Identify the characteristics of the ego net at industry level, according to key relational dimensions and assess their strategic implications in terms of opportunities and threats.

The reference lists for relational factors were based mainly on Gulati et al. (2000) and Galaskiewicz & Zaheer (1999). The most pertinent constructs in these lists for our study are described as follows: 1) **Network Structure** – characterized in terms of *density, scope, position/centrality*; 2) **Network**

**Membership** – *identity/status of industry partners*, and *access to industry/firm resources*; **Tie Modality** –*strength of connections* –and *nature of ties: collaborative: win–win, or opportunistic: win–lose*).

The SNA model's purpose is to help map the firm's ego net within its value net, highlighting pertinent relational characteristics. It evolved from Macedo-Soares's traditional generic-integrative - GI model (2000, *apud* Macedo-Soares et al., 2005a) which incorporated Porter's (1980), Austin's (1990), and Brandenburger & Nalebuff's (1997) constructs as well as those of the RBV. By including relational constructs it gained a new dimension, which though complementing the traditional one, transforms the final result of the analysis.

In the SNA model, the focal firm, shown at the center of an alliance network with strategic actors placed along an ellipse, suggests a system in imperfect equilibrium where the firm needs to pro-actively seek its equilibrium to assure dynamic fit. The ellipse configures the borders of the focal firm's value net that includes its ego net formed by its main alliances and those between its partners. The actors that are not partners but with whom the firm has strategically significant relationships (e.g. rivalry or in terms of bargaining power) are also placed on this ellipse, as they are part of its value net. The various characteristics of alliances and partners are represented by different colors, thicknesses and arrows (see in Figure 1 examples of ego nets shown inside a macro ego net).

Before presenting the study's results, we explain the methods used.

#### **4. RESEARCH METHODS**

Initially, a review was undertaken of the pertinent literature in accordance with the three-stage method recommended by Villas, Macedo-Soares and

Russo (2008) that emphasizes the use of multiple rankings as a starting point in the literature selection process.

As to field research, a multiple case-study was conducted. The case-study method was considered appropriate because the phenomenon at issue had to be analyzed in its specific context (Yin, 1996) and the research sought to contribute to theory building (Eisenhardt & Graebner, 2007), namely to relational strategic analysis. Moreover this method is recommended for relational studies, given their complexity and dynamic (Halinen & Törnroos, 2005), especially those of the multiple case-study kind (Ozcan & Eisenhardt, 2009).

In accordance with scholars of research methods for case-studies (Yin, 1996), the research followed the method triangulation principle, collecting data from various sources and using different means to confront them, whenever possible, in order to assure their consistency. Three means were adopted: documental/telematic investigation and two perception surveys, one using a previously tested structured questionnaire and the other performed by way of interviews. The questionnaire data was treated with descriptive statistical methods and the interviews were submitted to content analysis (Weber, 1990).

## **5. RESULTS**

First, we provide background information on the firms focused here.

### **5.1. Embratel**

Founded in 1965, Embratel was the long-distance arm of Telebrás, up to 1998 when the latter was privatized and Embratel was acquired by the American company MCI Communications, and in 2004 by the Mexican telecom giant, Telmex. From the start, Embratel had a leading role in the development of the country's telecom infrastructure. In 1969, it provided the

basis for national TV networks using satellites. After that it introduced a series of technological innovations such as the DDD system, Telex, Rempac and the Internet in the nineties. It continues to be a leading operator in Brazil, listed on the Bovespa stock exchange with an Ebitda of around US\$ 1.12 Bi (R\$ 2.46 Bi) in 2008, 13,6% higher than in 2007.

## **5.2. Vivo**

Vivo Participações S.A. that is today a single holding company, listed on the Bovespa stock exchange is also a leading operator. It originated from the merger – concluded in February 2006 - of seven Brazilian Vivo brand mobile phone operators under a joint-venture owned equally by Portugal Telecom and Spain's Telefônica. It became thus the largest mobile phone service provider in S. America with over 40 million users (March 2009) and the only one in Brazil to offer at once GSM, CDMA and 3 G mobile technologies. In 2007 it acquired TCO Celular and Telemig. In 2008 it started operations in the Northeast of Brazil (TELECO, 2009; VIVO, 2009), and its Ebitda was around US\$2.2 Bi (R\$4.8 Bi), 37,3% higher than in 2007.

## **5.3. Oi**

Oi, known up to March 2007 as Telemar, is a 100% Brazilian company and legally referred to as Telemar Norte Leste S.A. It became the largest landline telephone company in Latin America in total service lines and in Brazil also in revenues. It resulted from the merger of 16 state-owned local exchange carriers during the country's telecom privatization process. Today it offers a wide portfolio of integrated and convergent products and services. It has a growing mobile phone network and pioneered the introduction of GSM technology in Brazil. Its stock is traded on the Bovespa stock market. Its Ebitda in 2008 was around US\$ 2.75 (R\$6.07 Bi), 6,9% less than in 2007.

#### 5.4. Strategies that characterize a strategic group

As to the strategies of the three firms focused here, the information collected strongly suggested that they possessed a similar profile, and could be considered to be part of a strategic group.

Indeed, the research verified that all three operators focused on the **quality of services provided**, and used their **brands** as a competitive differential in the market. A particularly significant finding was that, in the last few years, in keeping with the trend in the global telecom market (Chan-Olmsted & Jamison, 2001), the scope of their products had changed completely – from specialization in a particular service segment to the convergence of voice, data and multimedia. Their strategic intent was to become communication firms and no longer mere long-distance, mobile or fixed telephony service providers.

In reality the focus on quality of services, which is intrinsically related to voice and data convergence, aimed at developing packages of differentiated solutions for customers at competitive prices, in order to increase market share and assure profitability. This was quite clear in the interview with one of Vivo's executives, which also confirmed that the operator considered alliances to be strategically important in this respect: *“For me, telecommunications convergence has more of an economic than technological slant (...) of a defense (...) of profitability. (...) in this sense I regard alliances as being very important ....”*

Before describing the firms' alliances, we present the study's results pertinent to industry-level non-relational factors. The advantage of being part of the same strategic group is that, at this level, the firms face similar strategic implications (BARNEY, 1997).

## **5.5. Strategic Implications of Macro-Environmental Factors and Strategic Actors (Step 2 of SNA Methodology)**

### **5.5.1 Main Opportunities**

- **The presence of regulation in the industry** enabled the establishment of clear rules and a level playing field in the industry. Participants became aware of their obligations, which facilitated decision-making and oriented their strategic movements (ABRAFIX, 2009; ACEL, 2009; ANATEL, 2009).

- **The entry of foreign capital** boosted the country's telecom industry, leading to the development of new solutions for the residential and corporate markets (ABRAFIX, 2009; ACEL, 2009).

- **The specialization of labor** in the Brazilian telecom market made possible the conversion of technological innovations into effective solutions for consumers (EMBRATEL, 2009; OI, 2009; VIVO, 2009).

- **The world standard used in the country** helped operators to meet the growing demand for new solutions developed by the industry worldwide, e.g. 3G technology and VoIP (ALCATEL-LUCENT, 2009).

- **The change in the population's age structure** represented a customer retention opportunity for operators inasmuch as they could develop customized solutions according to age groups (EMBRATEL, 2009; OI, 2009; VIVO, 2009).

Note that most of the above-mentioned factors also constituted threats for the operators in different ways.

### **5.5.2 Main Threats**

- **Presence of regulation in the industry:** ANATEL, the regulatory body, could establish more aggressive targets, obliging operators to step up their

investments with all the potential financial risks involved (ABRAFIX, 2009; ACEL, 2009; ANATEL, 2009).

- **Entry of foreign capital:** The participation of big foreign groups increased competition in the sector with all its obvious threatening implications (ABRAFIX, 2009; ACEL, 2009).

- **World technological standard used in the country:** rapid technological obsolescence meant that firms needed to have sufficient financial resources to develop new products and services, increasing the threat of indebtedness (ALCATEL-LUCENT, 2009).

- **The change in the Brazilian population's age structure:** the need to customize products/services according to population age brackets would raise development process costs, heightening further the threat of indebtedness (EMBRATEL, 2009; VIVO, 2009).

- **Suppliers and complementors:** the need to customize operators' products created a technological dependence on suppliers and complementors that enhanced the latter's bargaining power in commercial transactions with operators (ALCATEL-LUCENT, 2009).

- **Competitors:** the intense rivalry in the industry was an obvious threat to operators' market share (ANATEL, 2009)

- **Customers:** by having a wide choice of operators to acquire packages of services, customers had high bargaining power (ABRAFIX, 2009; ACEL, 2009).

### **5.6. Main Strategic Alliances and their Characteristics**

As to the alliances established by the operators, the research identified strategic alliances with customers, suppliers, competitors and complementors, but none with substitutes nor with new entrants.

In the case of Embratel and Oi, most involved service provision contracts. Supply agreements or contracts predominated in the case of Vivo and were spot or short-term in the case of customers and long-term with suppliers.

However, in the case of Embratel 's alliances with competitors, long-term agreements predominated, the most important of which were inter-connection contracts whereby Embratel was paid by competitors for the use of its telecom networks, in accordance with traffic volume.

Oi and Vivo's alliances with competitors involved mainly mergers and acquisitions (ANATEL, 2009). An example was Oi's (roughly US\$ 2.66 billion) acquisition of Brasil Telecom announced on April 25, 2008. (ANATEL, 2009; OI 2009). For its part, Vivo's controller Telefônica acquired a stake in Telecom Itália in 2007 (ANATEL, 2009; VIVO, 2009).

In the case of Embratel, mergers and acquisitions have usually occurred with complementors. By acquiring a stake in Net Serviços and Primesys, Embratel was able to exploit the capillarity of a coaxial cable network (Net) and voice, data and video-sharing infrastructure (Primesys), improving its capacity to develop customized solutions (EMBRATEL, 2009).

At Vivo, alliances with its complementors involved minority shareholdings. No important investment was revealed by the study.

Since the research identified Embratel, Oi and Vivo as belonging to the same strategic group, it was decided to represent their alliances in a larger network, called a **macro ego net**, composed by their ego nets inside their respective value nets. To accomplish this, the research drew on the evolution of the SNA model proposed by Macedo-Soares et al. (2004) for analyzing the horizontal portals in Brazil.

In Figure 1 we can see the results of the mapping of the macro ego net at issue. It highlights the ego nets of the three firms' showing alliances with actors specific to each firm, notably agreements and contracts with customers, as well as alliances between these firms. Furthermore, alliances with actors – suppliers, competitors and complementors – that were common to the three firms are represented along the larger outer ellipse. As this ellipse configures the borders of the macro ego net's value net, it also includes the actors with which the group does not establish alliances, but whose implications cannot be neglected when considering the group's value net.

Following the practice recommended in the first SNA model to map a single ego net in order to facilitate its comprehension, the colors, thickness and direction of the arrows of the ties of the macro ego net at issue represent the alliance type and nature. For example, the service provision agreements and contracts of operators with their customers, complementors and between them (inter-connection contracts) are in green; Vivo's long-term supply agreements and contracts with its suppliers and Embratel's with its competitors are in yellow. Mergers and acquisitions are represented by red ties, as in the case, for example, of Oi and Vivo with their competitors (outside the strategic group) and Embratel's with complementors. Vivo's minority shareholding alliance with its complementors is in light gray, whereas its short-term supply contracts with customers are in black. The thickness of these ties represents their strength, e.g. Vivo's supply agreements with suppliers that were stronger than those of Embratel with its competitors. Collaborative alliances, for example, those of the operators with suppliers and complementors are represented by two-directional arrows while the one-directional arrows refer to opportunistic alliances. Their tips indicate the exploited actor; this is typically the case of

alliances between competitors, especially those belonging to the strategic group where rivalry is even fiercer due to their similar strategic profile.

### Figure 1

#### 5.7 Strategic Implications of Alliances / Networks at Industry Level

In this section we present the results for the main relational constructs adopted in the study: network structure; network membership; tie modality.

In the case of Embratel and Vivo, we inform the percentage of replies for the indicator at issue. In the case of Oi, the information was collected from documents and interviews; therefore percentages are not given; however the results presented also apply in general terms to this firm.

First of all, we share the results pertinent to **network structure**.

Regarding the *density* of operators' networks, the perception was of a high density (great number) of ties, constituting a very positive implication.

As to the networks' scope, the results indicated that it was **narrow** in the case of alliances with competitors (Embratel – 48% / Vivo - 63%), obviously due to intense competition in the telecom sector that limits contact between operators. On the other hand, it was found to be **wide-ranging** in the case of alliances with customers (Embratel – 62% / Vivo - 53%) and with suppliers (Embratel – 48% e Vivo - 71%), with the latter's obvious positive implications.

As regards network *product scope*, although the research did not identify alliances for exclusive products' development, solution customization by suppliers was highlighted. This was evident from an interview with an executive from Alcatel-Lucent, which supplied Embratel, Oi and Vivo: "... *There is nothing exclusive, but there is customization. The Oi "Cartão Total" is a platform that we customize for the services that Oi wishes to provide.*"

In terms of geographical scope, alliances with suppliers (Embratel – 50%/ Vivo - 88%) and complementors (Embratel – 50% e Vivo - 88%) were identified as being **global**, viewed as a positive implication. The need to supplement technological competencies for developing customized convergent solution packages, highlighted the importance of alliances with leading international suppliers (e.g. Nokia Siemens Networks, Ericsson, Cisco) independently of their geographical location.

As to **centrality**, the three operators were perceived as occupying a **central position** in the telecom sector (Embratel – 82% / Vivo - 88%), reinforced by their dominant position in the industry. According to the literature, centrality has important positive implications, all the more so in high density networks which neutralize the potential threat of new entrants.

In terms of **network membership**, the study found that the firms' main partners were viewed as having a **strong** identity with high **status**, with these characteristics' obviously positive implications, but also with some potentially threatening ones. The executives had the latter perception mainly for two reasons: i) high level of bargaining power in the case of the supplier-partners because of the operators' technological dependence on them, especially on those supplying network infrastructure; ii) strong pressure on the part of the complementor-partners to develop together increasingly costly sophisticated products.

As for access to the industry's key resources, it was considered relatively **easy** in the case of alliances with customers (Embratel – 68% / Vivo - 60%), suppliers (Embratel – 60% / Vivo - 73%) and with complementors (Embratel – 56% / Vivo - 67%), thus representing opportunities. However, in the case of alliances with competitors, access to the industry's key resources was

considered difficult (Embratel – 56% / Vivo - 63%), constituting a negative implication.

Finally, the results for **tie modality** showed both positive and negative implications, mainly depending on the type of partner. In Embratel's case, the nature of alliances with complementors was considered to be strong and collaborative. As for alliances with customers and suppliers, ties were perceived as being average, but also of a collaborative nature. In the case of alliances with competitors, on the other hand, ties were perceived to be weak and opportunistic, with the latter's negative implications.

In the case of Oi, ties were viewed as strong and collaborative, especially those with its suppliers and complementors. Alliances with competitors were also considered to be strong but opportunistic. As for alliances with customers, their strength was considered to be average and of a collaborative nature.

The research also revealed strong collaborative ties in the case of Vivo's alliances with its suppliers and complementors. Those with its customers were viewed as being collaborative, though of average strength. Its alliances with competitors were also perceived as being of average strength, but their nature was opportunistic.

In sum, the nature of the operators' alliances had predominantly positive characteristics; the exception was the case of those with competitors, as could be expected given the results of other relational studies.

## **6. DISCUSSION OF RESULTS**

Here we confront the results of the relational and traditional analyses, at industry level (Steps 2 and 4 of the SNA methodology). These are summarized in Table 1 the items of which are explained in detail below.

### **Table 1**

**Item (1)** concerns the threat, from the traditional perspective, of the entry of big foreign players, e.g. Telmex (Mexico), Telefónica (Spain) and Telecom Italia (Italian) groups, with the globalization of the telecom market. On the basis of the relational analysis, it became evident that these firms' entry into the market through alliances (mergers and acquisitions) with the operators, constituted a high potential growth opportunity for domestic firms, through the provision of capital, technological development and the exchange of operational and management know-how. This enhanced the opportunity identified in Section 5.2.1 relating to the entry of foreign capital. Domestic firms thus became more capable of operating internationally, which represented also a **potential opportunity** for them.

**Item (2)** highlights the average opportunity created by the industry's technological evolution. From a relational perspective the operators' partnerships with suppliers and complementors enhanced this opportunity to exploit market trends, inasmuch as they enabled them to step up service quality by developing together customized solutions involving convergence of voice, data and multimedia, and schedule observance. Thus, from this perspective a **high real opportunity** was identified, instead of an average one. By the same token, the potentially threatening implications of an eventual dependence of operators on supplier partners were found to be neutralized.

**Item (3)**, refers to the financial risks involved in carrying out new projects to accompany the telecom sector's worldwide trends. The replacement of telecom equipment (platforms, stations, etc.), or suppliers, constituted a costly process for service providers. The relational analysis made evident that the operators' alliances with suppliers for the provision of network infrastructure and software, and to customize equipment that had already been

ordered, reduced greatly operators' level of investment, making it possible for them to implement new projects within acceptable budget limits. Thus, the alliances neutralized the mentioned threat. They also helped to take advantage of the opportunity to meet the growing demand for state of the art technological solutions. In this way, the resulting implication was found to be an **average real opportunity** and not a threat.

**Item (4)** concerns the relationship between the operators and the regulatory body, Anatel. The latter's rulings - policies, norms and directives regarding the functioning of the industry - are made public and available at its website, which is obviously very useful for the operators' strategic planning. Furthermore, operators have the right to issue opinions and, where pertinent, changes are made to draft rulings prior to definitive publication. The relational analysis found that the alliances between the operators enhanced this opportunity inasmuch as they increased their negotiating power with this regulatory body for the establishment of regulatory clauses, constituting a **high real opportunity** and not merely an average one.

In relation to **Item (5)**, it should be mentioned that while Anatel generally promoted a transparent definition of rules and directives, often, the government provoked changes in the regulations in force, in keeping with its interests, causing a direct negative impact on the operators. For example, in accordance with the government's General Concession Plan (PGO), a firm could not purchase more than one license in the same region to provide telecom services (ABRAFIX, 2009; ACEL, 2009; ANATEL, 2009). The relational analysis revealed, however, that this threat could be greatly attenuated by the alliances that operators established between themselves. The merger between Oi and Brasil Telecom is a case in point. Although, by creating a big national operator,

it represented a high potential threat in that stepped up competition with the large foreign groups present in Brazil (Telmex; Telefônica, Telecom Italia), from a relational perspective the merger constituted merely a **mild potential threat**. Indeed, the alliances between operators strengthened their bargaining power also with the government, thus mitigating the threat of competition.

**Item (6)**, addresses the high real threat constituted by increasingly demanding customers, in that they could migrate to other operators if they were not satisfied with the operator's services. In the case of mobile telephony in Rio de Janeiro State, consumers could choose between Oi, Vivo, Tim or Claro. For long-distance calls they could choose between Embratel, Intelig, Tim or Oi. With the introduction of numerical portability, the migration of users from one operator to another would become more commonplace, given that they could maintain their terminal numbers. From a relational perspective, it was evident that the solution to avoid the loss of customers to other operators was to improve product and service quality and offer the customized solutions that the alliances with suppliers and complementors made possible. The latter thus constituted a **high real opportunity**.

In **item (7)**, reference is made to a high real threat posed by the large number of players that stepped up competition in the industry. Relational analysis revealed that by establishing alliances with each other the operators themselves were able to obtain advantages by increasing their customer base and strengthening specific market segments that had not been sufficiently developed. The alliances thus represented also, in this way, a **high real opportunity** that mitigated the threat of competition.

In **item (8)** the research identified positive strategic implications that reinforced each other according to both traditional and relational analyses.

From a traditional perspective, potential new entrants to the market were not seen as high potential threats, given the significant investments needed to contract network infrastructure equipment as well as skilled labor (ALCATEL-LUCENT, 2009). From a relational perspective, it was verified that this barrier to the entry of new competitors was in fact even greater, inasmuch as strategic alliances had already been established by the firms that operated in the sector, strengthening their relationship with customers, suppliers, complementors and competitors, and thus constituting a **high real opportunity** for the operators. The high density of ties and centrality of firms in the macro ego net mentioned earlier also contributed to reinforcing the high entry barriers.

**Item (9)**, deals with the threat from firms offering substitute services, for example, Skype offering voice service through the Internet. The relational analysis made evident that this threat was mitigated by the alliances between operators and their suppliers and complementors for the development of solutions that competed directly with substitute services, as in the case of VoIP. Although Skype initially offered this service, the operators incorporated it into their service portfolio by way of the alliances, which thus constituted a **high real opportunity**, instead of a threat (EMBRATEL, 2009; OI, 2009; VIVO 2009).

In **Item (10)**, we have another positive implication that is accentuated by a relational one. The growing demand for communications services, such as the use of the Internet and e-mail, constituted a high real opportunity. Relational analysis suggested that strategic alliances between operators and the main actors of their value net enhanced this opportunity, by making it feasible to meet this growing demand with the required delivery schedule observance and quality standards, thus configuring an even greater **real opportunity**.

As became obvious from our confrontation of the study's results from traditional and relational perspectives, the latter changes the resulting implications of the strategically significant factors.

## **7. CONCLUDING REMARKS AND SUGGESTIONS FOR FURTHER RESEARCH**

It is important to recall here the article's main objective: verify whether and how the alliances of the leading telecom operators focused in our study provided opportunities for competing more effectively in the current challenging environment and what sort of threats they posed for the firms.

To a great extent the article attained this objective by presenting evidence of the predominantly positive strategic implications of the operators' alliances/networks, as well as the potentially threatening ones. We saw that, on the whole, the alliances created many more opportunities than threats, and that these opportunities generally reduced or neutralized potential threats, not only of increasing competition, of indebtedness, but also those inherent to the alliances themselves when the operators became dependent upon strong partners.

However, we must not forget that the balance between positive and negative relational strategic implications is a delicate one. Mitigating threats, especially those brought about by the alliances themselves depends to a great extent on having an effective alliance/network management process, for which a relational strategic analysis framework is no doubt essential.

By showing how the strategic picture changes when relational characteristics are considered, the article contributes to research that emphasizes the importance of carrying out strategic analyses from a relational perspective. In fact, by way of the SNA framework, it makes evident the relevance of carrying out a comprehensive relational analysis that takes into

account also non-relational strategic factors, so as to be able to confront the relational and non-relational strategic implications.

From an international perspective, the research's most important finding was to have revealed the critical role of alliances with leading international suppliers, such as for telecom network infrastructure and equipment. By enabling the development of customized sophisticated convergent solutions, the international supplier-partners indeed play a fundamental part in translating into reality the operators' strategic vision of becoming communication firms.

At the same time, by way of the leading technology that the alliances with suppliers and complementors provide, in conjunction with the pressures to collaborate in new projects for state of the art solutions and equipment, these international alliances render the industry more competitive on the global arena and thus help mitigate the negative effects of such pressure.

These international partners' viewpoints regarding their alliances with the operators in Brazil could provide relevant insights also for the other stakeholders in this industry. We thus suggest further research on the strategic implications of these alliances/networks based on these partners' perceptions.

We mentioned earlier the merger of Oi with Brasil Telecom into a huge operator that is challenging the foreign-owned ones. This is an eloquent example of telecom alliances/mergers that increase rivalry (Chan-Olmsted & Jamison, 2001; Jamison, 1998). Considering Oi's intention to compete abroad, and the probability that also other operators in Brazil will want to have a stake in the US\$ 1.7 trillion global market for telecom services (*Time Magazine*, May 11, 2009, p. 90), we suggest that research be conducted on their alliances' implications for their international strategies. It could reveal new possibilities

for alliances between these operators and other global players, with their relational potential advantages but also more complex challenges.

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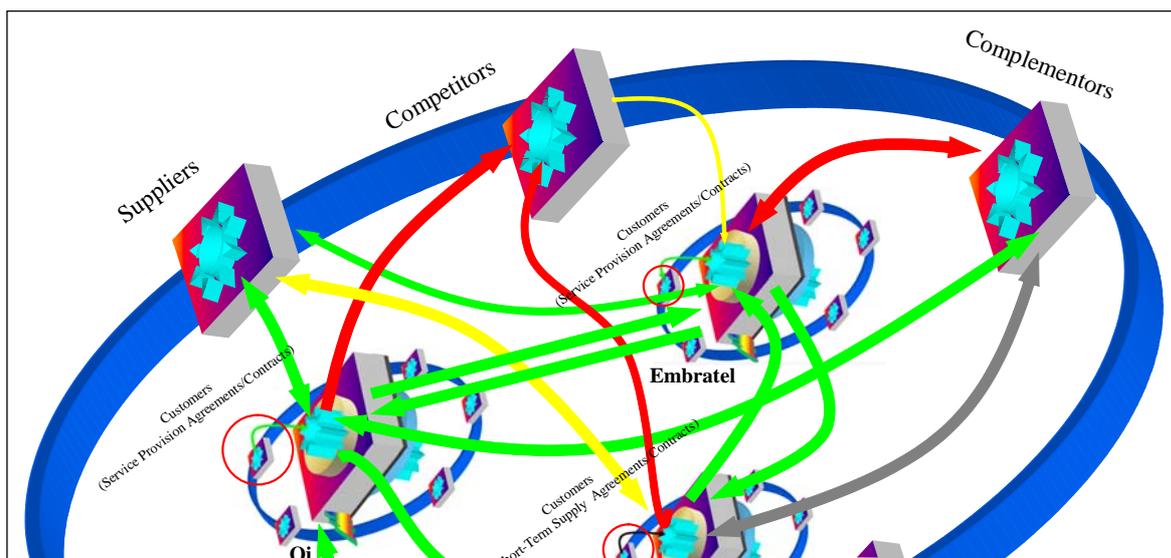
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## TABLES AND FIGURES



Traditional Analysis		Relational Analysis		Resulting Implication
Macro-Environmental Factors/Value Net Actors	Intensity	Macro-Environmental Factors/Value Net Actors	Intensity	
<b>1. Real Threat</b> Entry of large foreign groups threatened competitiveness of domestic operators.	HIGH	<b>1. Potential Opportunity</b> The strategic alliances between domestic operators and foreign firms favored exchange of know-how and provided operators with capital and competencies for developing technologically sophisticated solutions.	HIGH	HIGH POTENTIAL OPPORTUNITY
<b>2. Real Opportunity</b> The sector's rapid technological evolution enabled new solutions to be developed for customers.	AVERAGE	<b>2. Real Opportunity</b> The strategic alliances between operators and their suppliers and complementors helped speed up the product/service development process in order to meet market requirements.	HIGH	HIGH REAL OPPORTUNITY
<b>3. Real Threat</b> In order to keep pace with sector trends operators had to undertake major investments that compromise their cash flow.	AVERAGE	<b>3. Real Opportunity</b> Strategic alliances between operators reduced investment levels enabling them to develop new projects within acceptable budget limits.	AVERAGE	AVERAGE REAL OPPORTUNITY
<b>4. Real Opportunity</b> Transparency of the regulatory body - Anatel.	AVERAGE	<b>4. Real Opportunity</b> Alliances increased operators' bargaining power with the regulatory body regarding the formulation of new regulations.	HIGH	HIGH REAL OPPORTUNITY
<b>5. Potential Threat</b> Domestic government interests may provoke changes in sector rules that impact operators' strategies.	HIGH	<b>5. Potential Opportunity</b> Alliances between operators increased their bargaining power with the government, enabling them to influence changes in existing rules.	AVERAGE	MILD POTENTIAL THREAT
<b>6. Real Threat</b> Consumers may migrate to other operators if they are not satisfied. This threat has increased since the introduction of the portability project.	HIGH	<b>6. Real Opportunity</b> Alliances between operators and their suppliers and complementors helped improve product/service quality, increasing customer retention.	HIGH	HIGH REAL OPPORTUNITY
<b>7. Real Threat</b> Intense competition from the large number of firms operating in the concession areas.	HIGH	<b>7. Real Opportunity</b> Alliances helped increase customer base and strengthen specific market segments	HIGH	HIGH REAL OPPORTUNITY
<b>8. Real Opportunity</b> Need for new entrants to make large investments in order to enter the telecom market.	HIGH	<b>8. Real Opportunity</b> Alliances (merger and acquisitions) strengthened entry barriers.	HIGH	HIGH REAL OPPORTUNITY
<b>9. Potential Threat</b> Firms offering substitute services in the market.	AVERAGE	<b>9. Real Opportunity</b> Alliances enabled the development of new solutions (VoIP), so that they can compete directly with their substitutes.	HIGH	HIGH REAL OPPORTUNITY
<b>10. Real Opportunity</b> Increase in population's consumption of telecom services.	HIGH	<b>10. Real Opportunity</b> Alliances helped meet consumer growing demand with the required quality and delivery schedule observance standards.	HIGH	HIGH REAL OPPORTUNITY

Table3: Confrontation of strategic implications from traditional and relational perspectives