THE ENTRY-MODE DECISIONS OF BRAZILIAN MULTINATIONALS

A DECISÃO DOS MODOS DE ENTRADA DAS MULTINACIONAIS BRASILEIRAS

DECISIÓN DE MODOS DE ENTRADA DE LAS MULTINACIONALES BRASILEÑAS

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ABSTRACT

The entry-mode choice is one of the main decisions involved in an international expansion project, even though previous studies did not explore the behavior of emerging markets multinationals internationalization process. This study has an empirical approach aiming to analyze the impact the sociological approach combined with the economic approach on entry-mode decisions by Brazilian multinationals by using Binomial Logistics Regression. The results suggest that the transaction cost theory does not have a positive correlation with the wholly owned entry mode when tested in an emerging country, different from some developed countries, verifying that factors which influence organizations in developed countries do not have the same impact on Brazilian multinationals. Moreover, it was possible to conclude that the insertion of institutional theory variables together with transaction cost theory variables increases the explanatory power of the decision on entry mode.

Keywords: Entry modes; Transaction cost theory; Institutional theory.

RESUMO

O modo de entrada é uma decisão crítica no processo de expansão internacional, porém estudos anteriores não exploraram o comportamento das multinacionais de países emergentes. Esta pesquisa realizou um teste empírico com o objetivo de analisar o impacto da abordagem institucional em conjunto com a abordagem econômica na decisão do modo adotado por sucursais brasileiras pelo método análise de regressão logística binomial. Os resultados evidenciaram que a teoria dos custos de transação não tem correlação positiva com o modo adotado em um país emergente, diferentemente das multinacionais dos países desenvolvidos, verificando que fatores que influenciam organizações em países desenvolvidos não tem o mesmo impacto em multinacionais brasileiras. Ademais, foi possível concluir que a teoria institucional, quando analisada em conjunto com a teoria dos custos de transação, intensifica o poder de explicação dessa decisão.

Palavras-chaves: Modo de entrada; Teoria dos custos de transação; Teoria institucional

RESUMEN

El modo de entrada es una decisión importante en un proyecto de expansión internacional, a pesar de que estudios anteriores no exploraron el comportamiento de multinacionales de mercados emergentes. Este estudio tiene un enfoque empírico con objetivo de analizar el impacto del enfoque sociológico combinado con el enfoque económico sobre las decisiones del modo de entrada de multinacionales brasileñas utilizando Regresión Logística Binomial. Los resultados sugieren que la teoría de los costos de transacción no tiene correlación positiva con el modo de entrada cuando adoptado en un país emergente, a diferencia de países desarrollados, verificando que factores que influyen organizaciones en países desarrollados no tienen el mismo impacto en multinacionales brasileñas. Por otra parte, fue posible concluir que la inserción de la teoría institucional junto con la teoría de costos de transacción incrementa el poder explicativo de esta decisión.

Palabras clave: Modo de entrada; Teoría de los costos de transacción; Teoría institucional

1 INTRODUCTION

The entry-mode choice is one of the main decisions involved in an international expansion project (ANDERSON; COUGHLAN, 1987), influencing the firm's performance and survival (ANDERSON; GATIGNON, 1986; KIM; HWANG, 1992). To understand these decisions, the main studies have examined the strategic variables involved, such as the role of assets (ANDERSON; GATIGNON, 1986), organizational strategy (Caves & Mehra, 1986; Contractor, 1990) and international learning (BARKEMA; VERMEULEN, 1998; CHANG; ROSENZWEIG, 2001), noting that transaction cost theory has a considerable following among authors of empirical studies measuring the impact of the economic approach on ways of entering new overseas markets (ANDERSON; GATIGNON, 1988; HENNART; PARK, 1993).

However, the economic approach does not provide all the reasons for entry-mode choice, neglecting the sociological approach (WESTNEY, 1993; KOSTOVA; ZAHEER, 1999; HEINSZ, 2000). Therefore, the sociological approach, by means of institutional theory, started being introduced in researches that study entry-mode choice, suggesting that this decision is a consequence of isomorphic pressures from the internal and external environments (MEYER; ROWAN, 1977; DIMAGGIO; POWELL, 1983;SCOTT, 1995) and indicates that, based on legitimacy criteria, organizations tend to imitate each other because they compete not only for resources and customers, but also for political power and institutional legitimacy (DIMAGGIO; POWELL, 1983).

Therefore, the main objective of this study, through this empiric test, is to measure the impact of the sociological approach combined with the economic approach on entry-mode decisions by Brazilian multinationals using binomial logistical regression to test whether the explanatory power of this choice is greater when institutional theory is tested together with transaction cost theory. The result shows that the transaction cost theory does not have a positive correlation with the entry mode of the Brazilian Multinationals, different from developed countries, and the institutional theory, when analyzed together with the transaction cost theory, broadens the explanation capacity of the entry mode decisions. Considering this, it is possible to conclude that, concerning the entry mode choice adopted, some factors that influence organizations from developed countries, do not impact such decision when considering Brazilian multinationals.

2 LITERATURE REVIEW

1.1 Entry Mode

In the 1960s and 70s there were large barriers against entrance of foreign industries in new markets and few competitors, indicating a market imperfection. Therefore, knowledge was a valuable resource because information was expensive and managers were expected to act rationally. In light of this situation, researchers sought to understand decisions on ways of entering new markets by means of economic and rational views. Hymer (1976) argued that companies needed superior knowledge to enable them to absorb the high cost of operating abroad and thus to be able to compete with local players, but did not explore the different kinds of foreign direct investment (FDI), nor the different percentages of trigger business participation.

Johanson & Vahlne (1977), however, suggested that international expansion is a learning process in which firms should first form partnerships with local companies and then gradually increase their involvement through greater ownership and control. This theory limited itself to explaining the transfer of activities, not considering the trigger participation of the multinationals in its subsidiaries, nor the international operations theory.

In the late 1970s into the 80s, many national markets became saturated, with increasing numbers of firms seeking to maximize profits. Therefore, firms needed to venture into new markets even in highly competitive environments due to the dynamism of globalization, the dissemination of new technologies and the demands of consumers (DUNNING, 1995; FUSARI, 1996; PRAHALAD; LIEBERTHAL, 1998). Dunning (1979) added the location variable to the theories of the economic approach, showing that the choice of the market impacts the decision on how to enter, since some markets are more attractive than others.

Finally, Anderson & Gatignon (1986), consolidating the economic approach and identifying that this decision depends on the specific assets and international experience of the particular firm, explained entry mode decisions based on transaction cost theory. Many studies used transaction cost theory to explain decisions on ways of entering new markets by the economical approach Gatignon & Anderson, (1988), Erramili & Rao (1990), Kim & Hwang (1992) and Delios & Heinsz (2000) among others.

1.2 Transaction Cost Theory

The theory of transaction costs, in one of its international management applications, affirms that the cost of finding, negotiating with and monitoring local partners influences the decision on how to enter a foreign market (WILLIAMSON, 1985; HILL, 1990; HENNART, 1991; AGARWAL; RAMASWAMI, 1992; ERRAMILLI; RAO, 1993; TAYLOR; ZOU; OSLAND, 1998). These costs initially arise because of the difficulties of estimating contingencies and the inability to define fair value due to asymmetric information (WILLIAMSON, 1985; TAYLOR, ZOU; OSLAND, 1998). After an entry decision has been made, the cost of monitoring the partner can also be high due to the distance, communication problems and the dearth of measurable results (WILLIAMSON, 1985; HILL, 1990). Therefore, as the transaction costs increase, firms tend to prefer entry structures with greater ownership (ANDERSON; GATIGNON, 1986; ANDERSON; GATIGNON, 1988; HENNART, 1991; ERRAMILLI ; RAO, 1993; TAYLOR, ZOU; OSLAND, 1998).

When the entrance involves a specific asset that provides a competitive advantage, high monitoring costs are a particularly important consideration due to the need to avoid imitation (WILLIAMSON, 1985; ANDERSON; GATIGNON, 1988; HENNART, 1991), because such assets lose value on being challenged by similar alternative products (WILLIAMSON, 1985). This obliges multinationals to be wary of opportunistic behavior by local partners (WILLIAMSON, 1985; HILL, 1990). Therefore, transaction cost theory suggests the existence of a positive correlation between the degree of specificity of the asset and the ownership of the local company. Many researchers have found evidence that the more specific the assets multinationals possess, the more likely they are to choose an entry structure with greater ownership and control (GATIGNON; ANDERSON, 1988; ERRAMILLI; RAO, 1990; KIM; HWANG, 1992; DELIOS; HEINSZ, 2000).

On the other hand, multinationals entering new markets have disadvantages in relation to local incumbents because they do not have local market knowledge. This knowledge is usually tacit, and thus its acquisition is subject to high transaction costs (HENNART, 1988). Therefore, because of this initial dependence on local knowledge and resources, multinationals tend to form joint ventures with local players. However, as the multinational accumulates local market knowledge, there is less need to maintain the alliance with the local partner, making it advantageous to increase the equity stake in the subsidiary to maximize the profits obtained from it (GATIGNON; ANDERSON, 1988). Therefore, managers of multinationals are more likely to choose an entry structure with greater ownership and control when they have more experience in the local market.

Anderson & Gatignon (1986), on the other hand, even concluding that this approach impacts the entry mode decision, note that it is not sufficient to completely explain this decision, because the government interventions, the competitiveness of the market and the lack of information also influence such decision. Erramili & Rao(1993) also identified that organizations take decisions not only considering the transaction cost cutback, so the transaction cost theory does not fully explain the entry mode choice.

However, researchers in the 1990s concluded that social theories also affect entry-mode decisions (ROBERTS; GREENWOOD, 1997; MARTINEZ; DACIN, 1999) and reported evidence on the relationship of organizations with the institutional environment (SCOTT, 1995). It is noted that institutional theory variables (regulatory environment, cultural differences, internal and external isomorphism) also affect the decision of multinational organizations when choosing the entry mode.

1.3 Institutional Theory

Since a purely economic approach does not fully explain entry-mode choices, researchers have integrated a sociological line in studies on the theme, in a more complex theoretical approach. According to this approach, the institutional environment consists of three pillars: the regulatory, normative and cognitive (SCOTT, 1995).

Since political and social institutions determine the nature of organizations (HALL; SOSKICE, 2001), the regulatory pillar determines how firms operate according to the rules established by relevant entities, such as customers, organizations, governments and the public at large. Empirical studies have shown that bureaucratic practices, tax incentives (LOREE; GUISINGER, 1995) and market-oriented laws (GLOBERMAN; SHAPIRO, 2003; BEVAN; ESTRIN; MEYER, 2004) can create entry barriers or attract foreign investors. Therefore, formal institutions, such as legislation, and informal institutions, such as the practices of applying the law, influence investors' choices on the way of entering new markets (MEYER, 2001). Empirical studies have also shown that companies are more likely to choose alliances with local partners when the regulatory pillar is more restrictive (CONTRACTOR, 1990; GOMES-CASSERES, 1990).

The normative pillar refers to the meanings or logic of appropriateness present in a culture – the values, norms and beliefs of the country (MARCH, 1981). Hence, when entering a country with a different normative system, firms tend to accommodate to the local institutional expectations to demonstrate their social responsibility (DIMAGGIO; POWELL, 1991). In restrictive environments, a company can overcome barriers by forming an alliance with a local partner (COLEMAN, 1988), benefiting from the local partner's public reputation. The results of empirical studies suggest that firms are more likely to form alliances with local partners when the cultural and/or ethnic difference between the countries is greater (KOGUT; SINGH, 1988; AGARWAL, 1994).

The decision on how to enter a new foreign market is also limited by the cognitive mentalities of decision-makers. The cognitive pillar refers to the broad cognitive structure for interpreting and understanding the world, that is, of internalizing symbolic representations (SCOTT, 1995). Many researchers argue that individuals understand social events by categorizing them as schemes and stereotypes in their existing mental framework (MARKUS; ZAJONC, 1985). Therefore, decision-makers do not have organizational knowledge of all the possible alternatives (DIMAGGIO; POWELL, 1991). The central premise of the cognitive pillar is isomorphism, which can be defined as the process that forces an individual to mimic the population due to the conditions of the environment (DIMAGGIO; POWELL, 1983). This imitation occurs because previous decisions or actions increase the legitimacy of new similar decisions and actions, minimizing the risk when the scenario is one of great uncertainty (TOLBERT; ZUCKER, 1983; DIMAGGIO; POWELL, 1983; HAUNSCHILD; MINER, 1997).

Institutional theories are applied to study the impact of external institutions – such as regulatory frameworks, agencies, legislation, courts, interest groups and public opinion – on organizational decisions and behavior (OLIVER, 1991). External isomorphism results from the behavior of the organizational environment, whereby firms take advantage of the experiences of other organizations in similar situations when faced with uncertainty (DIMAGGIO; POWELL, 1983) and seek to conform to the pressures from other organizations (MARTINEZ; DACIN, 1999). When entering a new institutional environment, multinationals observe the overall performance of other organizations in that setting and insert the efficiency of their own organization (ROBERTS; GREENWOOD, 1997), evaluating the legitimacy with and of other organizations and adopting an institutionalized organizational form according to mimetic behavior in choosing the entry mode (KOSTOVA; ZAHEER, 1999).

On the other hand, business units are subject to internal institutional pressures as well (KOSTOVA; ZAHEER, 1999). For a subsidiary to attain legitimacy, it must conform to the norms established by the internal organizational environment (HAVEMAN, 1993; KOSTOVA; ZAHEER, 1999). Internal isomorphism means that multinationals establish a micro-institutional environment that transfers practices and information from the parent company to branches or from one branch to another. Therefore, when a foreign subsidiary attains legitimacy in the country, the parent company incorporates this practice as a successful aspect its cognitive structure and will adopt it in future subsidiaries in this same country. According to this view, organizations utilize previously established modes to institutionalize decision making as a habitual behavior (ROMANELLI; TUSHMAN, 1986; TALLMAN; SHENKAR, 1994).

Therefore, organizations use isomorphism as a basis for their decisions (DIMAGGIO; POWELL, 1983; HAUNSCHILD; MINER, 1997). Isomorphic pressures significantly influence entry-mode decisions (BROUTHERS, 2002), suggesting that when multinationals enter a new market, they tend to imitate the actions of other parts of the organization or competing firms to legitimize their operations and presence in the local market (KOSTOVA; ZAHEER, 1999).

It is possible to note that the economical approach does not explain fully the choices of entry modes, so the sociological one needs to be introduced in empirical research to better explain the entry modes choice. Kogut & Singh (1998), Brouthers, 2002 e Zhao, Luo & Suh (2004) have done some empirical tests with multinationals from developed countries, suggesting that the explanation power of entry mode decision is enhanced when institutional and cultural aspects are considered together with the transaction cost theory. Because of that, we understand that is important to investigate the economical and sociological influences in multinationals from developing countries.

1.4 Hypotheses

First, according to the theory of Anderson & Gatignon (1986) that consolidated the economical approach when investigating entry modes in international markets, congregating the previous theories in just two variables: specific assets and international experience it was tested the transaction cost influence in entry-mode decision of Brazilian multinationals, ensuring that the high investment in research and development and the experience in local market would impact this decision.

H1: The greater the R&D intensity of the Brazilian multinationals, the more likely they will be to choose a wholly owned subsidiary over a joint venture.
H1`: The lower the R&D intensity of the Brazilian multinationals, the more likely they will be to choose a joint venture over a wholly owned subsidiary.
H2: The longer the experience of the Brazilian multinationals in the host market, the more likely they will be to choose a wholly owned subsidiary over a joint venture.
H2`: The shorter the experience of the Brazilian multinationals in the host market, the more likely they will be to choose a joint venture over a wholly owned subsidiary.

Since Erramili & Rao (1993) concluded that some organizations with few specific assets adopt the model of wholly owned subsidiary, it is also identified why the reduction of transition costs is not the only aspect that impacts the entry mode. Then, were inserted the variables of each pillar of the institutional theory: the regulatory, normative and cognitive, with the last one divided into two distinct variables (internal isomorphism and external isomorphism), along with the transaction cost theory variables. The institutional variables were inserted separately to test the impact of each one on the organization's entry-mode decision. This allowed identifying the variables that most influence this choice and to conclude that the institutional theory, when tested together with the transaction cost theory, increased the explanatory power of the latter on Brazilian multinationals' choice of how to enter foreign markets in 2008.

H3: The more restrictive the regulatory environment of the local market, the more likely the Brazilian multinationals will be to choose a joint venture over a wholly owned subsidiary.
H3`: The less restrictive the regulatory environment of the local market, the more likely the Brazilian multinationals will be to choose a joint venture over a wholly owned subsidiary.
H4: The more restrictive the normative environment of the local market, the more likely the Brazilian multinationals will be to choose a joint venture over a wholly owned subsidiary.
H4`: The less restrictive the normative environment of the local market, the more likely the Brazilian multinationals will be to choose a joint venture over a wholly owned subsidiary.
H5: Brazilian multinationals are more likely to choose the entry mode chosen by other Brazilian multinationals in the same market.
H5`: Brazilian multinationals are not likely to choose the entry mode chosen by other Brazilian multinationals in the same market.
H6: Brazilian multinationals are more likely to choose the entry mode that the particular multinational has already used in the same country.
H6`: Brazilian multinationals are not likely to choose the entry mode that the particular multinational has already used in the same country.

2 METHODOLOGY

Since the main goal of this study is to identify the entry mode used by Brazilian Multinationals, we sought to replicate a method that used the institutional approach along with the economical one, aiming to better explain and understand the entry mode decision of such organizations, once the theory of transactions costs does not fully explain this decision as concluded by Anderson & Gatignon (1986) and validated by Erramili & Rao (1993). Considering this, it was used the quantitative method from Yiu & Makino (2002) that succeeded in adding institutional theory variables along with transaction cost ones in the logistical binomial regression.

The major contribution of this study is the quantitative analysis with data from Brazilian multinationals. According to the United Nations Conference on Trade and Development (UNCTAD, 2010), Brazilian multinationals accounted for over US$ 82 billion worth of trade in 2007, making Brazil the leading Latin American country and one of the main emerging markets in world trade in goods. Despite that growth of Brazilian multinationals international trade, there are few empirical studies with Brazilian companies.

The ten Brazilian companies appearing on the list of the 100 most competitive emerging-market companies published by the Boston Consulting Group for 2006, 2008 and 2009 were selected for this research. This ranking identifies the 100 main companies in emerging markets that are rapidly globalizing and challenging the entrenched world leaders, through expansion to foreign markets and greater access to international financing. The ten Brazilian companies on this list in the three years of ranking are Coteminas, Embraer, Gerdau, Natura, Perdigão, Petrobras, Sadia, Vale, Votorantim and Weg.

We used secondary data for this study, the data on the equity stakes in the subsidiaries of the Brazilian multinationals in 2008 were taken from their annual reports submitted to the Brazilian Securities Commission (*Comissão de Valores Mobiliários*, or CVM), financial statements, filings with the SEC or information posted at the websites of the respective multinationals or their subsidiaries. The only exception in this respect is Petrobras, where the data on equity holdings refer to April 2009 instead of December 2008, because the company did not make this information available at its site at the end of 2008.

As the objective of external isomorphism was to seek legitimacy with Brazilian companies in local market, were excluded joint ventures formed with non-local players. Moreover, were eliminated subsidiaries without complete information on the firm itself or the country. To obtain a significant sample, it was used the *SPSS Statistical Package for the Social Sciences* to reduce the standard deviation to less than 5% and cluster database. Thus, the final sample included a group of 131 subsidiaries.

2.1 Dependent Variable

The dependent variable is a dummy that represents the entry mode chosen: 0 for a wholly owned subsidiary and 1 for a joint venture. The distinction between these two entry structures is controversial. Some scholars argue for a literal interpretation of the expression “wholly owned”, as meaning 100% ownership (YIU; MAKINO, 2002). Others adopt a looser definition, according to which 95% ownership is the threshold to classify a subsidiary as being wholly owned (ANDERSON; GATIGNON, 1986; GOMES-CASSERES, 1989; HENNART, 1991; PADMANABHAN; CHO, 1996). Still others, such as Makino & Beamish (1998), apply an even more expansive definition, of an 80% equity stake, in line with international accounting practices by which a 20% interest is considered enough to confer a measure of control. For this reason, we used three percentages (100%, 95% and 80%) to differentiate a wholly owned subsidiary from a joint venture, and thus performed three groups of regression analyses.

2.2 Independent Variables

2.2.1 Independent Variables of the Economic Approach

Specificity of assets: The specificity of assets is measured by the intensity of research and development investments (GATIGNON; ANDERSON, 1988; GOMES-CASSERES, 1989), calculated by the amount invested in R&D scaled by total sales in the year before entering the new market. These figures were obtained from the annual financial statements posted at the sites of the Brazilian multinationals. Coteminas, Gerdau and Votorantim did not specify their R&D investments in the annual reports for the years studied, explaining that these amounts were included under expenses for the year. In these cases, we codified this variable as 0.

Local experience: This is measured by the number of years the multinational was present in the local market. These data were obtained from the public disclosures filed with the SEC and CVM and published in the multinational's financial statements at their respective websites. GATIGNON; ANDERSON (1988), Hennart (1991), Padmanabhan & Cho (1996).

2.2.2 Independent Variables of the Sociological Approach

Regulative pillar: This variable measures the influence of regulatory forces on firms' activities. In this study, we obtained the regulatory environment index from *The Global Enabling Trade Report* for 2008, published by the World Economic Forum. The world's leading economists gather annually in this forum to analyze global growth and the competitiveness of markets as well as to promote initiatives and publish reports.

Normative pillar: This variable is measured by the cultural distance between the two countries. To measure this distance, researchers generally applied the formula proposed by Kogut & Singh (1988), developed to measure the cultural distance between two countries in the four dimensions of Hofstede (1983): power distance, individualism-collectivism, masculinity-femininity and uncertainty avoidance. The formula consists of the difference between the host country and headquarters country, raised to the second power and divided by the variance of the same index. The same calculation is performed for the other three dimensions and then the four results are averaged.

Cognitive pillar (external isomorphism): External isomorphism was measured by the number of joint ventures of Brazilian multinationals in a determined country divided by total of all subsidiaries of Brazilian multinationals in that country the year beforehand, only considering the ten multinationals included in our sample. A similar metric based on frequency was used by Fligstein (1985), Haveman (1993) and Yiu & Makino (2002).

Cognitive pillar (internal isomorphism): Internal isomorphism was measured by the number of joint ventures of each Brazilian multinational in a determined country divided by the total number of that same multinational's subsidiaries in the country at the moment of entry. This method was also used by Amburgey & Miner (1992) and Yiu & Makino (2002).

2.3 Control Variable

Type of subsidiary: The type of subsidiary influences the degree of commitment of the multinational, impacting the entry-mode decision (Johanson & Vahlne, 1977). This variable is represented by a dummy, as in Yiu & Makino (2002), set at 0 when the subsidiary manufactures its main products in the host country and 1 otherwise

2.4 Regression Analysis

Aiming to make an empirical quantitative research to examine the effects of institutional approach along with the economical approach, we used the binomial logistical regression, which is widely used in entry modes empirical studies such as Erramili & Rao (1993), Meyer (2001), Yiu & Makino (2002). The main purpose was to create fifteen distinct logistical regressions with different variables and minimum percentages of different stake ownerships to compare the results of these regressions. First, the group was divided into three sub-groups, allowing isolation of the results for the different ownership thresholds for differentiating a wholly owned subsidiary from a joint venture. Then five regression models were applied to each of the six sub-groups. Regression A tested the transaction cost theory separately, by analyzing the R&D intensity and company experience variables. Regression B added the normative environment variable to the economic approach. Regression C added the cultural distance variables from transaction cost theory. Regression D inserted the external isomorphism variable to the economic approach. Finally, Regression E added the internal isomorphism variable to the variables tested in the first regression.

3 RESULTS AND ANALYSIS

3.1 Results of the regression analysis of the Brazilian multinationals

Table 1 presents the number of joint ventures for each multinational, according to the three percentage thresholds for characterizing the new entrant as a wholly owned subsidiary. The average equity holding in this group is 95.5% and the standard deviation is less than 5%. Further, Perdigão, Coteminas and Embraer did not have any joint venture.

Table 1 - Equity holding of the sample group

Company	(St. Dev.)	*N*	100%	95%	80%
Natura	100,0	14	8	0	0
	(0,0)		57%	0%	0%
Vale	96,3	13	3	2	2
	(0,1)		23%	15%	15%
Perdigão	100,0	19	0	0	0
	(0,0)		0%	0%	0%
Coteminas	100,0	1	0	0	0
	(0,0)		0%	0%	0%
Sadia	99,4	9	1	0	0
	(0,0)		11%	0%	0%
Gerdau	98,6	34	21	4	0
	(0,0)		62%	12%	0%
Votorantim	96,0	7	2	1	1
	(0,1)		29%	14%	14%
Embraer	100,0	10	0	0	0
	(0,0)		0%	0%	0%
Petrobras	99,0	10	4	1	1
	(0,0)		40%	10%	10%
Weg	96,9	14	4	1	0
	(0,1)		29%	7%	0%
Total	98,7	131	43	9	4
	(0,0)		33%	7%	3%

After classifying the sample group and dividing them by multinational, was performed the regression analyses to verify the impact of the independent variables on the dependent variable. Then, Table 2 presents the results. As explained, these regressions were composed of fifteen models, to enable identification of the impact of each of the institutional theory variables under the three definitions of minimum equity holding for classification as a wholly owned subsidiary rather than a joint venture.

The regressions with the group without acquisitions and applying the 100% definition of wholly owned subsidiary are classified as Model 1, with Model 2 being the same group with the 95% threshold and Model 3 that with the 80% threshold. Likewise, Models 4, 5 and 6 are the regressions with the group with acquisitions and the 100%, 95% and 80% thresholds, respectively.

We also separated the regression analyses according to the independent variables used. Model A tested the two transaction cost variables (R&D intensity and experience of the parent company). Model B analyzed three independent variables, by adding the normative environment variable to the two transaction cost theory variables. Model C also analyzed three independent variables, by adding the cultural distance variable to the two transaction cost theory variables, while Model D added the external isomorphism variable to these two variables and Model E added the internal isomorphism variable to them.

According to the F-statistic, it was higher than 0.10 for models 2A, 2C, 2E, 3A, 3C and 3E, showing that there is no influence for transaction cost, cultural environment and internal isomorphism variables when the minimum percentage to distinguish a wholly owned subsidiary from a joint venture is 95% or 80%. The other models have F-statistic between 0.00 and 0.07, coefficient of determination (R-squared) ranged between 0.05 and 0.31. Therefore, models 2A, 2C, 2E, 3A, 3C and 3E were eliminated.

Regarding the hypotheses tested, the results for the two transaction cost theory variables support different conclusions for emerging countries, showing that R&D intensity and local experience does not have a significant impact on the entry-mode choice, suggesting that Brazilian multinationals with few specific assets and little local experience adopted the model of wholly owned subsidiary. Therefore, Hypothesis 1´ and 2´ cannot be rejected and Hypothesis 1 and 2 are rejected.

Table 2 - Regression for the sample group

	100% cutoff					95% cutoff					80% cutoff				
Variables	1A	1B	1C	1D	1E	2A	2B	2C	2D	2E	3A	3B	3C	3D	3E
P-val. Type Subs.	0.02	0.03	0.12	0.49	0.05	0.05	0.06	0.08	0.33	0.07	0.38	0.45	0.41	0.88	0.36
P-val. R&D Int.	0.14	0.17	0.59	0.88	0.42	0.42	0.58	0.59	0.29	0.28	0.27	0.18	0.26	0.86	0.27
P-val. Local Exp.	0.49	0.32	0.35	0.89	0.43	0.44	0.97	0.45	0.65	0.42	0.52	0.97	0.53	0.63	0.50
P-val. Reg Env.		0.14					0.00					0.00			
P-val. Cult. Env.			0.00					0.24					0.83		
P-val. Ext. Isom.				0.00					0.00					0.00	
P-val. Int. Isom.					0.00					0.34					0.55
R^2	0.05	0.07	0.27	0.31	0.12	0.04	0.14	0.05	0.17	0.05	0.02	0.08	0.02	0.22	0.02
Adjusted R^2	0.03	0.04	0.24	0.29	0.09	0.02	0.11	0.02	0.15	0.02	0.00	0.05	0.00	0.19	0.00
F-statistic	0.07	0.05	0.00	0.00	0.00	0.16	0.00	0.16	0.00	0.20	0.43	0.04	0.60	0.00	0.55

Models 1B, 2B and 3B showed different results for Hypothesis 3, which measures the impact of the regulatory environment on the entry-mode choice. Models 2B and 3B produced a satisfactory result, i.e., the regulatory environment appears to affect the entry-mode decision when the wholly owned subsidiary threshold is 95% or 80%. Therefore, we can conclude that, in countries with lots of regulations, Brazilian multinationals tend to share the risk with local organizations in the internationalization process when the wholly owned subsidiary threshold is 95% or 80%, so Hypothesis 3 cannot be rejected and Hypothesis 3` is rejected for these minimum percentage.

Consistent with Hypothesis 4, the results show that the more restrictive the foreign market’s normative environment is, the higher the probability that Brazilian multinationals will choose a joint venture with local partners only when the 100% definition of wholly owned subsidiary is used. With this it is possible to conclude that a joint venture will tend to be chosen, the more restrictive the normative environment of the local market. Therefore, Hypothesis 4 cannot be rejected and Hypothesis 4` is rejected for this minimum percentage.

Besides the regulatory and normative environments, we also analyzed the effect of the cognitive pillar on the entry-mode choices of Brazilian multinationals. Models 1D, 2D and 3D evidenced that the managers of Brazilian multinationals are more likely to choose the entry method predominantly employed by other Brazilian multinationals in the same market, suggesting they considered previous experiences from other Brazilian subsidiaries. Hence, Hypothesis 5 cannot be rejected and Hypothesis 5` is rejected.

The results of Hypothesis 6, however, show that Brazilian multinationals are more likely to choose the entry mode already chosen by the company in the same country only when the 100% definition of wholly owned subsidiary is used. With this it is possible to conclude that Brazilian multinationals use their own experiences in new processes of internationalization. Therefore, when using this threshold, Hypothesis 6 cannot be rejected and Hypothesis 6` is rejected for this minimum percentage.

The type of subsidiary also influences the entry-mode choice in models 1A, 1B, 1E and 2B. This suggests that Brazilian multinationals are more likely to choose a joint venture entry mode when this enterprise will not engage in production activities (a subsidiary not only for sales, services, customer financing, etc.), so, we can conclude that Brazilian multinationals usually have more share participation in overseas subsidiaries when these are involved with production, due to avoid imitation of their specific assets.

After considering all the results mentioned above, the first relevant conclusion of this study is that the inclusion of the institutional variables, when tested together with the transaction cost theory variables, increased the explanatory power of the latter theory of the entry-mode decision, suggesting that the majority of entry mode decisions can be explained by institutional variables. Thus, this can improve the conclusion of Yiu & Makino (2002), validating that the explanation power of entry mode decisions increases not only in developed but also in emerging countries multinationals. The second point we can conclude is that the external isomorphism has greater impact than internal isomorphism when Brazilian multinationals are considered. This evidently shows that managers of such companies tend to use the same internationalization pattern used by other Brazilian multinationals located in the host country

The greatest finding of this research was to verify that, differently from the tests done with some Japanese multinationals (Hennart, 1991; Taylor, Zou & Osland, 1998) and the ones form the United States of America (Kim & Hwang, 1992; Erramili & Rao, 1993), transaction cost theory does not show a positive correlation with entry modes when Brazilian multinationals are tested... Therefore, research and development intensity do not impact on the decisions of Brazilian CEOs, when choosing the entry mode in the internationalization process.

4 CONCLUSIONS

Brazilian CEOs and managers can learn from the results of this study, when choosing the best entry modes in international markets.

First, the results provide evidence that the transaction cost theory does not have a positive correlation with the wholly owned entry mode when tested in an emerging country. This is because Brazilian multinationals adopt the wholly owned mode even without local experience or high investment in research and development.

Moreover, external isomorphism is more significant than internal isomorphism in entry mode decisions, concluding that managers of Brazilian multinationals are likely to choose the entry method predominantly employed by other Brazilian ones in the same market, seeking legitimacy according to the mimetic behavior (KOSTOVA; ZAHEER, 1999).

Finally, the results of this analysis indicate that, when the institutional variables were included along with the transaction cost variables, the explanatory power increased, suggesting that pressures from both the internal and external environments affect the entry-mode choice of Brazilian multinationals.

The limitation of this study is that it only considered competitive Brazilian multinationals in the period of 2006 to 2009, and data collected by HOFSTEDE (1983) because of its critic, even though they have been widely used in entry mode researches. As suggestions for future studies, we could reply the same method in organizations with different profiles, forms and areas of expertise, to check if institutional approach has the same impact. It would be also wise to verify if other emerging countries multinationals show a positive correlation between the transactional costs theory and the way they choose to internationalize themselves. This could show better if there is a pattern among countries from the same economical block like Mercosur, or the BRICS.

We can finally conclude that Brazilian multinationals, when choosing the best entry mode options to internationalize, are not greatly impacted by the intensity of research and development and their local experience, meaning that their CEOs consider less risky to follow the same entry modes of other Brazilian multinationals present in the host country.

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