CREATION OF LOCAL INNOVATION BY FOREIGN SUBSIDIARIES FROM SPECIFIC ADVANTAGES OF THE SUBNATIONAL ENVIRONMENT

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ABSTRACT

Purpose - The study examines the effects of the (Brazilian) subnational competitive environment and relational embeddedness on the foreign subsidiary local innovation.

Method – Primary data are collected through a survey from 152 foreign subsidiaries located in thirteen states in Brazil. Secondary data are sourced from the World Bank Enterprise Surveys. The data are analyzed through multiple regression.

Main results - The results show a positive significant association between the subnational competitive environment and the local innovation of subsidiaries. However, there is no association between subnational external embeddedness and subsidiary local innovation. Furthermore, companies that enter through acquisitions are strongly associated with local innovation.

Relevance/Originality - The study adds to the existing exchanges on the effect of subnational environment on the subsidiary local innovation, taking Brazil as an empirical context. A subnational level analysis is important as it considers subnational institutional heterogeneity and reveals variations that could be disregarded where a national level analysis is undertaken.

Theoretical/methodological contributions: Although there is evidence of the impact of the institutional environment on strategy and innovation, this study makes some contributions. First, while existing studies do focus on both the developed as well as emerging markets, the focus with regard to the latter is mainly on Asia, and other important contexts such as Latin American having specific idiosyncrasies are ignored. Second, the study contributes to the studies of Economic Geography, supporting that each subnational environment has its particularities, as demonstrated in the nature of subnational issues in Brazil.

Social / management contributions: In managerial terms, the study draws attention to the importance of knowledge of the subnational competitive dynamics regarding the participation of the informal economy and extends implications for public policies.

1. INTRODUCTION

The international management literature highlights the importance of subsidiary innovation for achieving a competitive advantage by multinational companies (Meyer, Li & Schotter, 2020). The development of local subsidiary innovations is one of the ways through which subsidiaries develop innovations that may have a global reach (Gupta & Govindarajan, 2001; Nohria & Ghoshal, 1997). Local

innovation is encouraged through the subsidiary own initiatives; the factors in the local competitive environment (Porter, 1990; Birkinshaw, Hood & Jonsson, 1998) as well as the subsidiary local networks (Andersson, Forsgren & Holm, 2002). This article focuses on the such factors in the subsidiary external environment. External environment is generally studied at a (national) macro level.

However, it is also recognized that the research predominant focus on the country's macro environment ignores the subnational environment. Subnational local characteristics are considered relevant for contexts with greater disparities (Falaster, Ferreira, Serra & Storopoli, 2017; Bi, Ren & Bao, 2020), such as Brazil. A focus on subnational peculiarities may indicate such variations that an analysis at the national level may disregard because the latter does not take into account subnational institutional heterogeneity (Hutzschenreuter, Matt & Kleindienst, 2020; Li & Sun, 2017; Yang, 2018; Meyer & Nguyen, 2005).

Given this context, this article proposes a question: *what are the effects of factors in the Brazilian subnational environment on the creation of local innovation in foreign subsidiaries?* The study is carried out in thirteen Brazilian states and aims to examine the effects of the factors of the Brazilian subnational environment - the efficiency of the subnational competitive environment and the relational embeddedness in each subnational location - in the creation of local innovation in foreign subsidiaries. The analysis is carried out using a quantitative approach. Primary survey data are collected taking the respondents' perception of the factors of the macro environment. Furthermore, secondary data from the World Bank Enterprise Surveys (WBES) are used to assess the effect of subnational institutional factors at the state federative entity level.

Subnational level factor analysis offers a more nuanced integration of the subsidiary's relationships with the local context and points to a fertile arena for both International Business (IB) and Economic Geography (GE) studies (Beugelsdijk & Mudambi , 2013; Beleska-Spasova, Loykulnanta & Nguyen, 2016; Meyer & Nguyen, 2005; Yang, 2018; Hutzschenreuter et al., 2020). Hutzschenreuter et al. (2020) call for studying the effect of subnational factors on subsidiary innovation. Sun, Qu and Liao (2018) examine the same focusing on the Chinese subnational institutions and their impacts on the incentives for investment in research and

development (R&D). However, studies on other important aspects such as the Latin American contexts are ignored. So, to this end, this study seeks to complement the debate on the effect of the subnational environment on the local innovation of subsidiaries with Brazil as its empirical context.

2. THEORETICAL FRAMEWORK

2.1. *Localization and local innovation*

A key determining factor of subsidiary local innovation is the subsidiary local external environment. Meyer et al. (2020) highlight subsidiary innovation development as a major topic of analysis in the subsidiary management research. Innovation is associated with the role of the subsidiary in the MNE, which changes according to the factors of the subsidiary local environment (Oliveira Jr., Boehe & Borini, 2009). The location where a subsidiary operates is important for the subsidiary (Meyer, Mudambi & Narula, 2011; Andersson, Dellestrand & Pedersen, 2014; Yang, 2018) for it being a major source of subsidiary local innovation (Birkinshaw et al., 1998).

The local context is composed of factors from the competitive environment and institutions. These local factors impact the location choices of subsidiaries (Chan, Makino & Isobe, 2010; Ma, Tong & Fitza, 2013; Li & Sun, 2017; Kim & Kim, 2018; Yang, 2018). The better the local environment, the greater the attraction for subsidiaries for the region being conducive to creation of local innovation (Rugman & Oh, 2013; Porter, 1990; Andersson et al., 2002). Therefore, the subsidiary's local innovation depends greatly on how much the company enjoys the resources of its local environment (Gnyawali & Hatfield, 2007). However, it is important to note that the local innovation is developed to specifically meet the needs of the market where the subsidiary operates and this is to maintain the subsidiary local competitiveness (Costa, Borini & Amatucci, 2013; Rugman & Verbeke, 2001).

Existing research focuses on subsidiary location from a macro perspective, that is, through the factors of the competitive environment and national institutions. Studies that empirically examine how subsidiaries respond to subnational changes have also received due attention (Hutzschenreuter et al., 2020; Li & Sun, 2017; Lu, Song, & Shan, 2018; Yang,

2018; Peng & Beamish, 2019), but have some empirical limitations. The regional peculiarities of countries are increasingly evident (Falaster & Ferreira, 2020; Batschauer, Floriani & Amal, 2020), and the greater the territorial and institutionally diversification, the greater the variability of the subnational environment may be expected (Meyer & Nguyen, 2005). Therefore, while studies show an influence of the Brazilian national environment on the innovation of subsidiaries (Costa et al., 2013), as well as on the business networks (Isaac, Borini, Raziq & Benito, 2019), variations because of the subnational environment (WBES, 2017) vis-à-vis innovation may be expected. A national-level perspective based on a country's spatial homogeneity can camouflage regions of greater attractiveness within the country (Hutzschenreuter et al., 2020). This is because some of regions/states are less vulnerable and, hence, more attractive for investments and development of innovations (WBES, 2017), while others less. Thus, in this article, the effect of the subnational environment on local innovation of subsidiaries is focused.

2.2. Subnational competitive environment

The dynamics of the competitive environment forms the basis for attracting foreign multinationals (Andersson et al., 2014; Beleska-Spasova et al., 2016; Rugman, Verbeke & Nguyen, 2011). The competitive environment involves competition and rivalry, pressures from customers and suppliers (Porter, 1990) – these factors drive subsidiary innovation (Birkinshaw & Hood, 1998; Frost, Birkinshaw & Ensign, 2002), depending upon the level of local environment development (Holm, Malmberg & Sölvell, 2003). These factors determine the local firms and the foreign subsidiary role and capability development, which can be encouraged through embeddedness among local and foreign firms (Andersson et al., 2014).

The interactions between a subsidiary and local firms enhance the learning and adaptation processes (Porter, 1990; Andersson, Forsgren & Holm, 2001; Andersson et al., 2002). Thus, dynamic interaction in the competitive environment can partially explain the success and failure of companies, particularly that are based in emerging economies (Chen & Miller, 2012; Li & Liu, 2014). In this sense, the level of trade, competition and market size indicates a strong dynamic environment in case of Brazil. This is because

Brazil occupies the 32nd position in comparison to the one hundred and twenty-seven countries in the global innovation ranking (Global Innovation Index - GII, 2017).

However, the analysis of the competitive environment can be better understood if weighed by the peculiarities of subnational institutions, since it can better explain how companies manage to take advantage of the resources at their disposal to achieve innovation (Meyer & Nguyen, 2005; Meyer et al., 2011; Goerzen, Asmussen & Nielsen, 2013). Companies choose to locate themselves where institutions enable a business environment more conducive to their type of commercial operation and, in particular, where institutional barriers less inhibit access to local resources (Meyer & Nguyen, 2005; Lu, Saka-Helmhout & Piekkari, 2019; Hutzschenreuter et al., 2020). Thus, the level of subnational institutional development reflects the extent to which political and economic institutions in a subnational region favor foreign companies or not (Li & Sun, 2017).

At the subnational level, a key element of the institutions related to the dynamics of the competitive environment are competitive practices, which pose certain obstacles in the business environment in the form of competitive informality (WBES, 2009). It is the informal economy that covers a wide variety of segments (International Labor Organization - ILO, 2018). According to Brazilian Institute of Geography and Statistics (IBGE, 2018), on average in Brazil (in a decade), approximately 40% of the employed population is involved in informal employment. Furthermore, there is heterogeneity of informality according to the different regions of the country (Souza, Trovão, Silva & Melo, 2019). For example, Souza et al. (2019) show that in 2005 the informality rate approximately in the Northeast was 71%, in the North 68%, in the Midwest 52%, in the South 46% and in the Southeast, it was 40%. After ten years, informality fell in 2015, but disparities continued with that being in the Northeast, it was 56%, in the North 56%, in the Midwest 34%, in the South 25% and in the Southeast, it was 28%.

Therefore, informality arguably is a subnational factor that has an effect on the competitive dynamics and, consequently, on the subsidiaries' innovation strategy. Informality means that competition has a disparity in terms of the cost structure. In addition, informality works both downstream and upstream. The conditions of industry suppliers are affected by

informality, as well as demand are impacted by the supply of products from the informal economy. This means that the lower the informality in the subnational region, the greater the institutional efficiency and the greater the probability of positively impacting the subsidiary's competitiveness (Li & Sun, 2017). So,

Hypothesis 1: Local innovation by foreign subsidiaries is associated with greater efficiency in the subnational competitive environment.

2.3.   Relationship with business partners in the subnational environment

From a local perspective, subsidiaries interact externally with other organizations through networks to attract resources (Meyer et al., 2020) for the development of skills (Andersson et al., 2002; Meyer et al., 2020). The business network theory recognizes that, to a large extent, the critical resources related to innovation are linked to the specific relationships of the subsidiary with its customers, suppliers, distributors and other local counterparts (Andersson & Forsgren, 1996; Andersson et al., 2002; Andersson, Forsgren & Holm, 2007). An external network provides the subsidiary new knowledge as a strategic source for the development of innovations in products, processes and services (Andersson et al., 2002; Figueiredo, 2011).

External embeddedness can be seen as a resource in itself because through it the company gains access to resources and capabilities that are outside the organization. The possibility for a subsidiary to identify new information, and assimilate and transform into production processes depends strongly on the proximity of existing relationships with different business partners (Andersson et al., 2002; Holm, Holmström & Sharma, 2005; Andersson, Björkman & Forsgren, 2005). Thus, external embeddedness covers the relationship of subsidiaries with their customers, suppliers, distributors or partners. When this relationship is permeated by transactions based on high quality and long-lasting relationships, partners adapt their behaviors extensively to each other based on trust and mutual commitment (i.e., relational embeddedness) (Andersson et al., 2002; Hallin, Holm & Sharma, 2011). Relational embeddedness forms the basis for knowledge sharing (Hallin et al., 2011; Nell &

Andersson, 2012) and the creation of local innovation (Andersson et al., 2002; Isaac et al., 2019).

Ma et al. (2013) argue that the effect of the subnational region on the performance of the foreign subsidiary is derived from the subsidiary's embeddedness in the local context of the subnational region. Partners provide reliable and useful information about the market, about other potential local partners, which help to reduce uncertainty and collaboration risks (Kim & Kim, 2018) assisting the innovation process. Therefore, it is important that there are qualified partners for the subsidiary, and this depends on the qualification of the workforce in the subnational regions.

The qualification of a nation's workforce is the basis for the productivity of its institutions. De Souza Barbosa and Lemos (2019) show that education is related to productivity, but with significant variations within Brazil. The data reveal that the lowest of educational qualifications (less years of study) are associated with lower productivity, showing that the Northeast region has the lowest productivity and lowest education, when measured by the percentage of the population over 15 years' old who completed only elementary school. This implies that partners in different states of the federation may find it more difficult to find qualified labor and be more productive. Lower productivity can lead to less availability for a knowledge exchange relationship between partners and the subsidiary (Andersson et al., 2002). This may imply less predisposition for local innovation. So,

Hypothesis 2: Local innovation by foreign subsidiaries is associated with relational embeddedness in each subnational location.

3.   METHODOLOGY

3.1.   Data collection and sample

Primary data were collected through a survey sent by e-mail to representatives with decision-making positions in the 1,000 largest foreign multinationals operating in Brazil. This collection was carried out in the first half of 2009. Initially, 152 complete responses were received with subsidiary country of origin being North America (30%) and Europe (56%), and belonging to industry sectors as agribusiness (3%), manufacturing (76%) and services (21%).

Data analysis showed that the responding companies operated individually in thirteen states in Brazil, with 35% (54) of the companies operating in more than one state. When the company operates in more than one state, the proxy for the subnational environment is the average of the grades obtained in the states. Secondary data (WBES data) were used for each state's institutional data. The WBES database (2009) provides perspectives of entrepreneurs and senior managers from eighteen hundred and two companies with regard to obstacles of in the subnational business environment – all of these companies were invited. This set of secondary data allows us to distinguish the different states of Brazil, including the thirteen federative entities in which the multinationals in the sample operate: Amazonas, Bahia, Ceará, Distrito Federal, Goiás, Mato Grosso, Minas Gerais, Paraná, Pernambuco, Rio de Janeiro, Rio Grande do Sul, Santa Catarina and São Paulo. It is important to point out that the primary database of year 2009 was consistent with the secondary data, since the secondary data also dated back to 2009, and this was also the last collection period made for Brazil in the WBES.

3.2. Variables

All survey variables are measured on a five-point Likert scale, with a value of 1 on one end as strongly disagree and on the other end, totally agree with value 5. Due to the impossibility of direct measurement, latent constructs are represented by more than one latent variable (Hair et al., 2009).

The WBES variables are also measured on a five-point Likert scale, where the value 0 is at one extreme, which indicates that there are no obstacles, and at the other end, the value is 4, which indicates the existence of very severe obstacles. Due to the difference in scales between the survey and the WBES data, a scale adjustment was made with recoding so that the responses given to the WBES were adequate to measure the survey responses. The scales were also inverted to measure not the obstacle of the institutional factor, but how much the factor is favorable for a given State, in order to match the scale in positive signaling of the national environment and the embeddedness.

3.3. Dependent variable

The dependent variable assesses local innovation by subsidiaries. The construct of local innovation is based, in particular, on Birkinshaw et al. (1998), which analyzes whether the subsidiary develops local innovations, and is given autonomy by headquarters to innovate locally. The measurement was made considering that the local innovation of the subsidiaries follows an evolutionary path which goes through local adaptation to creation of products and processes (Tarraço, Bernardes, Borini & Rossetto, 2019). Three survey items were considered, asking if the company: (1) changes the design of the products / services offered; (2) creates new products / services; (3) changes the production processes. Cronbach's alpha, of the construct was 0.792, showing good reliability of the construct (Hair et al., 2009) is 0.792.

3.4. Independent variables

The independent variables from the survey are external embeddedness and the competitive environment. External embeddedness refers to the relationships and trust that the subsidiary develops with its customers, suppliers, distributors and partners. This construct is based on Andersson et al. (2002). The measurement was made with six survey items that ask: (1) the relationship with our main partners is characterized by being a long-term relationship; (2) the relationship with our main partners is characterized by a high level of mutual trust; (3) our main partners never commit to doing things without fulfilling their promise; (4) our main partners usually share important information about the market with us and vice versa; (5) we trust our partners in the sense that they will deliver as promised and on time and (6) we trust our partners in the sense that they will deliver within the promised quality standard. Cronbach's Alpha of the construct was 0.777.

The competitive environment is based on Porter (1990) and Birkinshaw et al. (1998). The measurement was made with four items of the survey, asking the importance of the following factors for the performance of the subsidiary: (1) size of market demand; (2) consumer demand; (3) intensity of competition and (4) speed in competitor innovation. Cronbach's Alpha of the construct was 0.664.

To calculate the variables of the subnational business environment, we used the data collected through WBES (2009) that indicate the existence of

obstacles. We selected two obstacles to look at the effects of the competitive environment and external embeddedness. In order to consider the effect of the competitive environment, the informality obstacle was chosen. In the WBES survey the question asks to what extent the practices of competitors in the informal sector are an obstacle. The weighting was done as follows: the average score of the States in which the subsidiary operates productively was multiplied by the average score answered for the competitive environment. Likewise, for external embeddedness, the obstacle of inadequate educational training of the labor force was used. In the WBES survey, the question asks how far an inadequately educated workforce is an obstacle. Likewise, the weighting was done with the average score of the States in which the subsidiary operates multiplied by the average score answered for external embeddedness.

3.5. Control variables

The control variables are age, size and mode of entry. Age considers the year of opening of the subsidiary in the respective state of Brazil and is measured in terms of the number of years, considering the period between 2000 and 2009 (Year 00).

The size of the subsidiary reflects the number of employees the company has in the state in which it operates in Brazil. For control purposes, subsidiaries with less than 100 employees (t100) were considered, because smaller subsidiaries probably have greater flexibility to innovate due to less internal bureaucracy and also because their innovations tend to be very specific to the demand of the local market (Costa et al., 2013).

The mode of entry into the states within the Brazilian market considers whether the subsidiary opted for an acquisition or greenfield, since the literature shows that acquired companies have more autonomy than greenfield companies (Raziq, Borini, Perry & Battisti, 2013) and, therefore, they have a greater capacity to innovate.

For all control variables, a dummy variable was used, assigning the value 0, if the characteristic is not present and 1, if the characteristic is present (Marôco, 2014; Fávero & Belfiore, 2017).

4.   RESULTS

Data are analyzed using multiple linear regressions. The survey responses made to the subsidiaries are based on perceptions, in the same way as those of the WBES. However, by weighing the survey responses against the WBES responses, the effect of the common method bias is diminished. In addition, the Harman test for a single factor shows that the explained variance at 22%, which is, well below the 50% threshold. To avoid bias from non-respondents, the sample was divided into two parts/groups. The comparison of the means of the constructs used in the model does not show any significant difference across the two groups. Finally, in order to increase the accuracy of the model, in addition to modeling with one hundred and fifty-two respondents (Model 1), a model with one hundred and thirty-seven observations (Model 2) was rotated from the exclusions of cases with more two standard deviations of the residues.

Table 1 shows the mean, standard deviation and correlations (non-standardized) of the surveyed constructs. At first, there is a weak correlation between the subnational competitive environment and the subsidiary's local innovation.

Table 1: Descriptive and Correlations

		Average	Standard deviation	1	2	3
1	Subnational competitive environment	8.79	1.46	1		
2	Subnational external embeddedness	5.24	0.74	0.194*	1	
3	Local Innovation	3.47	0.96	0.165*	-0.001	1
	*p < 0.05					

Source: Prepared by the authors (2020).

Table 2 shows the tests for the behavior of the control variables (year, entry mode and size) and of the independent variables, and their relationship with the dependent variable (local innovation) in Model 1 (n = 152) and in the Model 2 (n = 137). The models have VIF less than five, showing little or no signs of multicollinearity.

Table 2. Regression models

		Model 1	Model 2
Year		0.037	0.006
Entry mode (Acquisition)		0.198*	0.249**
Size		-0.084	-0.019
Subnational competitive environment		0.202*	0.376**
Subnational external embeddedness		-0.024	-0.099
	F	2.438	5.414
*p < 0.05 **p < 0.01	R2 Adjusted	0.045	0.14

Dependent variable: Local innovation.
Source: Prepared by the authors (2020).

The results show that there is a positive and significant association between the subnational competitive environment and the local innovation of the subsidiaries. This result confirms hypothesis 1. Both in Model 1 and Model 2, there is no significant association between subnational external embeddedness and local innovation. Thus, hypothesis 2 is not supported. Still, the two models show that companies that enter through acquisitions are more associated with local innovation, which confirms the assumption that subsidiaries made up of acquisitions have more autonomy for local innovation (Raziq et al. 2013).

5.   DISCUSSION

The results confirm that the subnational competitive environment (H1) has a significant effect for foreign subsidiaries to create local innovations, which is in accordance with the literature and highlights the importance of studying the subnational context (Chan et al., 2010; Beugelsdijk & Mudambi, 2013; Korez-Vide, Voller & Bobek, 2014; Beleska-Spasova et al., 2016; Goerzen et al., 2013; Yang, 2018; Hutzschenreuter et al., 2020). This result highlights the choice of location (Ma et al., 2013; Falaster et al., 2017; Li & Sun, 2017; Yang, 2018; Kim & Kim, 2018) in particular, regarding competitive dynamics as an important factor for the strategic purpose of innovation of foreign subsidiaries, at least, in Brazilian territory. The more dynamic competition, demand and industry of factors, and the less the interference of the informal economy, the more the subsidiaries tend to turn their strategic objectives towards local innovation. This result is in line with the exchanges on the importance of subnational environment, showing that innovation tends to proliferate where institutions are more conducive to business operations and where institutional barriers less inhibit access to local resources (Meyer & Nguyen, 2005; Kim & Kim, 2018).

In contrast, results do not show the association of subnational embeddedness with local innovation from foreign subsidiaries (H2). One explanation is that labor mobility can help companies from different states to complete their qualified staff, since the literature (Isaac et al., 2019) shows an association of embeddedness at the national level. Another reason is that, since the analysis is based on data from thirteen Brazilian states, it is possible that in these states the obstacles do not influence the creation of local innovation by foreign subsidiaries, but different institutional variations can be found in other states of the federation (Chan et al., 2010; Meyer & Nguyen, 2005; Goerzen et al., 2013; WBES, 2017).

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In addition to the strict analysis of the hypotheses, the results are important because they demonstrate that in an emerging market, the subnational competitive environment has an effect on local innovation. This implies that the federative unit versus state autonomy must be very heavy and balanced in order to resolve greater distortions than those that an emerging economy such as Brazil already presents due to its institutional development trajectory.

In terms of academic contribution, we emphasize that, although there are indications of the impact of the institutional environment on strategy and innovation, this study in the Brazilian context advances on two points. First, the studies analyze both developed markets (Santangelo et al., 2016) as well as emerging markets (Chan et al., 2010; Meyer & Nguyen, 2005), but the focus with regard to the latter is more on Asia (China and Vietnam) and other important emerging contexts such as Latin American are ignored. Asian context presents a considerable difference from the Latin American and Brazilian market. For example, the impact of subnational economic institutions in Brazil (emerging market) has its peculiarities in relation to developed markets, or even in relation to China (Khanna & Palepu, 2011; Sull & Escobari, 2004; Sull & Wang, 2005). Second, it contributes to the studies of Economic Geography (McCann & Mudambi, 2005) emphasizing that each subnational environment has its peculiarities, as we show in this study in the context of Brazil.

In managerial terms, the study draws attention to the importance of knowledge of subnational competitive dynamics, especially regarding the informal economy. In this sense, it extends the implications for public policies. For the government, the results demonstrate the importance of strengthening the institutional environment of the national innovation system. This highlights the need for public actions that the state and municipal governments must consider to figure their subnational environment in terms of attractiveness for foreign investment.

6. CONCLUSION

The subnational environments studied act as a pole of attraction for subsidiaries that wish to carry out specific activities to create local innovation locally, especially in states where host countries like Brazil have specific advantages in the subnational competitive environment. The findings contribute to international business and economic geography research vis-a-vis local subsidiary innovation. The findings are relevant to the study of foreign subsidiaries that operate in emerging economies, taking subsidiary and subnational environment as a unit of analysis.

The research has limitations. The first concerns the period of primary data collection. The primary database is dated, albeit is consistent with the last WBES collection on Brazil – further primary data will be useful, however, until the WBES has updated data. The second limitation is related to the transversal cut of 2009, which may not accompany some political and economic changes in subsequent years, which may have impacted not only the obstacles surveyed, but changed the conditions with which the representatives of the subsidiaries responded to the survey.

As a suggestion for future studies, we recommend replicating the method to assess whether the results are similar or different to our study. While WBES has no new data available, we suggest that researchers include in their surveys the same questions asked for the composition of the constructs presented in this research. The researchers may add questions (same as WBES) to measure the perception of subsidiary managers about the severity of obstacles present in the subnational business environment and the influence of these obstacles on the capacity of companies to create local innovations.

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CRIAÇÃO DE INOVAÇÃO LOCAL POR SUBSIDIÁRIAS ESTRANGEIRAS A PARTIR DE VANTAGENS ESPECÍFICAS DO AMBIENTE SUBNACIONAL

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RESUMO

Objetivo - O estudo objetiva examinar os efeitos dos fatores do ambiente subnacional brasileiro – a eficiência do ambiente competitivo subnacional e o embeddedness relacional em cada localidade subnacional - na criação de inovação local em subsidiárias estrangeiras.

Método – A abordagem é quantitativa e a pesquisa baseia-se em dados primários coletados por meio de uma survey com 152 subsidiárias estrangeiras localizadas em treze Estados do Brasil e em dados secundários do *World Bank Enterprise Surveys*. Os dados são analisados por regressão linear múltipla.

Principais resultados - Os resultados mostram que existe uma associação positiva e significante entre o ambiente competitivo subnacional e inovação local das subsidiárias. Entretanto, não é observada uma associação significativa entre o embeddedness externo subnacional e a inovação local. Além disso, os resultados mostram que as empresas que entram por meio de aquisições estão mais associadas à inovação local.

Relevância/Originalidade - O estudo procura complementar o debate sobre o efeito do ambiente subnacional na inovação local das subsidiárias tendo como contexto o Brasil. A análise em nível subnacional considera a heterogeneidade institucional subnacional e revela variações que poderiam ser desconsideradas por uma análise de nível nacional.

Contribuições teóricas/metodológicas: Embora existam indícios do impacto do ambiente institucional na estratégia e inovação, este estudo no âmbito brasileiro avança em dois pontos. Primeiro, os estudos existentes analisam mercados desenvolvidos e mercados emergentes, porém esses últimos de forma pontual e numa realidade asiática, que apresenta uma considerável diferença do mercado latino americano e brasileiro, destacando-se as peculiaridades do ambiente subnacional brasileiro. Segundo, contribui para os estudos de Geografia Econômica reforçando que cada ambiente subnacional tem suas particularidades, conforme demonstrado na natureza das questões subnacionais no Brasil.

Contribuições sociais / para a gestão: Em termos gerenciais, o estudo chama a atenção para a importância do conhecimento da dinâmica competitiva subnacional quanto à participação da economia informal e estende implicações para políticas públicas.

CREACIÓN DE INNOVACIÓN LOCAL POR SUBSIDIARIAS EXTRANJERAS A PARTIR DE VENTAJAS ESPECÍFICAS DEL ENTORNO SUBNACIONAL

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HISTORIA DEL ARTÍCULO

RESUMEN

Objetivo - El estudio tiene como objetivo examinar los efectos de los factores en el entorno subnacional brasileño - la eficiencia del entorno competitivo subnacional y el arraigo relacional en cada ubicación subnacional - en la creación de innovación local en las filiales extranjeras.

Método - El enfoque es cuantitativo y la investigación se basa en datos primarios recopilados a través de una encuesta de 152 subsidiarias extranjeras ubicadas en trece estados de Brasil y datos secundarios de Encuestas de Empresas del Banco Mundial. Los datos se analizan mediante regresión lineal múltiple.

Resultados principales - Los resultados muestran que existe una asociación positiva y significativa entre el entorno competitivo subnacional y la innovación local de las filiales. Sin embargo, no existe una asociación significativa entre la integración externa subnacional y la innovación local. Además, los resultados muestran que las empresas que ingresan al ámbito subnacional mediante adquisiciones están más asociadas a la innovación local.

Relevancia/Originalidad: El estudio busca complementar el debate sobre el efecto del entorno subnacional en la innovación local en filiales con Brasil como contexto. El análisis a nivel subnacional considera la heterogeneidad institucional subnacional y revela variaciones que podrían ser ignoradas por el análisis a nivel nacional.

Contribuciones teóricas/metodológicas - Si bien existen indicios del impacto del entorno institucional en la estrategia y la innovación, este estudio a nivel brasileño avanza en dos puntos. Primero, los estudios existentes analizan mercados desarrollados y mercados emergentes, pero estos últimos de manera oportuna y en una realidad asiática, que presenta una diferencia considerable con el mercado latinoamericano y brasileño, destacando las peculiaridades del entorno subnacional brasileño. En segundo lugar, contribuye a los estudios de Geografía Económica, reforzando que cada entorno subnacional tiene sus particularidades, como lo demuestra la naturaleza de los temas subnacionales en Brasil.

Contribuciones sociales / de gestión: En términos gerenciales, el estudio llama la atención sobre la importancia del conocimiento de la dinámica competitiva subnacional en torno a la participación de la economía informal y amplía las implicaciones para las políticas públicas.

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