FRANCHISE CHAINS AND REGIONAL DEVELOPMENT: AN INSTITUTIONAL ANALYSIS OF BRAZILIAN CENTRAL-WEST

ABTRACT

This article is a part of studies designed to investigate variables in the institutional environment that are significant for the expansion strategy of franchise chains, with a focus on inland regions. The objective is to identify variables that impact the attractiveness of the institutional environment for the insertion of franchise chains. To this end, five dimensions of the institutional environment were analyzed: education, regional development, health, business and economy. Quantitative exploratory research was carried out, using secondary data from IBGE, with 14 variables, in a sample of 220 cities in the Brazilian center-west. Statistical analyzes indicated that the dimensions of education, economy and regional development have a positive and significant impact on attracting franchise chains. The results contribute to the theory as it assist in strategic decision-making regarding the expansion of franchise chains and suggest new and relevant research segments with emphasis on the exploration of factors in the institutional environment. The article also contributes to neo-institutional theories, as it offers a relevant and well-founded explanation of the impact of institutional factors in attracting business models such as franchise chains to inland regions.

Keywords: Franchise chains; Regional development; Institutional environment; Entrepreneurship.

1. INTRODUCTION

Franchise chains are organizational systems with a contractual basis in which one party, the franchisor, gives to the other party, the franchisee, the right to offer products or services owned by the franchisor (Rubin, 1978). This business model was born as a strategy to provide rapid expansion of the company through raising funds from third parties.

Initially, expansion strategies targeted large urban centers with realities like those in which franchise units were already established in the market. However, with the saturation and high level of competition in these markets, this business model needed to expand to environments with different realities, starting a movement of expansion towards inland cities, with smaller population numbers (Melo *et. al.,* 2020).

The strategies used to expand franchise chains in inland regions is a topic that has recently been addressed in academic research (Flores, Villanueva & Ramírez, 2020; Melo *et al.,* 2020). Work on the topic uses the understanding of the institutional environment as a strategic differential for expansion and a vector for increasing the possibility of success in its regional insertions (Schüler, 2023; Bretas *et. al.,* 2019; Zuo, Li, & Alam, 2023; Stenholm, *et al.,* 2013; Ndofirepi, 2024).

Among the institutional aspects relevant to the attractiveness of franchise chains identified in previous studies, we can mention legal security (Aliouche & Schlentrich, 2011; Baena, 2015), intellectual property protection (Aliouche & Schlentrich, 2011; Baena, 2015; Shane, 1996), political governance (Hoffman, *et al.,* 2016; Meyer, 2001) and financial regulation (Hoffman *et al.,* 2016).

However, analyzing these studies, it is clear that most of them use large urban centers as samples. The institutional environment of large centers can be very different from the environment of inland regions, presenting discrepancies in terms of population, culture, infrastructure, access to suppliers and distributors, and public policies. In this sense, understanding and exploring significant factors present in environments in inland regions can be a differentiator in the insertion of new businesses in these regions, especially because large urban centers already present saturation and high competition, due to the geographic proximity of points of sale (Melo *et. al.,* 2020).

The purpose of this study is to address this theoretical gap by expanding studies that investigate environments outside major population areas capable of attracting new businesses (Flores *et al.,* 2020; Melo *et. al.,* 2020, 2023). Therefore, the objective of this work is to identify which institutional dimensions are significant in the attractiveness of franchise chains in inland regions. To this end, institutional environment variables related to five dimensions will be tested: education, business, health, economy and regional development. These variables will be analyzed regarding their significance in the expansion of new franchise chains in environments with inland characteristics.

This research seeks to contribute to the advancement of institutional theory, especially the neo-institutionalist current (Dimaggio & Powel, 1983; Acemoglu *et. al.,* 2001). This advance occurs since this current relies on institutions as responsible for the economic growth of the regions, and this research identifies significant variables present in institutional environments of economic singularity and with isomorphic characteristics in the countryside capable of revealing entrepreneurial opportunities for business models such as franchise chains.

There is also a contribution in relation to studies that investigate environments outside major population areas capable of attracting new businesses (Flores *et al.,* 2020; Melo *et al.,* 2023). And, finally, it contributes to the development of public policies that encourage entrepreneurial action in cities far from large urban centers based on the impact factors for attracting new businesses. The article is structured as follows: introduction, literature review, hypotheses, methodology, results and final considerations.

2. LITERATURE REVIEW

2.1 Franchise chains

Franchise chains can be defined as a legal contract between two parties, the franchisor and the franchisee. On the one hand, the franchisor grants the brand and its right to use it with the necessary support, while the franchisee commits to paying royalties and specific fees that are negotiated considering the specificity of the business (Rubin, 1978; Norton, 1988). This business model provides rapid insertion into the market, as there is already a tested brand or product, and the ease of, when starting the new business, there is already large-scale administration of financial, administrative and personal resources (Melo *et al.,* 2015).

There are two main ways of expanding franchise chains: through the establishment of their own points of sale and through the establishment of franchised points of sale (Shane, 1996). This topic has been the subject of study in articles with the purpose of investigating the relevant aspects that can impact the expansion strategy (Aliouche & Schlentrich, 2011; Melo, Borini & Ogasavara, 2019; Melo *et al.,* 2015). One of the aspects that can influence the chain strategy is the institutional environment of the destination region because the efficient and effective functioning of formal and informal rules as execution and coordination mechanisms determines the transaction costs of the operation in the environment, directly impacting its attractiveness to companies (North, 1991).

2.2. Institutional Environment

Institutions can be defined as human inventions created to structure political, economic and social interactions, which define the “rules of the game” (North, 1990). These rules influence companies' behavior when choosing new markets (Hoskisson *et al.,* 2000; Meyer, 2001; North, 1990, 1991; Meyer *et al.,* 2009).

Institutions determine which strategic options a company can implement to achieve its objectives (Hoffman *et al.,* 2016; Meyer *et al.,* 2009). The institutional environment encompasses the formal and informal rules and requirements that organizations need to follow to gain legitimacy (Zoogah *et al.,* 2015). Formal rules are reflected in legal, political, regulatory and economic guidance, determining property rights and channels of access to finance. Informal rules designate patterns of behavior related to trust, collaboration, social codes of conduct, culture and ideology (Meyer *et al.,* 2009; Norte, 1990, 1991; Schwens *et al.,* 2011). To achieve the objective pursued in this article, the formal rules of the institutional environments analyzed will be explored.

Five environmental dimensions were selected based on theoretical evidence regarding the endogenous significance of these structural elements in society: education, business, economic, regional development and health. These dimensions were defined with the aim of covering the main formal indicators capable of measuring social and economic aspects of a region according to the Brazilian Institute of Geography and Statistics, and because they are present in studies involving factors of the institutional environment that impact new businesses (Bergmann *et al.,* 2016; Muller, 2016; Melo *et al.,* 2023).

3. HYPOTHESES

The objective of this article is to identify which institutional dimensions are significant for the insertion of franchise chain in inland regions. To achieve this objective, five hypotheses were developed, each related to one of the dimensions to be addressed in the research: education, business, health, regional development and economy.

3.1. Regional Development Dimension

Regional development is a concept with multiple meanings, but it can be defined as a general effort to reduce regional disparities by supporting economic activities that influence the generation of jobs and wealth at the regional level (Cristina *et al.,* 2021). This concept can also be seen as something systemic, in which complex aspects other than just economic ones are considered, such as political, social and cultural issues that represent, based on the degree of evolution, the quality of the region (Boisier, 1996; Muller, 2016).

The search to understand how formal institutions can shape business attraction has been a relevant issue for regional development (Melo *et al.,* 2023). Thus, the characteristics of regional development discernible from the analysis of different intrinsic variables, whether with

a social, political, economic, environmental or cultural scope (Galvão *et al.,* 2020) are indicators that can be used to evaluate the attraction environment of new businesses.

For example, one of the most used indicators to measure this dimension is the Human Development Index (HDI), as it represents the combination of three determining variables in the institutional environment: health, education and income, in an intrinsic way. Another variable related to this dimension is demographic density, as it is a result of the economic and social attractiveness of the region (Melo *et al.,* 2023). Hence, it is possible to understand that regional development can influence the level of competition and consumption behavior, being related to future consumption potential and market attractiveness.

The regional development construct is used in research that investigates the attraction of franchise chains in addition to the analysis of economic, demographic, human resources and business dimensions, to characterize the sample environment (Melo *et al.,* 2020; Melo *et al.,* 2023). It is understood that this dimension is relevant for franchise chains as it influences the generation of jobs and wealth at a regional level and, consequently, the potential of the consumer market and the attractiveness of the market (Cristina *et al.,* 2021; Muller, 2016). Therefore, the following research hypothesis was developed:

H1: The higher the regional development indicators, the greater the attraction of franchise chains to municipalities in the inland of Brazil.

3.2. Economic Dimension

The economic dimension corresponds to the level of economic activity in the region (Sendra-Pons *et al.,* 2022), including variables such as degree of financial movement, number of financial institutions present, average salary and access to financing (Sendra-Pons *et al.,* 2022; Huang *et al.,* 2023; Utama *et al.,* 2024).

Due to the great inequality in terms of economic development between centralized regions and inland regions, one of the major concerns of companies is understanding the functioning of the local economy (Cutsinger, 2019). This understanding can reduce environmental risks, both for entrepreneurs and public managers when developing effective strategies to attract new businesses in order to promote the region's development.

The economic dimension, together with positive economic institutions, plays a prominent role in the economic growth of regions by helping to reduce environmental

uncertainties and bringing with it other benefits that contribute to the development of regions (Acemoglu *et al.,* 2005; Kafka & Kostis, 2024; Utama *et al.,* 2024).

Among the indicators used to analyze the economic dimension, we can mention: (1) GDP per capita, as it allows evaluating the intensity of entrepreneurial activity and the attractiveness of regions for business expansion (Querino *et. al.,* 2022); (2) Average salary, which demonstrates the income of the region and reflects the purchasing power of the population; and (3) Scenario of financial institutions, which indicates the population's potential to have access to credit (Balan *et al.,* 2016; Kitali *et al.,* 2015; Kilonzo *et al.,* 2017; Mendoza-Abarca *et al.,* 2015). These indicators are important because they are correlated with purchasing power and economic stability.

Specifically in relation to franchise chains, as the sector is dominated by services or products associated with services, the importance of a viable economy and disposable income are crucial for the growth of commercial activity. This occurs because high income allows consumers to pay for services instead of performing them (Baena & Cerviño, 2014).

Economic uncertainty increases the transaction costs associated with entering a given market, increasing the perceived risk on the part of franchisors, who are less likely to expand in markets without favorable economic growth. This occurs due to possible resources scarcity and reduced profits. Therefore, the economic dimension is one of the most important dimensions for franchise chains, as it is correlated with purchasing power and economic stability, and, consequently, with expected profit and estimated costs, with companies preferring markets with a low level of economic uncertainty in order to avoid risks (Baena, 2015; Hoffman *et al.*, 2016; Melo *et al.,* 2019). Based on the above, the following hypothesis was developed:

H2: The higher the economic indicators, the greater the attraction of franchise chains to municipalities in the inland of Brazil.

3.3. Education Dimension

The education dimension is responsible for shaping the human capital of environments, influencing the performance and productivity of workers (Eberhardt & Lima, 2012; Fonseca *et al.,* 2013; Paschoalino *et al.,* 2016). Different studies address the importance of education for the institutional environment in attracting new businesses. It is a moderating instrument of the institutional environment in relation to entrepreneurial intention as it reflects the qualification

of the workforce (Melo *et. al.,* 2023; Zhuang & Sol, 2023; Floris *et. al.,* 2020), increases performance and worker productivity, makes the environment more competitive (Fonseca *et al.,* 2013; Paschoalino *et. al.,* 2016; Aleksei *et al.,* 2019), fosters creation and innovation (Wei Chen *et al.,* 2019), and stimulates socioeconomic development (Aleksei *et al.,* 2019). Therefore, the education dimension stands out as a determining institutional factor in entrepreneurship.

The expansion of franchise chains involves costs in hiring qualified people to occupy different positions, whether employees or managers, in the expansion locations (Chung *et al.,* 2007). In places with better educational rates, there are greater chances of reducing employee selection and hiring costs. Thus, indicators such as education rate and number of higher education institutions can have an impact on the choice of expansion locations.

Furthermore, education is an important characteristic given the nature of the franchise chain strategy. To build brand equity, an educated audience that can rationally discriminate between the many messages they receive for purchases or investments is essential (Hoffman & Preble, 2001). Previous studies have shown that places with a low educational level, together with an unskilled workforce, are associated with a low level of investment, so it is understood that these are not attractive markets (Stal & Cuervo-Cazurra, 2011). In small and medium-sized municipalities in inland regions, qualified labor is scarce, as the market is smaller and as a result, people are not encouraged to invest in professional training, and, in many cases, move to large centers in search of opportunities (Kamakura & Mazzon, 2016). For franchise chains this situation is also especially problematic, as they rely on the know-how of the local franchisor for the success of the venture. Based on the above, the following hypothesis was developed:

H3: The higher the education indicators, the greater the attraction of franchise chains to municipalities in the inland of Brazil.

3.4. Business Dimension

The business dimension is related to the degree of entrepreneurship, stimulating competition and innovation, and for this reason reflects the attractiveness of the market for opening new companies (Galvão *et al.,* 2020; Muller, 2016). Some variables relating to this dimension are the number of active companies and the number of companies opened in the year, and these variables reflect the attraction of new businesses (Wang *et al.,* 2018; Melo *et al.,* 2023; Rompay *et al.,* 2012).

An institutional business environment suitable for the insertion of new ventures, provides resources and conditions necessary for individuals to identify market opportunities, initiate and develop new businesses, products or services, and generate jobs, fostering economic growth (Bowen & De Clercq, 2008; Muller, 2016; Fuentelsaz *et al.,* 2019), and is associated with an environment of innovation (Doan, 2023).

In relation to franchise chains, a positive business environment is related to the expansion strategy as it positively impacts the likelihood of the local population starting a business (Bergmann *et al.,* 2016; Melo *et al.,* 2019). The ease of doing business is one of the indicators that reflect market efficiency, so when the cost of opening a new business is relatively high, transaction costs increase, increasing the perceived risk. Accordingly, the lowest cost of starting a business is related to the business density in each economy, so that the easier it is to do business in each market, the higher the business density (Meyer, 2001). For this research, the number of companies present in the region, the number of companies opened in the year 2023 and the number of employed people in the region were used as a way of measuring the size of the business. Given the above, the following hypothesis was formulated:

H4: The higher the business indicators, the greater the attraction of franchise chains to municipalities in the inland of Brazil.

3.5. Health Dimension

Policies and actions related to the health dimension present advantages that go beyond the sector's central objective of providing general well-being to the population. Public health indices are a consequence of factors related to regional and social development, for example, income distribution, nutrition, sanitation, economic growth and working conditions. Therefore, the variables that indicate the health of the population can be used to assess employment, income and innovation conditions (Gadelha & Costa 2012).

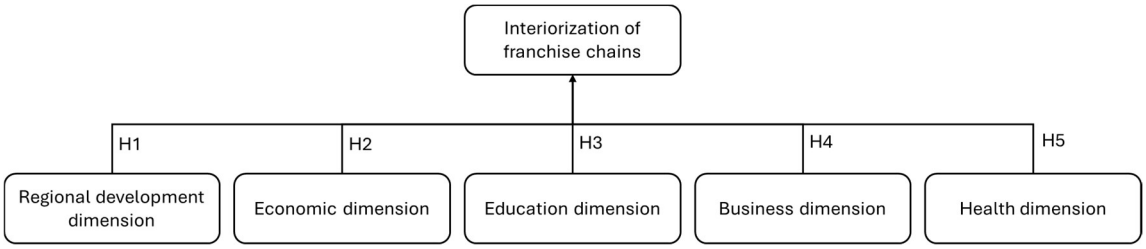
There is the concept that regions with positive health indices tend to transmit security for the insertion of new ventures, as they propagate the notion of security to related parties in the market (Gadelha & Costa 2012; Viana & Elias 2007).

As examples of variables used to measure this dimension, we can mention the infant mortality rate, which demonstrates the power of environmental institutions and impacts on the economic growth of regions (Acemoglu *et al.,* 2001), the health status of entrepreneurs , which impacts business success (Dvouletý & Ondřej, 2024), and regulations related to worker

protection and consumer safety, which affect decision-making aimed at expanding businesses to new locations (Peari & Sagi, 2023) . Given this, the following hypothesis was developed:

H5: The higher the health indicators, the greater the attraction of franchise chains to municipalities in the inland of Brazil.

Figure 1: Research Framework



Source: authors.

4. METHODOLOGY

The research carried out was quantitative using secondary data. Significance analyzes were carried out using a regression model of the relationships between franchise chains and variables present in institutional environments in the Brazilian center-west. The present quantitative methodology appears to be the most appropriate as it allows for greater accuracy of significance regarding the number of variables and their relationships, which conveys the reliability of the contributions arising from the study (Creswell, 2010).

The dependent variable is represented by the number of franchise units and the number of franchise chain brands present in the cities included in the sample, since this variable can convey the region's tendency to attract franchise chains (Melo *et. al.,* 2020). The number of franchise chain brands and the number of franchise chain units were approached separately, in order to explore each dependent variable separately, thus aiming to make inferences regarding positive or negative factors and their significance in the relationships analyzed.

The independent variables are composed of indicators that represent the dimensions related to the hypotheses (regional development, education, economy, business and health), as shown in Table 1.

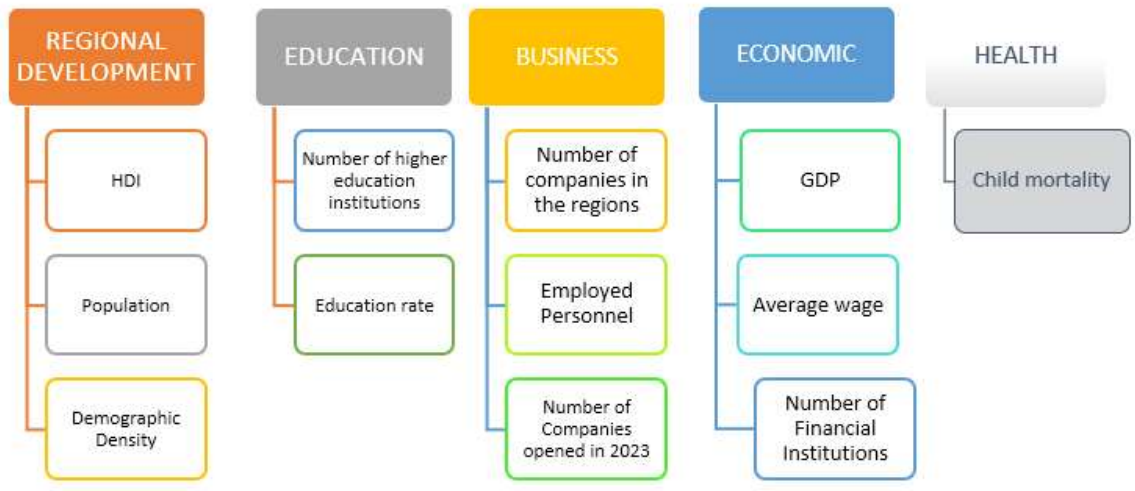
Table 1: Independent variables

Dimension	Variable	Source	Description	Authors
Regional development	HDI	IBGE	The index is composed of indicators of basic and secondary education, per capita income and longevity, representing various aspects of the region's development.	Cristina *et al.,* (2021); Muller, (2016); Hines, (2016); Robles, (2017)
	Population	IBGE	Total population of a municipality. The greater the population, the greater the attraction of companies to the region.	
	Demographic density	IBGE	Index that calculates the number of inhabitants per kilometer square, being a concern for entrepreneurs when opening new ventures.	
Economic	GDP	IBGE	It demonstrates information on the dynamics and economic performance of municipalities.	Utama, *et al.,* (2024); Sendra-Pons, *et al.,* (2022); Henderson (2002); Melo et al. (2023)
	Average wage	IBGE	Indicates the economic potential of regions for consumption.	
	Number of financial institutions	Brazilian central bank	It reflects the availability of attracting financial resources, as well as the financial development of the region..	
Education	Number of higher education institutions	Ministry of Education	Number of universities in a region, which is linked to the level of entrepreneurship and human capital creation	Wei Chen *et. al.,* (2019); Zhuang e Sol, (2023); Cunningham & Menter (2020); Roy & Mukherjee, (2017); Secundo *et al.,* (2015); Huang *et al.* (2023)
	Education rate	IBGE	Represents the percentage of people aged 6 to 14 who attend school in relation to the total number of people in the same age group. Reflects barriers to financial opportunities due to growing digital inclusion.	

Business	Number of companies	Federal government	It represents the degree of business present in this business environment. Reflects the attractive relationship between companies and the institutional environment	Galvão *et al.* (2020); Muller (2016)
	Employed Personnel	IBGE	Population over 14 years of age in a municipality with some type of occupation, regardless of registration.	
	Number of companies opened in 2023	Federal government	It demonstrates the degree of attractiveness of the region for new businesses.	
Health	Child mortality	IBGE	It represents a health indicator that can evaluate the development of regions in terms of their institutional qualities..	Gadelha & Costa (2012); Viana & Elias (2007). Acemoglu *et al.*, (2001)

Source: authors.

Figure 2 - Institutional dimensions and their variables



Source: authors.

4.2. Data collection

For the sample, franchise chains operating in inland areas of the Brazilian center-west were selected. This region was chosen because it represents a growing market, whose revenue

increase for franchise chains was 12.9% in 2023, according to data from the Brazilian Franchising Association (ABF). Furthermore, Brazil is among the 10 countries with the most franchise brands, as well as franchise units in the world (ABF, 2021).

Initially, the 100 largest franchise chains in Brazil were selected based on the ABF report, then the presence of these chains in the Brazilian Center-West region was verified. It was then found that of these 100 largest franchise chains in Brazil, only 4 of these (Oggi Sorvetes, Dia%, Ceofood, Fiadorweb) did not have operations in the center west, therefore they were subsequently replaced by 4 more franchise chains that appear in the sequence of the largest chains in Brazil (Acium, Casa do Pão de Queijo, Farmelhor and Mahogany) in order to verify the number of units per city of the 100 largest franchise chains in the Brazilian Center-West.

From the selection of franchise chains, municipalities in the Central West region with a minimum of 10,000 inhabitants were selected to determine their presence. The population selection is justified, as franchise chains are more present in urban areas, with a greater concentration of population (ABF 2020, 2021). In this way, 220 cities were selected, 73 in Mato Grosso, 54 in Mato Grosso do Sul and 93 in Goiás. The federal district was not included in the sample, as it was not considered an agribusiness region, since its economy is basically represented by the sector of services, approximately 94% (Idecon-DF).

Data collection regarding the location of the chains was carried out through searches on their websites, applications, and searches on the Google Maps website. No data was found on the location of units in 5 franchise chains, which were removed from the sample. Therefore, the sample involved the 95 largest franchise chains in Brazil and 220 cities in the Brazilian center-west with a population above 10,000 inhabitants.

Finally, data was collected on the independent variables, which were extracted from the public websites of the Brazilian Institute of Geography and Statistics, the Brazilian Ministry of Education, the Central Bank of Brazil, and the Transparency Portal (Table 1).

4.3. Data analysis

For data analysis, the RStudio software (RStudio Team, 2020) was used. Univariate descriptive statistics were calculated, with mean and standard deviation (SD), minimum and maximum values to inform the amplitude of the distribution, number of missing or unidentified values (NA), and measures of quartile position (Q1 , Q2 and Q3) – each of them represents a position in the distribution of variables, with Q1 being the point that separates the first quarter

from the other 75%, Q2 is also known as the median and separates the two halves, and Q3 separates the Initial 75% of that final quarter (Sweeney *et al.,* 2013).

Before testing the hypotheses, two analyzes were carried out, bivariate correlations and initial linear models. For correlations, Pearson's product-moment coefficients (r) and their respective probability values, p-value (Hair *et al.,* 2015) were calculated and linear models were estimated using ordinary least squares (Hair *et al.,* 2018) with the intention of describing which selected variables could act as a proxy by performing a sensitivity analysis (Wooldridge, 2012).

After this descriptive process, the final models were estimated with the most relevant variables within each of the hypotheses. Both correlations, initial and final models were analyzed according to the three hypothesis testing criteria, statistical significance, direction and magnitude. Significance presents four levels of evidence, insufficient if p-value > 0.05 (.), sufficient if p-value < 0.05 (*), strong if p-value < 0.01 (**) and very strong if p-value < 0.001 (***); the direction can be positive or negative, if there is significance, or neutral if there is no significance; while intensity represents the strength of association between variables – how far from zero they are. Adjusted R^2 values were also presented, which represents how much of the variability of the dependent variable was explained by the independent ones (Hair *et al.,* 2015).

5. RESULTS ANALYSIS

The dependent variables have at least 50% of their distribution equal to 5 (Q2), this means that at least half of the agricultural municipalities have 5 chains and 5 franchise units. However, their variability is quite different – being much more significant for the number of units (SD = 52.5) than for the number of chains (SD = 14.8).

The variables of the economic dimension present lower variability than the average, while those of the business environment present the opposite – greater variability than the average. This result means that the first environment is more homogeneous than the second.

Regarding educational variables, at least 25% of municipalities have a higher education institution (HEI). The standard deviation values were more than three times higher than the average and the maximum was very different from the third quartile (Q3), and these statistics show the concentration of the majority of HEIs in a few municipalities. On the other hand, the schooling rate for children between 6 and 10 years old has statistics that point to homogeneous basic education for most municipalities.

For regional development, it is possible to describe that demographic density and population point to very heterogeneous municipalities, while the HDI shows homogeneous

regional development – with 50% of municipalities between values of 0.68 and 0.72. Such homogeneity can also be observed in the health proxy, infant mortality.

Table 1: Univariate descriptive statistics of the sample.

Variables	Average	SD	Min.	Q1	Q2	Q3	Max.	NA
Dependents								
N° of units	18.00	52.50	0.00	2.00	5.00	13.00	574.00	
N° of chains	10.60	14.80	0.00	2.00	5.00	13.00	80.00	
Economic								
Municipal GDP	43556.00	29648.00	9133.00	23585.00	34728.00	54556.00	184589.00	
Average wage	2.28	0.42	1.70	2.00	2.20	2.50	4.50	
Inst. Financial	6.40	5.38	1.00	4.00	5.00	7.00	56.00	
Education								
Higher education institutions	1.20	4.40	0.00	0.00	0.00	1.00	53.00	
Education rate	96.80	2.22	81.90	96.20	97.20	98.10	99.80	
Business								
Public Companies	106.00	338.00	3.00	18.00	30.00	64.00	3981.00	
Active Companies	6451.00	20252.00	361.00	1270.00	2122.00	4217.00	244773.00	
Employed Personnel	14762.00	54608.00	92.00	2382.00	4200.00	8456.00	670431.00	
Regional Develop.								
IDHM	0.70	0.04	0.54	0.68	0.70	0.72	0.80	
Demographic density	66.00	300.00	1.00	4.00	9.00	21.00	3234.00	
Population	55482.00	131861.00	10204.00	13848.00	23090.00	41354.00	1437237.00	
Health								
Child mortality	12.70	0.29	2.30	8.10	11.60	15.00	36.40	20

Source: authors.

A first general result can be observed when comparing the intensity of the correlations of the two dependent variables with the others. The variables have correlation coefficients with greater intensity with the 'number of units' than with the 'number of chains', except in the case of the municipality's HDI, which is numerically a little higher, but the correlation coefficients are very close. Three variables have non-significant correlations with the number of units, they are: (i) municipal GDP, (ii) education rate and (iii) child mortality. These same three have very similar behavior and are not correlated with the other dependent variable, the number of chains. Some general patterns can also be observed in relation to non-significance, education rate and child mortality only show a significant correlation with two other variables, and the municipal GDP shows a significant correlation with three other variables.

The first hypothesis (H1) attests that "*The higher the regional development indicators, the greater the attraction of franchise chains to municipalities in the inland of Brazil*", this

result can be observed differently in the variables analyzed. When testing the variables in isolation, it is possible to verify a mirrored result in relation to the previous one, described in the correlation coefficients (between models M1 and M3). However, when checking the model with all variables, it is not possible to see the positive effect described in H1 for demographic density. This variable has a negative and significant relationship with the number of units (p-value < 0.001), while it is not possible to verify a non-zero relationship in the model with the dependent variable of number of chains (p-value = 0.190). Therefore, the two pieces of evidence found in this study indicate that greater demographic density is not positively associated with the attraction of franchise chains. In model M4, it is possible to note that the municipality's HDI and population are two variables that maintain the relationship described in the hypothesis (p-value < 0.001).

Table 2: Initial models with regional development variables.

	M1		**M2**		**M3**		**M4**	
Variables	**β**	**sig.**	**β**	**sig.**	**B**	**sig.**	**B**	**sig.**
N. of units								
Intercept	-392.90	0.000 ***	12.58	0.000 ***	-3.82	0.000 ***	-53.56	0.000 ***
HDI	587.30	0.000 ***					71.62	0.000 ***
Demographic Density			0.08	0.000 ***			-0.02	0.000 ***
Population					0.00	0.000 ***	0.00	0.000 ***
R² adjusted	17.40%		19.20%		94.60%		96.20%	
N. of chains								
Intercept	-145.80	0.000 ***	9.41	0.000 ***	5.83	0.000 ***	-80.87	0.000 ***
HDI	223.80	0.000 ***					125.08	0.000 ***
Demographic Density			0.02	0.000 ***			0.00	0.190
Population					0.00	0.000 ***	0.00	0.000 ***
R² adjusted	32.10%		13.80%		59.30%		68.10%	

Source: authors.

The second hypothesis (H2) attests that "*The higher the economic indicators, the greater the attraction of franchise chains to municipalities in the inland of Brazil*". The results indicate that each of the three chosen variables presents a unique result in the initial models. Municipal GDP did not show a significant relationship with the two dependent variables in the correlations, in the initial models (M1) equally and in M4 for the number of chains (p-value > 0.05). However, significance was observed in model M4 when having the number of units as a dependent variable, but this relationship has a negative direction – thus a higher GDP would be related to a smaller number of franchise units. Therefore, this is a variable that presents inconclusive results to describe hypothesis H2. The average salary has the same evidence as the

correlations in model M2 (positive and significant relationship), but when testing together with the other variables it was no longer possible to detect such an effect (p-value > 0.05). Therefore, it is possible to conclude that the average salary does not have a good representation of hypothesis H2. Finally, the number of financial institutions would be the variable with the strongest evidence to be a proxy for H2, since both in the correlations and in the two initial models the same result is maintained, a positive and significant relationship (p-value < 0.001).

Table 3: Initial models with economic variables.

	M1		**M2**		**M3**		**M4**	
Variables	**β**	**sig.**	**β**	**sig.**	**β**	**sig.**	**B**	**sig.**
N. of units								
Intercept	18.10	0.005 **	-74.27	0.000 ***	-41.53	0.000 ***	-47.20	0.000 ***
Municipal GDP	-9.81E-06	0.935					-1.16E-04	0.008 **
Average wage			40.42	0.000 ***			4.99	0.124
Financial Institution					9.24	0.000 ***	9.14	0.000 ***
R² adjusted	-0.46%		9.93%		89.60%		89.90%	
N. of chains								
Intercept	9.26	0.000 ***	-9.04	0.094 .	-4.11	0.000 ***	-0.42	0.890
Municipal GDP	0.00	0.350					0.00	0.200
Average wage			8.65	0.000 ***			-2.29	0.150
Financial Institution					2.30	0.000 ***	2.35	0.000 ***
R² adjusted	-0.06%		5.53%		69.80%		69.90%	

Source: authors.

For the third hypothesis (H3) it is necessary to test "*The higher the education indicators, the greater the attraction of franchise chains to municipalities in the inland of Brazil*". Both the schooling rate and the number of higher education institutions maintain the result observed in the correlations (models M1 to M3). This means that the first has no significant effect (p-value > 0.05), unlike the second (p-value < 0.001).

Table 4: Initial models with education variables.

Variables	M1 β	M1 sig.	M2 β	M2 sig.	M3 β	M3 sig.
N. of units						
Intercept	3.69	0.000 ***	-7.42	0.960	-6.74	0.870
Higher education institutions	11.52	0.000 ***			11.52	0.000 ***
Education Rate			0.26	0.870	0.11	0.800
R² adjusted	93.10%		-0.45%		93.10%	
N. of chains						
Intercept	7.73	0.000 ***	-20.78	0.630	-20.64	0.500
Higher education institutions	2.40	0.000 ***			2.40	0.000 ***
Education Rate			0.33	0.470	0.29	0.360
R² adjusted	50.50%		-0.22%		50.40%	

Source: authors.

The fourth hypothesis (H4) to be tested consists of: "*The higher the business indicators, the greater the attraction of franchise chains to municipalities in the inland of Brazil*". In this environment, three variables were tested, which when tested alone have the same effect predicted in the hypothesis (models M1 to M3). However, the number of open companies is not significant when tested with the others (p-value > 0.01), the number of active companies remains as predicted in the hypothesis and the number of employed people is significant in the two dependent variables, but with a positive relationship in the number of units and negative number of chains.

Table 5: Initial models with business variables.

Variables	M1 β	M1 sig.	M2 β	M2 sig.	M3 β	M3 sig.	M4 β	M4 sig.
N. of units								
Intercept	1.62	0.041 *	1.24	0.077 .	3.74	0.000 ***	2.26	0.004 **
Open Company	0.15	0.000 ***					-0.01	0.631
Active Company			0.00	0.000 ***			0.00	0.013 *
Employed Personnel					0.00	0.000 ***	0.00	0.003 **
R² adjusted	95.50%		96.50%		96.40%		96.60%	
N. of chains								
Intercept	7.27	0.000 ***	7.26	0.000 ***	7.90	0.000 ***	5.29	0.000 ***
Open Company	0.03	0.000 ***					0.02	0.327
Active Company			0.00	0.000 ***			0.00	0.001 ***
Employed Personnel					0.00	0.000 ***	-0.001	0.000 ***
R² adjusted	52.60%		51.10%		46.40%		60.00%	

Source: authors.

Thus, in the initial analyzes it was possible to identify the suggestion of two variables capable of representing hypothesis H1 (Regional Development), HDI of the municipality and population; and one for H2 (Economic), the number of financial institutions. The final models point to confirmation of these two hypotheses. The first through the population (p-value < 0.05) and the second through financial institutions (p-value < 0.001); in relation to the HDI, it was not possible to observe the same result as in the initial models, as there is no significance when the dependent variable is the number of units (p-value > 0.1). In general, it is possible to conclude that 'the greater the regional development, the greater the attraction of franchise chains for Brazilian agribusiness municipalities' and that 'the better the economy, the greater the attraction of franchise chains for agribusiness municipalities Brazilian', which confirms hypotheses H1 and H2.

Hypothesis H3 has strong confirmation evidence in all estimated models that have the number of chains as the dependent variable. This confirmation occurs to a lesser extent when using the number of units as dependent, with some results having a weak significance (M1, M2 and M6) and one pointing to non-significance (M5). However, the signs found always have the sign described in the hypothesis, that 'the higher the education indicators, the greater the attraction of franchise chains to Brazilian agribusiness municipalities', confirming H3.

On the other hand, the two variables that represent the business environment have inconclusive evidence. hypothesis H4 would be confirmed by the result of the model that has the number of units as the dependent variable but rejected by the model with the number of chains. This result is supported by the variables having a significant relationship but being able to have a positive or negative influence even when analyzing the same dependent variable. The negative direction takes on the opposite meaning to that proposed in the hypothesis. This effect could come from some of the variables that end up controlling this, but when removing those with evidence of non-significance (city HDI and infant mortality) it was not possible to find the hypothesized relationship in a consistent manner. On the contrary, the coefficients of variation (β) change results when adding another variable from the same environment. Therefore, it is possible to conclude that the results described for the variables in this paragraph are inconclusive, as each relationship with a dependent variable occurs differently. Therefore, H4 was not confirmed.

Finally, the evidence presented in this study points to the rejection of hypothesis H5. Since the initial results presented in the correlations, the health variable represented by infant mortality does not show sufficiently significant significance (p-value > 0.05). The same can be

observed in the final models, even with the addition of other variables controlling this. Thus, H5 was not confirmed.

In conclusion, the variables used in this research managed to explain (adjusted R^2) more than 80% of the existing variability in the number of chains and more than 98% when having the number of units as the dependent variable.

Table 6: Final models with hypothesis testing.

Variables	M1			M2			M3			M4			M5			M6		
	B	**sig.**		**β**	**sig.**		**β**	**sig.**		**β**	**sig.**		**B**	**sig.**		**β**	**sig.**	
N. of units																		
Intercept	-9.84	0.387		-13.55	0.000	***	-10.02	0.337		-12.63	0.000	***	-11.61	0.000	***	-10.86	0.000	***
HDI (H1)	-5.55	0.740					-3.95	0.801										
Population (H1)	0.00	0.022	*	0.00	0.022	*	0.00	0.011	*	0.00	0.011	*	0.00	0.000	***	0.00	0.000	***
Financial Inst. (H2)	2.88	0.000	***	2.85	0.000	***	2.75	0.000	***	2.72	0.000	***	2.63	0.000	***	2.45	0.000	***
Higher educat. Inst. (H3)	1.06	0.069	.	1.05	0.070	.	1.16	0.037	*	1.15	0.037	*	0.38	0.430		0.93	0.060	.
Active Company (H4)	0.00	0.000	***	0.00	0.000	***	0.00	0.000	***	0.00	0.000	***				-0.002	0.000	***
Employ. Personnel (H4)													0.00	0.000	***	0.00	0.000	***
Child Mortality (H5)	0.03	0.751		0.03	0.715													
R² adjusted	98.10%			98.10%			98.10%			98.10%			98.40%			98.50%		
N. of chains																		
Intercepto	-50.98	0.000	***	-6.19	0.000	***	-50.24	0.000	***	-7.13	0.000	***	-8.28	0.000	***	-8.52	0.000	***
HDI (H1)	66.92	0.000	***				65.16	0.000	***									
Population (H1)	0.00	0.000	***	0.00	0.000	***	0.00	0.000	***	0.00	0.000	***	0.00	0.000	***	0.00	0.000	***
Financial Inst. (H2)	1.96	0.000	***	2.41	0.000	***	1.94	0.000	***	2.39	0.000	***	2.55	0.000	***	2.60	0.000	***
Higher educat. Inst. (H3)	1.31	0.009	**	1.39	0.009	**	1.36	0.005	**	1.43	0.005	**	1.78	0.000	***	1.61	0.001	***
Active Company (H4)	-0.0016	0.000	***	-0.002	0.000	***	-0.002	0.000	***	-0.002	0.000	***				0.00	0.200	
Employ. Personnel (H4)													-0.001	0.000	***	-0.001	0.000	***
Child Mortality (H5)	-0.01	0.854		-0.05	0.444													
R² adjusted	82.20%			80.30%			82.20%			80.40%			83.40%			83.50%		

Legend: ep: standard error.

Source: authors

6. FINAL CONSIDERATIONS

The objective of this article was to identify which institutional dimensions are significant in the attractiveness of franchise chains in inland regions. To this end, five hypotheses were formulated, relating to the dimensions of regional development, education, business, health and economy. After statistical analysis, it was possible to see that environmental factors related to education, regional development and the economy influence the insertion of franchise chains, so that hypotheses H1, H2 and H3 were confirmed.

The article contributes to institutional theories, especially neo-institutionalism (North, 1990; DiMaggio &Powell, 1983; Acemoglu *et. al.,* 2001), as it offers a relevant and well-founded explanation based on an empirical analysis regarding the significance of certain factors and variables in attracting franchise chains, enabling the development of chain expansion strategies. Furthermore, following suggestions given in previous studies regarding directing the institutional environment towards standardization, so as not to have the intention of undertaking out of necessity, but rather out of opportunity (Sendra-Pons *et al.,* 2022).

There is also a practical contribution of the article in relation to public policies in that society's representatives can use this scientific basis to develop public policy projects that encourage the creation of new institutions or strengthen institutions to provide an environment of greater entrepreneurial attractiveness. Finally, a managerial contribution is emphasized, based on the concepts of Acemoglu *et. al.,* (2001), which refers to the expansion strategy of franchise chain owners, as it allows an unequivocal vision from the institutions and their indicators of factors of positive influence on entrepreneurial activity.

Furthermore, this article contributes to international public policies, as the study is included among the sustainable development objectives drawn up by the United Nations (UN) aimed at Brazil, in themes that contribute to “Quality Education”, the “Decent work and economic growth”, “Sustainable cities and communities”, “Responsible consumption and production” and “Partnerships and means of implementation”.

As limitations of this study, we have: (1) restriction of analysis of environments only to the five dimensions included in the study; (2) restriction of analysis to selected variables; (3) limitation of municipalities only in the central-western region of the country.

As future studies, we suggest: (1) research using rural municipalities from other emerging countries as a base in order to provide a comparison of significant variables; (2) research relating institutional environments, with the presence of franchise chains, to

institutional environments, without the presence of franchise chains, in order to verify factors, absent and present, in these environments; and (3) theoretical works that address the opportunity for expanding franchise chains evidenced by reducing uncertainty in the institutional environment with a focus on inland regions. (4) Comparative research on the institutional environment in the inland of Brazil with that of other emerging countries, to identify similarities and differences between them and their impact on the attractiveness of franchise chains.

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