Locational Concentration of Franchised Chains in Brazilian Cities: A Contextual Perspective Based on Entrepreneurial Ecosystems.

EUGÊNIO JOSÉ SILVA BITTI
FACULDADE DE ECONOMIA, ADMINISTRAÇÃO E CONTABILIDADE DE RIBEIRÃO PRETO

MATHEUS DERMONDE GONCALVES
UNIVERSIDADE ESTADUAL DE CAMPINAS (UNICAMP)

BRUNO BRANDÃO FISCHER
UNIVERSIDADE ESTADUAL DE CAMPINAS (UNICAMP)

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1. Introduction

The understanding of the franchised arrangement as an activity involving multiple entrepreneurs has been gaining traction in recent years (Watson et al., 2020). More specifically, this arrangement materializes the relationship between two types of entrepreneurs: franchisors – those who develop an idea and a model – and franchisees – those who locally exploit the developed idea. The combination of the resources of these two players has the potential to leverage the network growth and performance (Gillis et al., 2020).

In discussions about entrepreneurship, debates related to Entrepreneurial Ecosystems (EE) have emerged (Acs et al., 2017; Wurth et al., 2022). This concept refers to an approach that, from a contextual view, seeks to understand how entrepreneurial activity occurs, placing greater emphasis on local dynamics (Welter, 2011; Wurth et al., 2022). In this field, individual characteristics lose centrality to the interactions between agents and institutions in fostering entrepreneurial activity (Wurth et al., 2022), and consequently in its development. This perspective is relevant to understand why certain locations have a greater propensity for business success and growth than others (Brown & Mason, 2017). However, a critical view of the topic discusses the multiple configuration possibilities in terms of ecosystems, leading to similar results, i.e. pointing out the absence of a single pattern to be followed for fostering entrepreneurial activity (Alves et al., 2021). In this sense, studies on the dynamics and impacts of EE in the Brazilian context are relevant, considering national heterogeneity.

Regarding locational issues in the specific context of the franchising arrangement, it is understood that although the adoption of this model indicate a high degree of standardization and replicability of processes and products (Winter & Szulanski, 1995; Winter et al., 2012, Fadairo et al., 2020), the replication of business models in different sites involves high complexity, especially when considering environmental influences on locational strategies (Chaudey & Bouzid, 2021). Two factors seem to accentuate this complexity: a high geographical dispersion of network outlets and a (consequent) greater diversity of local demands (Chase, 1983; Bradach 1997; Anderson & Mittal, 2000). Both factors are characteristic of the operation of franchise networks in Brazil. The country has continental dimensions and enormous differences between its regions. Although socio-economic factors are more visible, strong differences in institutional aspects and the local business environment are also recognized (Melo et al., 2021), which impacts decisions and results of spatially dispersed operations such as franchise networks. Also in the Brazilian context, Bitti et al. (2015) observed a movement of franchise networks towards "emerging" markets in the interior of Brazil.

Despite these advances, interpreting the dynamics of the franchising arrangement through the EE perspective represents an opportunity still not well explored by academics (Dermonde et al., 2022). According to the authors, this perspective becomes interesting considering the

exchange dynamics involved between franchisors and franchisees, a relationship typically characterized by considerable geographical distance between the parties. Complementarily, Bui et al. (2022) point to the need for studies on environmental dynamics in relation to the performance of franchised units. Additionally, the authors suggested conducting studies focused on units of franchise networks operating in emerging countries, where observed external dynamics tend to be more volatile than in mature and stable economies. Such research gaps, along with the incipience of studies that analyze the influence of contextual factors related to entrepreneurial activity and the performance of local franchise network units, lead us to propose as the objective of this research to explore the relationship between vectors of local Entrepreneurial Ecosystems and the locational concentration of these units in Brazilian cities.

In this paper we propose a longitudinal perspective. We analyze the temporal scope that is set within the context of the economic turbulence experienced by Brazil over the last 10 years. In this period, the recession observed between 2014 and 2016 stands out, resulting in two years of GDP decline in the country (almost 7% in the period), as well as the decline of over 4% observed in 2020, due to the new coronavirus pandemic. Brazilian franchising did not go unaffected by all this turbulence. Data from the Brazilian Franchising Association (ABF) indicate a decline in the sector's numbers, such as the number of franchise networks falling by almost 7.5% between 2015 and 2017 (ABF, 2017). This decline is even greater in 2020: a reduction of 8.6% compared to the previous year (ABF, 2022). However, these same ABF reports indicate a rapid recovery (both between 2017 and 2019 and from 2021 onwards), besides indicating that some sectors seem to have suffered less over the period. The picture presented by ABF do not seem to indicate a pattern in terms of the occupation of national territory by these chains.

Inspired by the idea that interpretation through the EE lens involves comparing comparable locations (Fischer et al., 2022), this article analyzes, in an exploratory inquiry, the locational concentration of franchise networks at the cities level in Brazil. Information about Brazilian networks associated with ABF in the years 2016, 2019, and 2022 was analyzed. The chosen period allows for understanding the temporal dynamics inherent to any economic activity, as well as examining the effects of two distinct crises that occurred in Brazil in the past decade: the Brazilian Economic Crisis (which began in 2014) and the COVID-19 pandemic (2020-2021).

The results that we have obtained from our sample reveal a certain heterogeneity both from the locational perspective (cities where the franchise networks operate) and from the perspective of the networks themselves. Additionally, we found a significant relationship between the analyzed dimensions of Entrepreneurial Ecosystems (EE) and the concentration of local entrepreneurial activity. These results help us understand the vectors of EE as elements related to the performance of franchise networks in Brazil.

The paper's contributions are threefold. First, we have no record of previous work going into this level of detail regarding the relationship between contextual factors and the locational concentration of franchise network units. Thus, we contribute to the literature on franchise networks in general. Second, considering the context of the analyzed period, we contribute to

the debate about governance arrangements in the face of crises from the perspective of entrepreneurship and the business environment surrounding franchise network units, something also little explored in the literature (Higashi et al., 2020). Third, our main contribution extends to the discussion of Entrepreneurial Ecosystems by incorporating franchising arrangements into the analysis, thus broadening the understanding of the dynamics and challenges faced by these relevant actors in the Brazilian economic context, spread across the national territory. Transversally to such contributions, with the exploratory design proposed in this research, we intend, through the analysis of empirical data, to foster the development of new theories that can contribute to the debate in the field of Entrepreneurship and organizational dynamics.

2. Theoretical Framework

The literature on franchising arrangements is mature, extensive, branched, and rich in empirical studies strongly supported by theories (Combs et al., 2011; Nijmeijer et al., 2014). Initially, this literature emphasized problems related to the vertical dimension of choosing franchising, such as why, when, and where to adopt the franchising arrangement (Caves & Murphy, 1976; Rubin, 1978); how these networks behave in terms of the proportion of company-owned versus franchised outlets (Lafontaine, 1992); and the impact of franchisee protection laws on the structuring of networks (Brickley et al., 1991). Subsequently, horizontal aspects of the franchisor-franchisee relationship began to attract researchers' attention. Issues such as franchise fee setting (Lafontaine & Shaw, 2001), network-level standardization (Dada et al., 2012), plural forms (or contractual mix) in franchise networks (Bradach, 1997), and free-riding problems (Michael, 2000) were explored. This was followed by a phase addressing topics such as the role of intangible assets, how specifiable these assets are in contracts, and how this affects the network's structuring in terms of residual decision rights (Windsperger, 2004; Windsperger & Dant, 2006).

The proposition of franchising as an entrepreneurial practice, on the other hand, is a more recent development. Initially, the high levels of standardization and replicability typical of franchise networks made the franchisor-franchisee relationship resemble an employment relationship more than a composition between two legally independent firms (Cumberland & Githens, 2014; Evanschitzky et al., 2014; Mathewson & Winter, 1985). The profile of franchisees sought by networks was more about individuals willing to follow network standards. However, the increasing presence of multi-unit (Grunhagen & Mittelstaedt, 2005) or multi-brand (Grunhagen et al., 2022) franchisees, as well as the need for more capable local managers to handle greater operational complexity (competition, technology, innovation, etc.), has made franchisees with entrepreneurial profiles increasingly desirable for networks (Watson et al., 2020).

Entrepreneurship and the franchising model can enjoy some interesting synergies. The franchising arrangement allows local entrepreneurs to benefit from both a well-known brand and a tested business model, which could reduce the risks associated with starting a new business (Gillis & Castrogiovanni, 2012). Moreover, franchisors and franchisees invest complementary resources in the relationship (Windsperger, 2003). Beyond the effort toward an operation of which they are residual claimants (Wimmer & Garen, 1997; Michael, 2000; Sharma et al., 2021), franchisees contribute local knowledge and a more immediate response

capacity to environmental changes (Bradach, 1997; Sorenson & Sorensen, 2001). It is common to report innovations proposed by franchisees, precisely due to the need to react to local circumstances (Dada, 2016). The franchisor, in turn, is responsible not only for maintaining both the network's value proposition and brand but also for transmitting the pertinent know-how of the business model, which includes training and staff development (Gorovaia & Windsperger, 2013). Additionally, the literature reports that franchisors commonly use their company-owned outlets to adapt franchisee-proposed innovations for the entire network (Maalouf et al., 2020).

The logic discussed above aligns with works such as Dada (2016) and Gillis et al. (2014), which propose characterizing franchise networks as a coalition of entrepreneurs. However, this proposal has so far focused on the internal aspects of the franchisor-franchisee relationship. Additional contributions have been obtained from analyzing the environment (economic, social, and institutional) around franchise network units, not only from a market perspective but also in terms of how the observed dynamics and characteristics in these locations affect the development of entrepreneurial activity. In this field, Melo et al. (2023) contribute to the debate by highlighting the role of the institutional context in the presence, or absence, of franchise networks in small and medium-sized Brazilian cities. According to the authors, four factors (demography, economic-financial factors, business environment, and human resources) are predominant for the insertion of networks in certain markets.

A potential contribution within the field, developed in this work, refers to the interpretation of the presence of franchise networks in municipalities through the logic of Entrepreneurial Ecosystems (EE).

2.1. Entrepreneurial Ecosystems

Understanding the dynamics of entrepreneurial activity from the perspective of Entrepreneurial Ecosystems (EE) traces back to discussions related to Ecological Systems Theory, for which the interdependence and relationships among sets of actors influence the outcomes observed in a system (Acs et al., 2017). According to Spigel (2017), the core of these discussions lies in understanding how internal attributes of these ecosystems are configured to enable the development of entrepreneurial activity in a specific location, as well as how local entrepreneurs access and exploit available resources (Spigel & Harrison, 2018). Stam (2015) argues that the focus should be on understanding entrepreneurial activity as a product of the interactions among independent actors. Based on this idea, he offers a definition that guides this research: "the entrepreneurial ecosystem as a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship" (Stam, 2015, p.1765).

The relationship between geographical aspects and entrepreneurial activity is complex, involving various possible configurations of actors and factors (Schrijvers et al., 2024). Over time, changes can be observed within an EE, giving this concept a non-linear character (Brown & Mason, 2017). The notion that, within the same context, companies can be at different stages of maturity and facing specific challenges (Borges et al., 2018) adds further complexity to the scenario.

When analyzed in the context of an EE, entrepreneurial activity is related to the orchestration among actors, thus promoting the sharing of knowledge between organizations (Scaringella & Radziwon, 2018). According to the authors, this process involves cooperation, complementarity, and interdependence among actors, ultimately fostering entrepreneurial activity and allowing for value co-creation. This perspective aligns with the view of O'Connor & Audretsch (2023), which defines entrepreneurial activity as an endogenous aspect within the EE, although susceptible to changes triggered by both external events and internal shocks. According to Schrijvers et al. (2024), the ecosystem's perspective allows the understanding of strengths and weaknesses of economic systems in promoting entrepreneurial activity.

A deeper understanding of these elements allows the view of EE as open systems influenced by external conditions (Wurth et al., 2022), which conditionally affect the life cycle of organizations within them (Vedula & Fitza, 2019). Since EEs are unique structures, each with its own peculiarities, characteristics, and idiosyncrasies (Brown & Mason, 2017), we understand that part of the discussions on EEs reinforces the idea that there is no single model of entrepreneurship to follow, which would allow the understanding of entrepreneurial activity as diverse and multifaceted (Alves et al., 2021; Audretsch, 2021).

This heterogeneous view of EEs has fueled discussions about the elements that constitute such arrangements. In this context, Stam & van de Ven (2021) proposed a framework that includes two sets of elements: (i) resource endowment and (ii) institutional arrangements. The first set comprises physical infrastructure, finance, leadership, talent, knowledge, intermediaries, and demand; while the second set includes formal institutions, culture, and networks. In the authors' model, the output is defined as productive entrepreneurship, which they describe as: "Any entrepreneurial activity that contributes (in)directly to the net output of the economy or to the capacity to produce additional output" (Stam & van de Ven, 2021, p. 814). This view aligns with a less restrictive understanding of entrepreneurial activity, as advocated by Audretsch (2021). In this sense, understanding the configurational heterogeneities of EEs paves the way for interpreting the influences that such dynamics exert on the development patterns of the involved actors, including the performance of organizations operating within these ecosystems. This includes aspects such as resilience and even survival in times of crisis (Vedula & Kim, 2019).

2.2. Analytical Model and Theoretical Proposition

As previously presented, this study focuses on the understanding of the locational concentration of franchised network outlets based on the dynamics of the Entrepreneurial Ecosystems (EEs) in which they are embedded, from a longitudinal perspective. To this end, based on the models adopted in studies addressing the composition and dynamics of EEs (Stam & van de Ven, 2021), we proposed our Analytical Model (Figure 1), which encompasses, in addition to the Dynamics of EEs and the locational concentration of franchised network units, a theoretical proposition to be validated through empirical observation.

Theoretical Proposition: The dynamics of Entrepreneurial Ecosystems (at the Brazilian city level) affect the locational concentration of franchised networks.
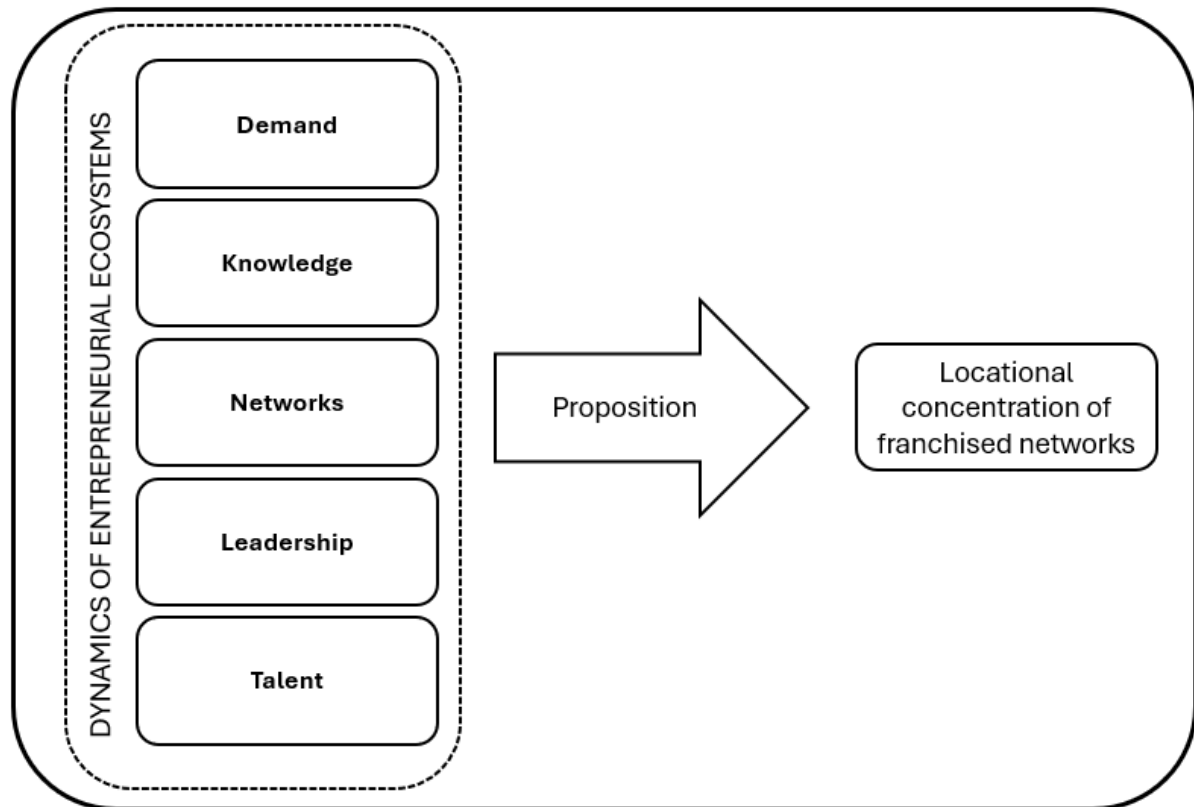
Figure 1. Analytical Model

3. Research Method

Our first step in the study involved establishing a sample of franchise chains operating in Brazil. We selected a set of firms associated with the Brazilian Franchising Association (ABF) to be analyzed. We included in our sample franchised chains that, in 2016, had clear information on the location of their units nationwide on their institutional websites. The sample included 239 franchised networks. At the time of sample selection, this number represented about 7.9% of the networks operating in the country. For each chain, the municipalities where the network operated were tabulated, as well as the number of units per location. It should be noted that due to the absence of information, no distinction was made between franchised and company-owned outlets. For this selected group, information was also collected for the years 2019 and 2022.

To assess the dynamics of Entrepreneurial Ecosystems at the municipal level, information from the SEBRAE Local Development Index (ISDEL) was used. The dimensions presented in the index (Competitive Insertion, Productive Organization, Business Fabric, Governance for Development, and Entrepreneurial Capital) can be interpreted as proxies for elements proposed in the model by Stam & van de Ven (2021), respectively: Demand, Knowledge, Networks, Leadership, and Talent. The indicators presented in the ISDEL are formulated based on the evaluation of official sources and comprise the analysis of 106 variables grouped into the five

attributes. The index values are normalized to values between 0 and 1 through min-max procedures.

The variables related to Population and Municipal GDP include control elements aimed at estimating econometric models since there is an expectation that the size of the socioeconomic system at the municipal level will have a direct impact on the number of franchise units in the territory. Additionally, based on the premise that Brazil is a country of continental dimensions with significant regional asymmetries in economic behavior dynamics (Rocha et al., 2021, Fischer et al., 2018), binary markers (dummies) are included for each macro-region. The description and source of each variable considered can be seen in Table 1.

Table 1 – Analytic Dimensions

Dimension	Description	Source
Total Outlets (Dependent Variable)	Number of units (both company-owned and franchised ones) of the set of Franchised Networks	Institutional Websites of the Chains
Entrepreneurial Capital	Comprises the stock of entrepreneurial capacities in the territory, manifested by the quantity and quality of companies, entrepreneurs, and leaders	
Business Fabric	Represented by formal and informal networks of entrepreneurs and companies that unite to collectively pursue their interests	
Governance for Development	This dimension encompasses a common vision of the future built in a shared, participatory, and democratic manner with the entire community and through a Strategic Economic Development Plan	SEBRAE Local Development Index (ISDEL)
Productive Organization	Deals with how each territory organizes its economic activities to generate income and wealth	
Competitive Insertion	Represents the conditions of the territory in terms of its competitive positioning and economic dynamics	
Population	Total population of the municipality during the analysis period	
GDP	Municipal Gross Domestic Product during the analysis period	IBGE
Regional Dummies	Binary variables (dummies) identifying the macro-region to which the municipality belongs (North, Northeast, Southeast, South, and Center-West)	

Aiming to deep the understanding of the relationships outlined in the study theoretical model, the empirical stage incorporates the level of subdimensions of the SEBRAE Local Development Index (as described in Table 2). This analytical detailing allows us to extract more concrete information regarding the elements that compose the ecosystems dimensions. Thus, the inclusion of the described subdimensions will foster discussions articulated with implications for management and policies derived from the present research. The descriptive statistics for all variables of interest in the research (dependent variable, dimensions, subdimensions, and control variables) are presented in Appendix I.

Table 2 – Analytical Subdimension

Dimension	Subdimension	Description	Source
Entrepreneurial Capital	Education	Comprises data related to the Basic Education Development Index and the density of enrollments in technical, vocational, and higher education courses.	
	Entrepreneurial Education	Comprises data on entrepreneurial training through Sebratec and the Future Entrepreneur Program.	
	Business Conditions	This variable is based on the level of businesses per capita in the municipality.	
Business Fabric	Business Networks	Involves the density of companies and business services.	
	Solidarity Values	Vulnerable and low-income population.	
Governance for Development	Articulation	Based on data on public consortia.	
	Participation and Social Control	Councils supporting decision-making in the municipality.	
	Fiscal Management	Structure of public expenditure.	
	Planning	Data related to urban planning.	SEBRAE Local Development Index (ISDEL)
Productive Organization	Productive Structure	Productive diversity and existence of productive clusters.	
	Consumption and Credit Potential	Data related to wages, consumption, and credit.	
	Sanitation	Data related to sewage systems, water supply, and waste management.	
	Innovation	Generation of intellectual property and presence of higher education institutions.	
	Environmental Impact	Related to the protection of forest areas and pollutant emissions.	
Competitive Insertion	International Trade	Trade flow and participation of medium and high technology products in the export portfolio.	
	Tourism and Creative Economy	Percentage of employment dedicated to the Creative Economy and Tourism sectors.	
	Connectivity	Density of access to fixed and mobile broadband.	
	Complexity	Economic complexity index.	

Note: Methodologically detailed descriptions of the ISDEL dimensions can be consulted at https://www.isdel-sebrae.com/

The analytical strategy was developed following the typical estimation structure to identify the association between components of Entrepreneurial Ecosystems and elements related to outcome conditions in terms of the concentration of entrepreneurial activity (Siqueira et al., 2023; Fischer et al., 2018). Thus, we can describe the basic equation to be estimated as follows:

$$E_{it} = f(EC_{it-1}, BF_{it-1}, GD_{it-1}, PO_{it-1}, CI_{it-1}, Controls_{it}, \varepsilon) \qquad (1)$$

Where, E refers to entrepreneurial activity, represented by the variable Total Units. EC, BT, GD, PO, and CI describe the effects associated, respectively, with Entrepreneurial Capital, Business Fabric, Governance for Development, Productive Organization, and Competitive Insertion. The combined term for Controls refers to the variables Population, GDP[i], and regional dummies. The subscript "i" denotes each territorial unit, while "t" refers to each period. Thus, it is worth noting that the dependent variable is lagged by one year for each dimension of the ecosystems, thereby allowing for a more accurate approximation of the causal flow between contextual conditions and entrepreneurial activity. Concretely, the franchise unit data covers the

years 2016, 2019, and 2022, while the ISDEL dimension data refers to the years 2015, 2018, and 2021. The term "ε" encompasses the model's residual. This basic structure is maintained for estimations including the detailed ISDEL subdimensions.

For the estimation stage, we consider the nature of the dependent term to define the use of panel regression techniques for count data. Visualization of the Total Units histogram indicated high levels of skewness in the distribution, which was confirmed by statistical overdispersion tests for the sample. Given the low number of observations with a zero value in the sample (15.41%), the appropriate technique for negative binomial distributions was used. Robustness tests were conducted for the two levels of analysis (dimensions and subdimensions) by excluding data for municipalities located in the State of São Paulo. These alternative estimations were considered based on the identification of this federative unit as a hub of franchise unit concentration, representing 36% of the total for this variable over the analyzed periods. Thus, we sought to verify the stability of the findings similarly to the approach outlined in Fischer et al. (2018) for "gazelle" company data.

4. Results

The results for the net effects at the first level of analysis (ecosystem dimensions), controlling for the size of the economy (Population and City GDP) and macro-region of the country, are presented in Table 3. While all analyzed dimensions have significant coefficients, the negative effect associated with the Entrepreneurial Capital dimension contradicts expectations based on the literature regarding the dynamics of Entrepreneurial Ecosystems. These results remain consistent once data for cities located in the State of São Paulo are excluded, suggesting a good level of robustness associated with these conditions. As will be discussed later, this finding is interpreted as a consistent indicator of the specificities related to franchise-based entrepreneurship compared to other forms of entrepreneurship investigated in the literature.

On the other hand, the coefficients associated with Competitive Insertion, Business Fabric, and Productive Organization emerge as critical elements for the establishment of franchised network outlets. Governance for Development also presents positive and significant coefficients, although at a lower level compared to the other dimensions.

Table 3 - Model Estimates for Ecosystem Dimensions – Dependent Variable: Number of Units

	Model I. Full Sample		Model II. Exclusion of São Paulo State	
	Coefficient	Std. Error	Coefficient	Std. Error
Entrepreneurial Capital	-0.364***	0.0901437	-0.333***	0.104063
Business Fabric	0.882***	0.0983678	1.380***	0.1282092
Governance for Development	0.628***	0.0703719	0.568***	0.0833317
Productive Organization	0.875***	0.088329	0.991***	0.0947487
Competitive Insertion	1.088***	0.1319705	1.156***	0.1458068
Log Population	0.815***	0.038218	0.804***	0.0437138
Log GDP	0.080***	0.030532	0.046	0.035171
Dummy North Region	-0.267**	0.1147863	-0.267**	0.1204526
Dummy Southeast Region	0.096	0.0801337	-0.047	0.091403
Dummy Northeast Region	-0.029	0.0918904	-0.006	0.097733
Dummy South Region	-0.100	0.086764	-0.151*	0.0916409
Constant	-7.854***	0.2875942	-7.387***	0.3329902
N	4782		3726	

	Wald chi sq.	4400.27***		2918.29***

***sig. 1%; ** sig. 5%; *sig. 10%. For regional dummies, the Central-West region is the reference category (omitted).

Note: The models were estimated using count data techniques with a negative binomial approach due to the presence of overdispersion in the dependent variable. The panel estimations considered random effects.

Table 4 shows the second level of analysis, which considers the sub-dimensions of Entrepreneurial Ecosystems as predictors of the number of franchised network outlets. As described in the methodological section, this approach allows for the observation of a high degree of specificity regarding the elements that influence the dynamics of entrepreneurship at a local level. In this case, the negative effects associated with the components of Entrepreneurial Capital are exclusively linked to the variables "Entrepreneurial Education", although this relationship manifests specifically when São Paulo State ecosystems data are excluded. In terms of "Business Fabric", the occurrence of Solidarity Values presents a positive relationship with the dependent variable in both stages of the estimations, while Business Networks have a positive and significant coefficient only for the restricted sample. Regarding the dimension of Governance for Development, there are differences when comparing models III and IV, where the Planning sub-dimension is a predictor for the complete sample, while Participation and Social Control are present only in the robustness test. In the case of Productive Organization, the models are aligned, demonstrating negative effects for Productive Structure and positive for Consumption and Credit Potential, Innovation, and Environmental Impact. Regarding the dimension of Competitive Insertion, the results are significant and consistent for the Tourism and Creative Economy vector.

Thus, in a global evaluation of these results, and based on the observed robustness in the behavior of the variables, it is concluded that ecosystems that are more economically thriving (combining low levels of vulnerable and low-income populations with high levels of consumption potential), with high innovation potential and low levels of environmental impact are more likely to produce high numbers of franchised network units. This is associated with the negative effects of high levels of sectoral specialization and the presence of productive clusters and the positive effects of the density of Tourism and Creative Economy activities, a situation that indicates the centrality of diversified and service-oriented urban centers, even when controlling for the population size and GDP of the territorial units. In this sense, although our research indicates degrees of overlap between the concept of entrepreneurial ecosystems and the concentration of franchised network units, the association dynamics between these concepts are essentially different from those observed in the literature dedicated to examining other types of productive entrepreneurship.

Dimension	Subdimension	Model III. Full Sample		Model IV. Exclusion of São Paulo	
		Coefficient	Std. Error	Coefficient	Std. Error
	Education	0.126	0.1396776	0.253	0.1608205
	Entrepreneurial Education	-0.042	0.0361298	-0.120**	0.0558299
Entrepreneurial Capital	Business Conditions	-0.019	0.1065266	0.121	0.1359484
	Business Networks	0.143	0.1217154	0.594***	0.16672
Business Fabric	Solidarity Values	1.049***	0.2060083	0.592**	0.2502167
	Articulation	-0.006	0.0421104	-0.028	0.0660606
	Participation and Social Control	0.009	0.0745384	0.193**	0.0925617
Governance for	Fiscal Management	0.028	0.0777674	-0.054	0.0918881
Development	Planning	0.056**	0.028404	0.043	0.0336043
	Productive Structure	-0.514***	0.1191336	-0.952***	0.1618821
	Consumption and Credit Potential	0.871***	0.1237075	0.585***	0.1519429
	Sanitation	0.050	0.0358312	0.038	0.0457551
Productive	Innovation	0.198***	0.0521988	0.842***	0.1235542
Organization	Environmental Impact	0.514***	0.1431152	0.536***	0.1832327
	International Trade	-0.079	0.0725167	-0.026	0.0839468
	Tourism and Creative Economy	0.246***	0.0920082	0.420***	0.1132645
	Connectivity	0.030	0.0840695	0.474***	0.1195903
Competitive Insertion	Complexity	-0.023	0.2110593	-0.220	0.2575904
	Log Population	0.856***	0.0428414	0.822***	0.0509608
	Log GDP	0.133***	0.0352551	0.081**	0.0411679
	Dummy North Region	-0.044	0.1205883	-0.012	0.1307351
	Dummy Southeast Region	0.210**	0.0834357	0.033	0.0954363
	Dummy Northeast Region	0.189*	0.1004412	0.141	0.1105572
	Dummy South Region	-0.015	0.0906384	-0.039	0.0979574
Controls	cons	-9.633***	0.3449914	-8.256***	0.4294334
N	N	4782		3726	
Wald chi sq.	Wald chi sq.	3792.67***		2283.81***	

***sig. 1%; ** sig. 5%; *sig. 10%. For regional dummies, the Central-West region is the reference category (omitted).

Note: The models were estimated using count data techniques with a negative binomial approach due to the presence of overdispersion in the dependent variable. The panel estimations considered random effects.

5. Discussion

A first comment regarding our results relates to the evolution of the total number of units per city over the selected period. In the analyzed sample, there was a 6.6% reduction in the number of units between the years 2016 and 2022. Due to the proposed methodological design, we cannot conclude an absolute decline in the number of units in the cities, considering that the results presented here do not capture the emergence of new franchise networks over the period. Nevertheless, some movements are noteworthy. Within the analyzed time interval, the decline in the number of units in cities that are capitals (at both the levels: State or federal) is considerably greater than in non-capital cities (9.3% versus 4.4%). Similarly, taking as references the cities that in 2016 had more than 100 units, a decline of 10.5% is observed, while in the others, this reduction was only 1.3%. These observations converge with the findings of Bitti et al. (2015), which point to a process of internalization of Brazilian franchise networks.

Still concerning the size of the networks during the analyzed period, now from the perspective of franchise networks, some interesting movements can be discussed. In the sample, 60.9% of the chains experienced a reduction in the number of outlets between 2016 and 2022, representing a net negative balance (considering openings and closings of these networks, not individually measured in this analysis) of 4,651 units. Within this group, 17 networks ceased operating through franchised units by the end of the period. Among growing chains (27.6% of

the sample), the net balance was 3,016 units. Six chains remained stable. These results are somewhat predictable, considering the context of the analyzed period. The fact that some networks have grown reinforces the idea presented by Bretas & Alon (2020) that the effects of crises are heterogeneous for franchised companies (as well as for other businesses). In general, the literature points to attributes derived from this business format that help in facing a crisis (Kußmau et al., 2012; Dermonde & Fischer, 2021; Abd Aziz et al., 2022). The analyzed data do not allow for definitive conclusions on this topic. However, the rate of operation closures through this business model (only 7.1%), despite the crisis context of the period, suggests a convergence between our results and the mentioned literature.

Focusing on this research aim, understanding the relationship between the vectors of Brazilian Entrepreneurial Ecosystems (EEs) and the locational concentration of franchised networks in Brazilian cities, we can observe results that mostly converge with the understanding of local contextual elements as being related to the development of entrepreneurial activity, in this case, the locational concentration of Brazilian franchised networks. In Models 1 and 2, presented in Table 3, a significant relationship for the five tested dimensions is noted. For four of them – Networks, Knowledge, Demand, and Leadership, in the model of Stam & van de Ven (2021) – this relationship is positive. This is in line with the majority view of the literature discussing the relational dynamics between EEs and entrepreneurial activity (Spigel & Harrison, 2018; Stam, 2015). These findings reinforce the importance of local contextual factors for fostering franchised network activity, as suggested by Melo et al. (2023).

On the other hand, the negative association observed from the Entrepreneurial Capital Dimension – which is equivalent to "Talent" in Stam & van de Ven's (2021) model – suggests an apparent contradiction with the current literature on EEs. From a simplistic view, such a result could be interpreted as a refutation of the understanding of franchising models as an entrepreneurial activity (a view defended by authors in the field, such as Watson et al. (2020) and Dermonde et al. (2024)). However, when delving into this dimension, subdimensions such as education, entrepreneurial education, and business conditions are considered. The negative relationship indicates that the worse these indices are, the lower the capacities for classic entrepreneurship (or so-called Productive Entrepreneurship) are assumed to exist, as discussed by Spigel et al. (2020). In the context of the analyzed period, notably marked by crises of various natures in Brazil and worldwide (manifesting as a hostile environment for entrepreneurial activity), findings may suggest that the option of undertaking through franchises reflects a lower-risk choice, considering the replication of a tested and validated model (Gillis & Castrogiovanni, 2012). This interpretation aligns with the discussions on EEs that consider entrepreneurial activity to be multifaceted and diverse (Alves et al., 2021; Audretsch, 2021). Thus, from the analyses conducted, we advocate understanding the franchise system as an entrepreneurial activity, but with its own specificities and characteristics. The contextual and longitudinal analysis presented here supports this interpretation.

A more in-depth look at the EE subdimensions with the highest relationship coefficient with entrepreneurial activity can be carried out. These are the cases of Solidarity Values and Consumption and Credit Potential in the complete model. In the model excluding the State of

São Paulo, these same subdimensions are accompanied by Business Networks and Innovation. These results reinforce the understanding of consumer markets with available resources and access to credit as attractive for choosing municipalities as destinations for franchised networks. Excluding the State of São Paulo, a locality with the greatest weight in Brazilian economic activity, the density of businesses and business services gains importance, indicating the relevance of this contextual attribute.

Overall, the results of this research confirm the theoretical proposition we previously presented. Through empirical analysis, one can verify the significant relationship between the dynamics of Entrepreneurial Ecosystems, measured here through a set of five dimensions, and the locational concentration of franchised networks, evaluated through the number of units of a set of franchised networks. Such considerations are advances in the debate about the relationship between contextual elements and the dynamics of franchise network activity (Melo et al., 2023; Bui et al., 2022).

6. Final Remarks

In this paper, we aimed to investigate the relationship between the vectors of local Entrepreneurial Ecosystems (EEs) and the locational concentration of franchise chains in Brazilian cities. We conducted a longitudinal study spanning the years 2016, 2019, and 2022. This study analyzed the relationships between the characteristics of Brazilian EEs, as measured by the five dimensions of ISDEL, and the number of units of 239 selected Brazilian franchise networks at the municipal level.

Our results indicate a reduction in the number of outlets in our chain sample in the analyzed period. Different movements were noticeable when analyzed from the perspective of the municipalities (capitals versus non-capitals; and cities with high versus low concentration of units), as well as from the perspective of the networks. However, our focus was to understand the relationship between contextual indicators and the concentration of network operations. We observed a significant relationship between all the analyzed EE dimensions and the volume of units per city. It is noteworthy, however, that contrary to the literature on EEs, we observed a negative relationship for the Entrepreneurial Capital dimension. At a more in-depth level of analysis, we can further verify that the subdimensions of Solidarity Values, Consumption and Credit Potential, Business Networks, and Innovation have the highest significant positive coefficients with the dependent variable.

From the interpretation of the presented results, it is understood that this research has three main contributions. First, it explores the relationship between contextual factors and the locational concentration of franchise network units, an area little explored in the literature. Second, the context of the analyzed period contributes to the debate on governance arrangements during crises. Third, our main contribution anchors in the debate about EEs by including franchised arrangements in the analysis, broadening the understanding of dynamics and challenges in the Brazilian context. For practitioners, this research reinforces the importance of selecting the location for opening network units, as a significant relationship is observed between the

contextual elements of these locations and the concetration of these companies' operations, thus suggesting more receptive locations for operations through this business model.

Despite the advances presented here, this research is not free of limitations and opens the way for new empirical research. The first limitation refers to the number of analyzed franchise networks. Future studies could focus on a larger number of networks, also considering the differences between the operating segments of this type of organization. Furthermore, the analysis of networks operating in different national markets could contribute to the debate on the dynamics of EEs at a global level. Observations regarding the beginning of operation of new franchise networks, the categorization of openings and closings of units, as well as the differentiation between units operated by the franchisor and those operated by franchisees, could also contribute to the proposed debate.

7. References

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Appendix I. Descriptive Statistics of the Data Panel

Variable		Mean	Std. Dev.	Min.	Max.	Observations
	overall	14.8831	100.9266	0	3393	N = 4782
	between		100.8064	0.3333333	3211.333	n = 1594
	within		5.338059	-166.4502	196.5498	T = 3
Entrepreneurial Capital	overall	0.4473531	0.209744	0.025613	2.173509	N = 4782
	between		0.1559658	0.1349028	1.774169	n = 1594
	within		0.1402761	-0.3383802	0.8466928	T = 3
Business Fabric	overall	0.5351011	0.1887086	0.0836459	2.141744	N = 4782
	between		0.1808249	0.1233596	1.82744	n = 1594
	within		0.0541013	0.2970453	0.9174432	T = 3
Governance for Development	overall	0.5247353	0.1837884	0	2.224779	N = 4782
	between		0.1677566	0.1360558	1.708583	n = 1594
	within		0.0751512	0.1725563	1.040931	T = 3
Productive Organization	overall	0.442707	0.1442967	0.1236062	1.727131	N = 4782
	between		0.1341321	0.1432985	1.602587	n = 1594
	within		0.0532697	0.1637446	0.7054385	T = 3
Competitive Insertion	overall	0.4800226	0.185714	0.0611654	1.59572	N = 4782
	between		0.1774527	0.1033624	1.457678	n = 1594
	within		0.0548945	0.2610623	0.7260638	T = 3
Population	overall	100532.6	404385.7	1694	1.24E+07	N = 4782
	between		404418.6	1723.667	1.22E+07	n = 1594
	within		6468.951	-90149.07	268047.9	T = 3
GDP	overall	4078761	2.34E+07	14978	8.29E+08	N = 4782
	between		2.33E+07	19639	7.59E+08	n = 1594
	within		2299048	-7.14E+07	7.45E+07	T = 3
Education	overall	0.5407078	0.1403064	0.0042532	0.9683987	N = 4782
	between		0.094035	0.2030436	0.8819903	n = 1594
	within		0.1041489	0.0723222	0.8338169	T = 3
Entrepreneurial Education	overall	0.0099401	0.0519943	0	0.9032905	N = 4782
	between		0.0349639	0	0.4142569	n = 1594
	within		0.0384895	-0.3395106	0.5992035	T = 3
Business Conditions	overall	0.3838173	0.2089682	0.0095514	1	N = 4782
	between		0.1610281	0.0177259	0.9079514	n = 1594
	within		0.1332235	-0.0269229	0.6985236	T = 3
Business Networks	overall	0.3124543	0.1395211	0.0091781	1	N = 4782
	between		0.1358901	0.0215284	0.9181769	n = 1594
	within		0.0317451	0.1304678	0.5094031	T = 3
Solidarity Values	overall	0.7064687	0.1528911	0.03963	0.970924	N = 4782
	between		0.1491492	0.2274799	0.9569704	n = 1594
	within		0.0337566	0.4336601	0.9150641	T = 3
Articulation	overall	0.1438903	0.2082654	0	1	N = 4782
	between		0.1816296	0	1	n = 1594
	within		0.1019755	-0.5227764	0.8105569	T = 3
Participation and Social Control	overall	0.5422187	0.1297335	0	1	N = 4782
	between		0.1123038	0.0424083	0.8888677	n = 1594
	within		0.0649917	0.1562538	0.8432283	T = 3

Variable		Mean	Std. Dev.	Min.	Max.	Observations
Fiscal Management	overall	0.3301826	0.1638307	0	1	N = 4782
	between		0.1225246	0.0752144	0.7556631	n = 1594
	within		0.1087864	-0.1002915	0.7580458	T = 3
Planning	overall	0.675975	0.3218128	0	1	N = 4782
	between		0.212888	0	1	n = 1594
	within		0.2413734	0.050975	1.298197	T = 3
Productive Structure	overall	0.6016893	0.1796596	0.0116031	0.9951224	N = 4782
	between		0.1061702	0.018576	0.9879489	n = 1594
	within		0.1449489	0.3453062	0.9604077	T = 3
Consumption and Credit Potential	overall	0.3613654	0.1463423	0.0580554	0.962979	N = 4782
	between		0.1158506	0.1114283	0.9281961	n = 1594
	within		0.0894445	0.0693289	0.5448226	T = 3
Sanitation	overall	0.5970097	0.2651932	0	1.0001	N = 4782
	between		0.2186902	0	0.9896133	n = 1594
	within		0.1500735	-0.0648281	1.229993	T = 3
Innovation	overall	0.0200628	0.0600693	0	1	N = 4782
	between		0.0484037	0	1	n = 1594
	within		0.0355863	-0.2624276	0.5070012	T = 3
Environmental Impact	overall	0.7833217	0.0839529	0.0858889	1	N = 4782
	between		0.0616383	0.1714577	0.9243952	n = 1594
	within		0.0570122	0.4545824	1.142782	T = 3
International Trade	overall	0.4783899	0.3117708	0	0.9822833	N = 4782
	between		0.2970258	0	0.9597685	n = 1594
	within		0.0949398	-0.0733796	1.020412	T = 3
Tourism and Creative Economy	overall	0.2173722	0.1860306	0	1	N = 4782
	between		0.1621135	0	1	n = 1594
	within		0.0913105	-0.203092	0.6281509	T = 3
Connectivity	overall	0.3527653	0.1987873	0.0320073	1	N = 4782
	between		0.1329121	0.0665181	0.778342	n = 1594
	within		0.147845	-0.1506351	0.7144926	T = 3
Complexity	overall	0.6067642	0.1434998	0.0491926	1	N = 4782
	between		0.1389721	0.095778	0.9931914	n = 1594
	within		0.035875	0.472216	0.7575544	T = 3

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[i] Population and GDP, given their continuous nature and the severe variations in the Brazilian context, are normalized using their respective logarithms.