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Signaling the value of a business concept;

Evidence from a structural model with Brazilian franchising data

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Abstract

Within the wide literature regarding franchising, a few studies were devoted to the adverse

selection phenomena in the franchise relationships, and to the signaling explanation of the

franchisors' organizational choices.

Previous empirical works concluded that the signaling framework is not well adapted to

study franchising.

However, most of the empirical literature has focused on developed countries.

This empirical paper deals with the case of Brazil. We estimate on recent franchising data a

structural equation model capturing the simultaneous influences of a valuable business

concept. The paper provides evidence that the signaling theory is adequate to understand the

organizational choices regarding the ownership structure of franchised networks in emerging

markets. The estimation results suggest indeed that the Brazilian franchisors use signaling

devices, and that the necessity to signal the value of a business concept affects the

organizational choices at the network level.

Keywords:

Franchising; Emerging countries; Signaling theory; Structural Equation Modeling.

JEL Classification Numbers: C31; L14.

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1. Introduction

The literature dealing with franchising networks emphasizes the relevance of the theory of contracts to understand this major phenomenon. The relationships between franchisors and franchisees are indeed characterized by informational asymmetries, and the devices included in franchise contracts can be studied as a way to confront these asymmetries. More precisely, during the last decades, agency-theoretical explanations in terms of moral-hazards, incentives issues and monitoring costs were the dominant direction in franchising research (e.g., Brickley and Dark, 1987; Brickley *et al.*, 1991; Lafontaine, 1992; Lafontaine and Kaufmann, 1994; Shane, 1996; Combs and Ketchen, 1999; Alon, 2000; Lafontaine and Shaw, 2005; Castrogiovanni *et al.*, 2006; Pénard *et al.*, 2011).

On the contrary, within the wide literature regarding franchising, a few studies were devoted to the adverse selection phenomena in the franchise relationships, and to the signaling explanation of the franchisors' organizational choices. This situation is highlighted by Table 1, constructed from a survey of 18 of the top ranked reviews in Economics and Management¹.

Table 1
Theoretical frameworks in the literature on franchise data

Theoretical framework	Number of related articles*
Agency Theory	36
Resource Scarcity Theory	18
Transaction Costs Theory	4
Signaling Theory	2
Property Rights Theory	2
Life Cycle Theory	1
Other	26
Not mentioned	1

^{*}Some articles refer to several theoretical frameworks.

¹ Here after in alphabetical order: American Economic Review, Applied Economics, European Economic Review, European Management Review, International Journal of Industrial Organization, Journal of Business Venturing, Journal of Economic Perspectives, Journal of Economics and Management Strategy, Journal of Industrial Economics, Journal of Law and Economics, Journal of Law, Economics and Organization, Journal of Marketing Research, Journal of Retailing, Journal of Small Business Management, Quarterly Journal of Economics, RAND Journal of Economics, Review of Industrial Organization, Strategic Management Journal.

A total of 87 papers regarding franchising have been counted over the period 2000-2012; 67 of them are empirical papers. From this literature two major theoretical frameworks emerge: agency and resources scarcity theories. Adverse selection and signaling problems are only present in two papers.

This orientation of the literature of the past twelve years is consistent with Lafontaine (1993)'s empirical results. Submitting to US data the predictions deriving from Gallini and Lutz (1992)'s seminal theoretical model of signal in franchising, Lafontaine (1993) concludes that signaling theory is not quite appropriate to study franchising.

However, over the last four decades, most of the empirical works have focused on developed countries. Primarily, the literature relates to the United States where, according to Dant *et al.* (2011), modern franchising dates back to at least 1850.

A few studies deal with franchising data from emerging countries, while, as mentioned by Welsh *et al.* (2006), emerging markets represent 80% of the world's population and offer the most dynamic potential for long-term growth to businesses, in general, and to franchisors, specifically.

The aim of this empirical paper is to test the signaling theory on Brazilian data in order to see if this framework, which is not well adapted to study franchising in developed countries, would be more suited to understand this phenomenon in emerging markets. Indeed, the previous works dealing with franchising in emerging countries highlight deep differences regarding the two groups of countries.

Table 2 presents the few empirical studies devoted to franchising in Latin-America. Using different empirical methods, most of this literature underlines main differences between developed *versus* emerging countries.

Table 2 Franchising in Latin-America: a survey of the empirical works

Authors	year	Studied countries	Focus	Method	Differences highlighted?
Falbe & Welsh	1998	Mexico Canada USA	Executive perceptions in success and failure	Covariance Factor analyses	Yes
Lafontaine & Oxley	2004	Mexico Canada USA	Contracts customization	Logit Model	No
Dant, Perrigot & Cliquet	2008	USA France Brazil	Plural form	ANOVA MANOVA OLS	Yes

Cliquet & Streed	2011	Latin America and Mexico Asia Central and Eastern Europe Middle East and Africa	Retail failures	ANOVA OLS	Yes
Michael	2012	Latin America	Development	VAR	-

This is the case with Falbe and Welsh (1998), dealing with three locations: Mexico, Canada and the United-States. The authors study the franchisors' perceptions regarding the executive and strategic choices which determine success and failures. Streed and Cliquet (2011) address a similar question, and study several emerging countries. They show that a successful expansion abroad requires adaptations to the host market specificities. Dant *et al.* (2008) underline the differences between Brazil, France, and the United-States regarding the plural form phenomenon. In addition, studying franchising as an economic development strategy for emerging countries, Michael (2012) highlights the differences between franchising in Latin America *versus* in developed countries. Michael (2012) does not use a comparative approach, but this author highlights the role of franchising in the economic development of Latin America.

Finally, Lafontaine and Oxley (2004)'s empirical work stands as an exception in this literature, because the authors find no main differences comparing franchising in emerging *versus* developed countries. More precisely, these authors investigate the differences between the contracts offered in Mexico by North American franchisors, and the contracts offered by the same franchisors in their own countries. In this case, the difference is minor. The authors show indeed that there is no customization of the franchise contracts for Mexico; thus, more than 75% of the sample franchisors require the same franchise fee, whatever the location of the franchisees.

One of the main differences between emerging *versus* developed countries regarding franchising is that the local franchise system is more recent in the first group of countries. For example, Dant *et al.* (2008), using data relating to the year 2004, show that in the United-States, there was one franchised outlet for 382.63 inhabitants, in France, one franchised outlet for 1,708.57 inhabitants, while in Brazil, during the same year, there was one franchised outlet for 9,294.74 inhabitants.

This situation suggests that, because the local franchise system is less developed in Brazil, the reputation of Brazilian franchisors is not well established. The theory of signal applied to

franchising deals precisely with such kind of situation, being particularly suited for the case of young franchising networks.

The following section of the paper presents in greater details this analytical framework, and the deriving testable predictions. Empirical specifications are provided in section 3, regarding Brazilian franchising, and regarding the original sample used in this study. In section 4, we estimate a structural equation model capturing the specifications related to the analytical context. The results, partially consistent with the theoretical framework, are discussed in section 5. They suggest that the Brazilian franchisors use signaling devices, and that the necessity to signal the quality of a business concept affects the organizational choices. The discussion section concludes this empirical paper, and proposes several ways for future research.

2. Analytical framework and hypotheses development

The theory of information, dealing with the organizational remedies to informational asymmetries, constitutes the theoretical background of this paper. More precisely, the paper is based on the signaling theory, focusing on the contexts of adverse selection, and on the seminal model of Gallini and Lutz (1992) regarding signaling in the franchise relationships.

Business-format franchising networks are based on a common trademark and concept, developed by the franchisor, among legally autonomous downstream units. The success, *ie* the expansion of the network depends on the capacity to attract new franchisees, which is related to the profitability of the concept.

New franchisors with a valuable concept face a problem of asymmetric information. Because they have developed the concept, they possess more information about its profitability than the potential franchisees. This private information causes a problem of adverse selection regarding the type of the franchisors: "good type" with a high value business concept *versus* "bad type" with a low value one.

When entering a network, the franchisees have to make large investments to specific assets. For this reason, they need to acquire information before making their decisions.

Gallini and Lutz (1992) demonstrate formally that good type franchisors can signal their type, and therefore provide relevant information to the future franchisees (Fig. 1). The signaling devices are organizational and contractual forms that make the franchisor's revenue highly dependent upon the performance of the business concept. These signaling devices are:

the presence of company-owned outlets in the network in addition with the franchised units, in other words "dual distribution", and a high level of royalty rate.

Two hypotheses derive from this theoretical context:

- **H1.** The proportion of company-owned outlets is positively related to the value of the business concept.
- **H2.** The level of the royalty rate is positively related to the value of the business concept.

In this analytical context we introduce a gradual learning of information, assuming that the first results regarding the profitability of the concept coexist with the signaling period (Fig. 1). For this reason, we formulate the following complementary hypothesis:

H3. The performance of the franchised network during the signaling period is positively related to the value of the business concept.

In the literature on franchising data, the value of the concept, or the brand name value, is often related to the years of the company in business prior to the first franchised unit. This experience allows the upstream firm to develop a profitable concept. This is why we formulate the following hypothesis:

H4. The franchisor's experience is positively related to the value of the business concept.

Figure 1 presents the assumed timing of events:

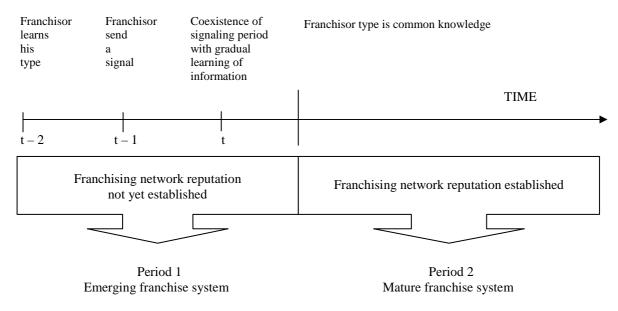


Fig. 1. Timing of events

3. Stylized facts, sample and measurements

3.1. Brazilian franchising

The central role of Brazil in the economy of Latin-America is well-known. Brazil stands indeed as the strongest economy of the zone, with several developed sectors such as agriculture, mining, manufacturing and services. This country is a member of the "BRICS" with Russia, India, China, and South Africa ("BRICS"). These emerging economies have several common features: a large population, a vast territory with a continental strategic dimension, a big amount of natural resources, and a remarkable GDP growth during the last ten years.

The emerging position of Brazil appears also regarding franchising. As presented by Figure 2, this country plays a key role in Ibero-American franchising with the highest number of franchised brands of the zone, even more important than Spain, where franchise is though well present. In addition, as shown by Figure 3, the structure of the Brazilian franchise system is dominated by domestic brands (93%), such as for the developed countries and contrary to the small economies of the zone such as Ecuador, Guatemala, and Uruguay.

However, contrary to the case of developed countries, the Brazilian franchise system is still small regarding the size of the population. This is highlighted by Figures 4-6 which compare for several countries the number of brands, franchised outlets, and the employment in the franchise sector per capita. These Figures suggest that the Brazilian franchise system is indeed emerging, in other words that it is not yet mature.

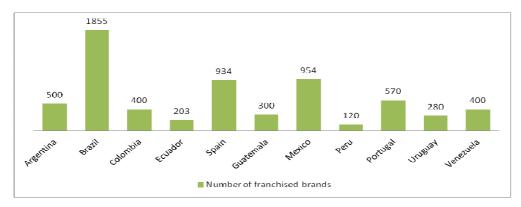


Fig. 2. The key role of Brazil in Ibero-American franchising (Data from: Ibero-American Federation of Franchising - 2010)

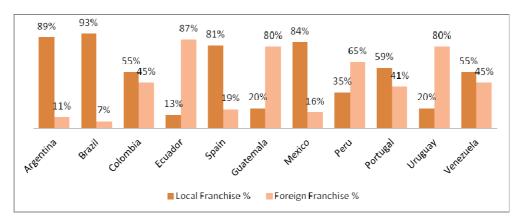


Fig. 3. A Brazilian franchising system based on domestic brands (Data from: Ibero-American Federation of Franchising - 2010)

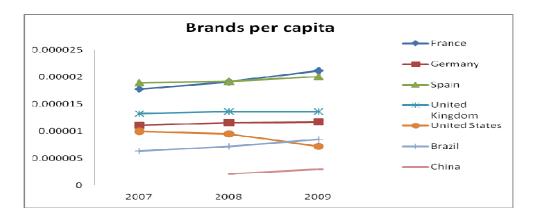


Fig. 4. Emerging Brazilian franchising system (1) (Data from: *Franchise business economic outlook* - 2011 and World Bank)

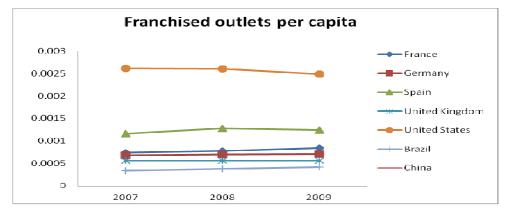


Fig. 5. Emerging Brazilian franchising system (2) (Data from: *Franchise business economic outlook* 2011 and World Bank)

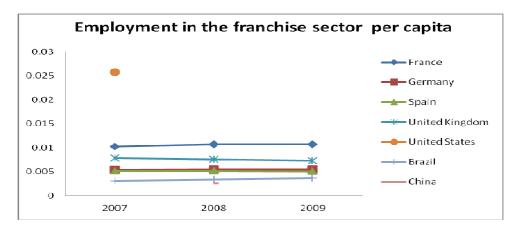


Fig. 6. Emerging Brazilian franchising system (3) (Data from: *Franchise business economic outlook* 2011 and World Bank)

3.2. The Data

In this study we use cross-sectional data regarding the year 2012 from the Brazilian Franchise Association. The sample consists of 179 franchising networks in a wide range of retail and services sectors.

The study variables derived from the theoretical framework are the *proportion of company-owned units*, measured as the number of company-owned units divided by the total number of outlets in the network, and the *royalty rate*, defined as a percentage on the downstream sales accruing to the franchisor. Two control variables are included in this study: the *network experience in franchising*, referring to the time that the franchisor had to develop his business format, and the *franchised network market share*, referring to the network performance and defined as the proportion of the network turnover in the whole sector turnover. Table 3 presents the sectors in Brazilian franchising used to construct this variable.

Summary statistics regarding the four study variables are provided by Table 4.

Table 3
Retail and services sectors in the sample

Sector	Number of franchising networks	Mean turnover*
Personal Accessories & Footwear	9	83333.33333
Feeding	16	97812.5
Bars, restaurants, Pizzerias	6	90833.33333
Drinks, coffee, sweets	11	45000
Beauty, health and natural products	16	77512.5
Communication, Computer, Electronics	9	68333.33333
Construction and Real estate	12	84558.33333
Cosmetics and perfumery	6	44333.33333

Education and Training	16	46200
Entailment, toys and leisure	2	125000
Language Schools	14	49785.71429
Hospitality and tourism	3	273333.3333
Care and Cleaning	16	38731.25
Furniture, decoration and gifts	10	88500
Business services	14	166214.2857
Automotive services	5	53200
Clothing	14	117500
Total	179	82345.2514

^{*} Brazilian Currency: Real - Brazilian data - 2012

Table 4
Summary Statistics and Correlation Matrix

	N	Min	Max	Mean	Standard deviation	Asymmetry	Kurtosis	1	2	3
1. Experience	179	1,00	50,00	10,3575	9,56677	0.102	3.045			
2. Company-owned units	179	0,00	1,00	0,1565	0,23278	0.712	3.094	-0,287 ^{a**} (0,000) ^b		
3. Royalty rate	179	0,00	0,50	0,0650	0,06679	0.955	4.941	-0,065 (0,194)	-0,051 (0,248)	
4. Market share	179	0,00	0,60	0,0856	0,09308	0.042	4.629	-0,135* (0,036)	0,125* (0,048)	0,125* (0,048)

a Pearson Correlation

b Significance level in brackets.

^{**} Significant correlation at level 0,01 (unilateral).

^{*} Significant correlation at level 0,05 (unilateral). Brazilian data - 2012

This Table shows the heterogeneity within the sample networks regarding three variables: the proportion of company-owned units, the royalty rates, and the market shares. The networks experience is quite homogenous in the sample, as showed by the means, higher than the standard deviations for this variable.

It is interesting to note that the maximum experience is 50 years, even if the majority of the sample networks have less than a 10 years experience. However, it is worth mentioning that the franchised network with 50 years of experience is not atypical in the sample, because several other networks are close to this situation.

In addition, Table 4 highlights the negative significant correlation between the proportion of company-owned outlets and the franchisor's experience, and between the market share and the franchisor's experience. This second correlation is quite surprising.

The correlation matrix highlights also a positive correlation between the proportion of company-owned units and the network market share.

According to Lafontaine (1993), a negative correlation sign should be expected between the royalty rate and the proportion of company-owned outlets. This is the case here, but the correlation is not significant.

The structural analysis requires the use of normally distributed data. In order to solve the problem of normality highlighted here by the asymmetry of the variables and the kurtosis values, we use a $X^{1/2}$ transformation².

4. Contractual and organizational choices as signaling devices

4.1. Method

In order to submit to data the hypotheses deriving from the signaling theory, we use the structural equation modeling method (SEM) which allows to estimate simultaneous equation models including latent variables. As mentioned by Animesh *et al.* (2011), Bollen (2011), Squalli *et al.* (2010), SEM provides rigorous analyses for model fitting.

The value of a business concept can't be inferred directly and constitutes thus the latent variable (η) of our econometrical model. According to hypotheses 1 and 2, this variable influences the royalty rate and the proportion of company-owned units in the network, studied here as signals sent by the good type franchisors to the potential franchisees in a context of asymmetric information regarding the latent variable. We assume that, being contractual and organizational choices of the upstream firm, the two signaling devices are stable during the

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² This transformation is preferred to a Log transformation because several study variables are rates.

first period ($P_I = \{t - I; t\}$) where the network reputation is not yet established. For this reason, the signals are defined for t - I and t. The network market share evolves continuously and is taken into account at time t as a performance indicator in line with the value of the business concept. The franchisor's experience is the same at time t and t - I. This variable is introduced in the econometrical model as a proxy for the quality of the business concept. Both variables (market share, experience) allow distinguishing good type franchisors.

The econometrical model is defined as the following system of structural equations:

$$\begin{cases} y_1 = \alpha_1 + \lambda_1 \eta + \varepsilon_1 \\ y_2 = \alpha_2 + \lambda_2 \eta + \varepsilon_2 \\ y_3 = \alpha_3 + \lambda_3 \eta + \varepsilon_3 \\ y_4 = \alpha_4 + \lambda_4 \eta + \varepsilon_4 \end{cases}$$
(1)

Where,

 η : refers to the value of the business concept.

 $\alpha_{i \in \{1,2,3,4\}}$: refers to the intercept in the measurement equation.

 $\lambda_{i \in (1,2,3,4)}$: refers to the regression coefficients regarding the effect of the latent variable on y_i

 $y_{i \in (1,2,3,4)}$: refers to the effect indicators of the quality of the business concept (η)

 $\varepsilon_{i\in\{1,2,3,4\}}$: refers to the error terms which contain all other influences on y_i besides η .

The model can be re-written in the next path diagram:

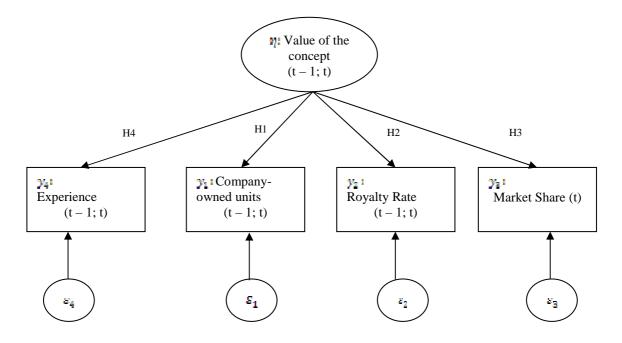


Fig. 7. Path diagram of the structural econometrical model

4.2. Results

Table 5 presents several statistics regarding the overall fit of the estimated model.

Table 5
Fit Statistics

	Value
Likelihood ratio	
Model vs. saturated	1.243
p>chi2	0.537
Baseline comparison	
Comparative fit index (CFI)	1.000
Tucker-Levis index (TLI)	1.087
Size of residuals	
Standardized root mean squared residuals	0.018
Coefficient of determination	0.575

Brazilian data - 2012

First, like Bollen (2011), we use the likelihood ratio chi-squared test (LR-test) in order to check if the model is adequate in the empirical analysis. This test compares the estimated model with the saturated one. The results show that it is not possible to reject the hypothesis according to which the model is as well as the saturated one. In other words, it is not possible to conclude that there is a missing path in the model specification.

In addition, the modification indices test shows that a change in the specification of the model is not relevant, and that the model is robust³.

The comparative fit index and the Tucker-Lewis index indicate that the model has a good fit (values higher than 0.95). These results are confirmed by the standardized root mean squared residuals (lower than 0.08) and the coefficient of determination (57.5%).

These different and complementary tests allow concluding that the estimated model has a good fit.

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³ Results available upon request.

The detailed estimation results are reported in Figure 8, Tables 5 and 7.

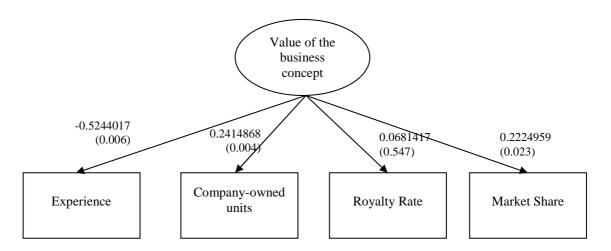


Fig. 8. Empirical results - Brazilian data - 2012

Table 7 Regression coefficients and R-squared

	Coefficient	Std. Err.	P> z	R-squared
Company-owned units				0.4784019
Value of concept	0.6916661	0.2414868	0.004	
Constant	1.157124	0.0965745	0.000	
Royalty rate				0.0046433
Value of concept	0.0681417	0.1131461	0.547	
Constant	1.752034	0.1189998	0.000	
Market Share				0.0495044
Value of the concept	0.2224959	0.9777507	0.023	
Constant	2.051363	0.1316854	0.000	
Experience				0.2749972
Value of concept	-0.5244017	0.1892347	0.006	
Constant	2.18417	0.1375211	0.000	

Brazilian data - 2012

These results suggest that, as predicted by H1, the value of the business concept influences significantly and positively the proportion of company-owned units in Brazilian franchising networks (p<0.004). The R-squared for this equation is particularly high regarding cross-sectional data (47.8%). This empirical result supports the signaling explanation.

On the contrary, the estimations reveal that the value of the concept has no significant influence on the royalty rate, which does not support H2.

Consistent with H3, the value of the concept impacts significantly and positively the market share (p<0.023).

Finally, as predicted, the franchisor's experience in business prior to the first franchised unit is empirically related to the value of the business concept, but the negative sign is reverse to the predicted one. This result confirms the first empirical outcomes regarding the correlation matrix and the negative correlation between the franchisor's experience and the network market share.

5. Discussion

This empirical paper estimates a structural equation model on recent Brazilian franchising data. The method allows studying the simultaneous influence of the value of a business concept on organizational and contractual signaling devices, and on the market share of the franchised network, taking into account the relationship between the value of the concept and the franchisor's experience.

The empirical results show that the estimated model has a good fit, and they provide several interesting outcomes regarding franchising in emerging markets.

First, the results suggest that the organizational choices of local franchisors in emerging markets differ from what has been observed so far regarding franchising in developed countries. More precisely, the paper provides evidence that signaling may motivate the organizational choices in emerging local systems. This result is particularly interesting knowing that most of the literature dealing with franchising in the framework of the theory of contracts focuses on the agency explanation.

Two signaling devices were identified in the seminal model of Gallini and Lutz (1992) concerning signaling in franchise networks: the royalty rate and the proportion of companyowned units. In terms of signal, these two devices may be considered as substitutes. Our results suggest that this is not the case, and that the franchisors use the organizational form of the network (dual distribution) rather than the contractual design (high level of royalty rate) to signal the value of their business concept to potential franchisees.

As predicted, the value of the concept influences positively the market share during the signaling period. However, the results regarding the franchisor's experience are unexpected. Instead of a positive relationship between the franchisor's years in business prior to the development of the franchised chain, a negative one is estimated.

The explanation may rely on the context of this study, which deals with an emerging market. It is indeed relevant to suggest that in Brazil, the business environment being

particularly dynamic, the maturity time of a valuable business concept is lower than in developed countries.

Moreover, our results suggest that local business owners with a valuable concept settle quickly their franchised network into a very dynamic environment where consequently competition is strong and where market shares are being distributed. In this context, the "good type" franchisor is both the one who possesses a profitable concept, and who is able to impose it quickly in the form of a franchised network.

Several limitations of our study have to be mentioned, interesting for further researches.

First, our empirical investigation is limited by the cross sectional data. The availability of panel datasets regarding emerging countries would allow consideration of the evolutions, especially when the franchise system enters its mature phase.

In addition, it would be interesting to extend the analysis to other Latin American countries with different levels of economic development.

Finally, our results show that the signaling theory is adequate to understand the organizational choices regarding the ownership structure of franchised networks in emerging markets. However the issue concerning the required level of company-owned units is not addressed here. Further empirical researches could deal with this issue and provide evidence regarding the proportion of company-owned units required to act as an efficient signaling device.

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