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QUALITY PERFORMANCE AND MECHANISMS OF GOVERNANCE: THE CASE OF HOTEL CHAINS*

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ABSTRACT

This paper relates organizational form and performance in hotel sector, particularly the guest *perceived* quality. We argue that the organizational choice affects the perceived quality because each organizational form alters the trade off between motivation and coordination costs and consequently its quality performance. Using a two-step switching regression model, we test this main hypothesis and the determining factors of the organizational choice in a sample of 255 hotels which belong to the six main hotel chains operating in Spain. First-step results show that insourced hotels are more likely when monitoring costs are low and coordination costs are high. Once the endogeneity of the modal choice is controlled for, our second-step results confirm that integrated hotels improve the perceived quality when monitoring costs are low because of the concentration of hotels and that leased hotels reduce it when maintenance expenditures are relevant. Finally, there are some chain effects, which suggest that not all the chains have equal competences in dealing with particular organizational forms.

Key words: Hotels, service quality, mechanisms of governance, switching regression.

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1 INTRODUCTION

The economic literature has extensively analyzed the quality problem related to asymmetric information between the producer and the consumer and how it is solved in classic market transactions (Akerlof, 1970; Klein and Leffler, 1981; Shapiro, 1983; Allen, 1984; Milgrom and Roberts, 1986; Tirole, 1988; Hörner, 2002; Kranton, 2003 and Noll, 2004). These models, however, only consider two independent parties in which one buys (the consumer) and the other sells (the producer/retailer). They do not consider what is beyond the seller, *i.e.* how brand name owners are organized for yielding a high quality product. The aim of this paper is to explore how different ways of governance in hotel chains affect service quality performance.

This paper joins then a growing set of papers which considers that we should not be satisfied knowing just the modal choice determinants but we should assess their relevance on the performance (Masten *et al*. 1991, Walker and Poppo 1991, Silverman *et al*. 1997, Poppo and Zenger 1998 , Leiblein, *et a*l. 2002, Poppo and Zenger 2002, Mayer and Nickerson 2005 and Gulati and Nickerson 2008). Quality perception is a way of measuring the performance of the adopted mechanism of governance, particularly in services (Goodman *et al*., 1995; Poppo and Zenger 1998).

We chose the hotel sector because it offers an ideal framework for studying the impact of mechanisms of governance on quality. On the one hand, since tourism is one of the most important industries in Spain,[1] the main hotel companies operating in Spain are large, professionalized and competitive on a global level. This offers a guarantee that the quality practices they follow do not differ substantially from those used by other world leaders and are probably efficient. Additionally it is an industry which offers a well-defined service and it is not very dependent on other industries or vertical stages. Clearly, the quality of the service mainly depends on the hotel itself. This is different from other sectors like agrifood quality, a largely studied topic (Bocker and Hanf, 2000; Kornieliussen and Grønhaug, 2003), which heavily depends in up-stream producers' policies like feeding, maturing, etc. On the other hand, hotel sector displays a large variety of organizational forms which are difficult to note in any other sector (Contractor and Kundu, 1998a; Brown, Dev and Zhou, 2003; Guilding, 2003; Pla Barber and León Darder, 2004).

Our argument is that governance mechanisms are essential for promoting perceived service

[1] In 2005, Spain was in second place within Europe following France for total incoming foreign tourists (European Travel Commission, 2007, p. 21). It was also the favorite destination for European tourists in 2005, ahead of France, Germany, Italy and the UK. (European Travel Commission, 2007, p. 26).

quality. First, quality related to how the service is performed (functional quality) ties in with what Milgrom and Roberts (1992, p. 91) define as a coordination problem with design attributes. They argue that this type of problem is better solved through a hierarchy because this mechanism of governance facilitates coordination. Consequently, an integrated firm should perform better in terms of functional quality. Second, quality related to how the serviced is defined (technical quality) depends on the knowledge and on agents' motivation and initiative because they should scrutinize consumer preferences to find out which attributes or combination of service attributes are preferred at any one time. Hybrid forms, such as franchising and management service contracts in the hotel industry, are probably adopted to improve the low-powered incentives within the firm (Williamson, 1991). They facilitate the appearance of several residual claimants and, then, the agent (the hotel operator) is better aligned with the principal (chain owners) (Contractor and Kundu, 1998a and 1998b). However, this high incentive intensity may also deteriorate the perceived quality due to the externality problem about the quality (Rubin, 1978) and the participation of several residual claimants makes difficult to transfer the kwon how of the business, especially when valuable, difficult-to-imitate resources are involved (e.g., Barney, 1991; Collis and Montgomery, 1995; Prahalad and Hamel, 1990; Wernerfelt, 1984).

There are three related precedents to this paper. First, Nicholas Economides (1999) offers an attempt at explaining the relationship between the governance mechanism and quality performance but he considers companies as monopolies. He theoretically demonstrates that disintegrated monopolists will provide products of lower quality than a single integrated monopolist. However, he does not explain what will change in other market structures. Second, Steven Michael (2000, 2002) adopts a closer approach, but focuses on a particular hybrid form —franchising—and does not control for the endogeneity of the organizational form. He observes that *i)* the proportion of franchised units in a chain negatively affects quality (2000), and *ii)* it is more difficult for franchise chains to coordinate the marketing mix (price, advertising and quality) than for corporate (*i.e.* non-franchising) chains (2002). He explains his findings using the different incentives yielded by each mechanism of governance. Franchisees have high-powered incentives to exert effort but are perversely motivated to coordinate each other's efforts (externality problem). Third, Menard and Saussier (2002) relate organizational form with performance using a quality measure (quality of water). They conclude that concession contract outweighed in-house distribution of water in terms of quality. Poppo and Zenger (1998) also test a similar relationship (governance form and performance) and use, among other two, a measure of performance based on the top-managers perceptions of the service quality. However, they do differentiate this performance measure from the cost or from the responsiveness. We consider that all these arguments about the effect of particular mechanisms of governance on quality may be generalized taking into account the different features of each governance mechanism.

This paper is organized as follows. First, we explain the hospitality technology and its actors and contracts. Second, we study the determinants of the selection of the mechanism of governance for

a hotel and the influence of mechanism of governance on quality performance. Third, we explain the methodology and describe the sample used to test our hypotheses. Fourth, we discuss the econometric results about the selected mechanism of governance and how this affects perceived quality performance. Finally, we draw our conclusions.

2 HOTEL INDUSTRY, ACTORS AND MECHANISMS OF GOVERNANCE

A hotel offers accommodation in exchange for payment. This basic service usually goes together with others such as catering, leisure activities, business services, etc. The customer, probably attracted by the brand, contacts a hotel either directly via its booking center or indirectly via tour operator in which obtains basic information about the quality through the number of stars and the whole of services offered (business center, jacuzzi, gym, 24h room service, etc.). This information configurates the guests' expectations since it is the main external communications to customers (Grönroos, 1982; Parasuraman, Zeithaml and Berry, 1988).

Hotel business remaining assets are the building (facilities included), the goods and chattels and the staff, specially their training and know-how (Guerrier and Deery, 1998; Ramos, Rey-Maquieira and Tugores, 2004; Tsaur and Lin, 2004). The hotel manager uses to be the most trained person and that with the most specific know-how to sector and brand. He is the responsible of the hotel and is in charge of fixing guidelines related to prices, special offers, etc. Furthermore, he is a key human asset because he is the main nexus with the chain guidelines. He is in charge of implementing the hotel chain policies and strategies, including the service quality. If the manager does not properly control the personnel and supervise the performance of the service the customer perceived quality will be probably poor.

There are three main economic players in the hotel business —the manager, the operator and the owner. We define the "manager" of a hotel establishment as the person or legal entity who provides the brand and the booking center. The manager is usually the company responsible for managing the establishment and strategically organizing the business, except in franchised hotels which are managed directly by the franchisee, but indirectly (or remotely) by the franchisor who is the owner of the brand and of the booking center and the company who has trained franchisees. The hotel "operator" is the company that produces the service and reflects in its financial statements the performance of the economic activity. He maintains the rights to use of all the assets (except those retained by the manager over the assets provided by the former) and, after paying the owners of the other production factors used, keeps the residual income. The operator will not necessarily be the owner of all the assets, but must have the right to use them. So, with regard to the actual real estate (buildings, land and other property used for the hotel activity), there is a third figure, that of the "owner". This is the entity that holds the ownership title to the property and may assign it by leasing it to the operator. As a result, the three roles —manager, operator and owner— may be held by one, two

or three different legal entities.

Hotel chains can use several types of mechanisms of governance to organize their network of establishments —direct management, lease contract and management contract. Franchise contract, a fourth contractual situation, was ruled out because only 13 hotels were franchised in Spain by the six largest hotel chains in 2003. This scarcity of cases leads us to reject this category from a theoretical point of view. [2]

Each type of contract (or mechanism of governance) determines the degree of control that the chain retains over basic assets of the hotel business (Contractor and Kundu, 1998a). Firstly, direct management of establishments means that the chain obtains control of all the assets used in the production of the hotel service via ownership or equity investments. The roles of manager, operator and owner come together in one firm, the hotel chain. It therefore employs all the staff and owns the brand, the booking center, the intangible assets, the goods and chattels and the real estate property.

A second possibility is to lease a property or business from an independent owner to carry out its own hotel activity in it. In such cases, the owner may be a company or an individual involved in real estate activity or may simply have a strategically located property. In this case, the chain has full control over all the hotel business assets with the exception of the actual building and any related assets belonging to the owner. The chain may also gain access to use of the assets by leasing a working hotel, including not only the building but also the staff, furniture and operating know-how. The chain complements these assets with its own know-how and, especially, by carrying out strategic management and including the hotel in the chain and the booking center, as well as through other tangible assets belonging to the brand (linen, crockery, uniforms, etc.). In such cases, the chain is both operator and manager of the hotel.

The third possibility is when the chain is only the manager but neither the operator nor the owner. This means that the chain signs an agreement, normally known as a management contract (Eyster, 1988), with the operator so that one of chain managers run the establishment bringing to it, in addition to personal experience and management skills, the chain's brand and booking center. Hotel manager experience and know-how are key elements as previously mentioned to obtain a high quality service. This organizational form means that the operator is different to the manager. The latter, that is, the chain only owns the booking center and maintains control over the brand but it cannot be as strict as in the previous cases because the manager is not always able to transmit the necessary brand values to all the workers who remain on the payroll of the operator. The control exerted over other assets,

[2] It is an open question why franchise contracts are not employed by Spanish hotel companies meanwhile franchising is an successful organizational form in Spain (see http://www.tormo.com/monograficos/cifras2008/, accessed 2nd June 2008, for figures about franchising in Spain).

such as goods and chattels and operating know-how, is limited by the contract because residual control is left to the operator.

3 MECHANISMS OF GOVERNANCE AND QUALITY PERFORMANCE IN HOTEL SECTOR

3.1 ORGANIZATIONAL CHOICE

Williamson (1991) systematizes the analysis of mechanisms of governance, arguing that there is a continuum of intermediate or hybrid solutions between the two extreme or pure mechanisms —market and firm (*hierarchy*) (Menard, 2004). This situation is present, as we shown above, in the hotel sector in which different hotel mechanisms of governance coexist. The choice of mechanism of governance will depend on the problems or contractual hazards faced by the parties because not all the mechanisms serve to resolve all problems equally efficiently (Williamson, 1991).

Control costs

A first important contractual risk is moral hazard (Simon, 1951; Pauly, 1968; Williamson, 1985; 1991). This is a type of post-contractual opportunism that aims to reduce effort, taking advantage of the great costs of observing and/or verifying such behavior for the other party. Agency theory has linked the solution of this problem to the introduction of a system of incentives that aligns the interests of the parties (Hart and Holmström 1987; Jensen and Meckling 1976; Ross 1973; Spence and Zeckhauser 1971). Hotel business can be seen as a whole of agency relationships. Especially difficult to control is the hotel manager performance. This is the key relationship: the director who manages the hotel (agent) with the owner of the chain (principal). Misalignments of interest can arise in this relationship because hotel directors look for their own objectives (i.e. to minimize efforts for a given salary) while principals mainly try to improve profits. These are not the same than principal objectives (to maximize residual claimancy). Principals have to control agents' behaviour because they assume the economic consequences for agents' shirking.

Problems arise when chain can not or it is very costly to verify agent effort by direct supervision. In fact, some hotels are more difficult to control than another. It can be said that managing a hotel chain requires a dual technology in that there some activities that can be centralized while others have to be carried out in a variety of locations, that is, wherever they are consumed. The former includes marketing, accounting and finance, bookings, etc., all of which are subject to large economies of scale and are therefore often concentrated in a single location. The latter includes activities related to actual accommodation, catering and other services rendered in the presence of the customer (this being the characteristic that prevents them from being centralized). The nature of such

services means that they are carried out in different locations so they do not enjoy the advantages of concentration (economies of scale and standardization) and direct supervision may be highly ineffective. This dispersion leads then to a problem of moral hazard –an agency problem— because of the cost of directly observing the effort made (for example, regarding customer focus) in establishments that may be far away from the head office.[3] Conversely, if in a single geographical area there are several establishments, supervision is easier and less costly as a single person can supervise several establishments and comparison is feasible (Fladmoe-Lindquist and Jacque, 1995).

An alternative to direct supervision is the introduction of a system of incentives that aligns the interests of the parties (Spence and Zeckhauser 1971, Ross 1973, Jensen and Meckling 1976; Hart and Holmström 1987). Literature maintains that hybrids forms like franchise (Brickley and Dark, 1987; Lafontaine, 1992; Kehoe, 1996) and management contracts (Contractor and Kundu, 1998a; Eyster, 1988) align the interests of the parties. These organizational forms change the allocation of assets ownership which at the end attenuates the monitoring problem. Assuming economic rationality in agents, this better aligns the manager's interests with those of chain's owners. Hybrids specially suit for isolated and far hotel establishments because agent (e.g. a management service company) assumes the consequences of his behaviour due to his residual claimant condition. This reduces the moral hazard problem in that type of hotels. Hierarchy may also introduce explicit incentives for their employees (profit or sales commissions) but is not able to imitate the incentive intensity that creates compensation with the residual claim (including the right to transfer the position of the residual claimant) (Alchian and Demsetz, 1972). Furthermore, labor laws and unions limit firing and incentive systems which also contributes to reduce the hierarchy capacity to link performance and wages in comparison with market relationship. We can then establish the first hypothesis:

H1*: The lower the direct supervision cost of a establishment (great chain concentration in a specific geographical area), the greater the likelihood of direct management of that establishments (insourcing).*

Coordination costs

Williamson (1991) argues that hierarchy facilitates the adaptation process when the needs for coordinated investments and for uncontested coordinated realignments are frequent and significant. The reason is that fiat, the typical coordination device in a hierarchy, facilitates this type of cooperative adaptation relative to the market, in which costs and delays may arise due to different readings and reactions to signals by agents. Similarly, Milgrom and Roberts (1992: 88-119) argue that hierarchy performs better than the market for coordination problems with "design attributes". They

[3] Rubin (1978) refers to this problem to explain why not all establishments are owned by the company and franchise contracts are used. This is also a clear problem of opportunism as described by Williamson (1985). For the case of hotels, see for example Dev, Brown and Lee (2000).

define coordination problems with design attributes as those *a)* featuring "a great deal of a priori information" about the optimal solution and *b)* in which not reaching the optimal solution is the highest cost. The advantage of the hierarchy in this setting is twofold (Milgrom and Roberts, 1992; Holmström and Milgrom, 1994; Holmström 1999). First, the price system (market) does not offer an informative advantage regarding the use of fiat (hierarchy) because parties already have information about the optimal solution *ex ante*. Second, agents' reaction to prices is never certain because it depends on other changeable prices (e.g. opportunity cost at the time). In a hierarchy, agents' reaction also depends on relative prices (wages) but is less variable than in the market. This facilitates the arrangement and scheduling of agents' actions and tasks.

H2*: Establishments in which coordination costs are large (larger and more refined hotels) are likely to adopt integrated mechanisms of governance because they improve cooperative adaptation.*

The same theoretical prediction can also be reached through arguments based on Resource-Based View (Penrose, 1959; Wernerfelt, 1984; Barney, 1991). When know-how is costly to transmit, the firm is compelled to exploit it internally in order to make its assets fully profitable. It is widely acknowledged that transferring tacit knowledge is difficult because it is complex, is acquired through trial and error, is taught and learned by demonstration, observation, imitation, practice, and feedback and is continuously evolving. Furthermore it can be embedded in the firm, which means that it is deeply entrenched in company-specific routines and practices, characterizing complex social interactions and team relationships within an organization. Then it can be transferred only through intimate social interactions. In terms of the Resource-Based View applied to the hotel sector, organizational competence and quality competence are the largest contributors to the irreproducibility of a firm's competitive advantages (Dev, Erramilli and Agarwal, 2002).

It seems reasonable to assume that know-how needed to offer a complex and luxury service, like that in higher-category hotels that offer additional and more refined services, is more important and, perhaps, more costly to transmit (Chen and Dimou, 2005; Pla Barber and Leon Darder, 2004). Hotel size is also related to the importance of the tacit knowledge and the complexity of the know-how required for managing it (Pla Barber and Leon Darder, 2004). Large hotels are more difficult to manage and require a better-qualified director who is capable of heading a large and specialized human team. Also, large establishments are highly visible and notorious so it is important that they should be tightly controlled because they tend to act as flagships for the brand, acting as a point of reference for both customers and staff. Then, the preference for internalization becomes stronger both when the hotel firm's competitive advantage is derived from operating in a service-sensitive market

(Dev, Erramilli and Agarwal, 2002) and when the hotel is larger. [4] In addition to the above arguments, we can state that it is difficult to find partners who will be prepared to invest the large and specific sums required to start up a big hotel (Brickley and Dark, 1987; Kehoe, 1996; Ramón Rodríguez, 2002).

3.2 IMPACT OF MECHANISM OF GOVERNANCE ON QUALITY PERFORMANCE

We are particularly interested in the modal choice effect on perceived quality. This is a typical measure of the performance of a transaction (Poppo and Zenger, 1998; Michael 2000; Menard and Saussier, 2002), particularly when the product is hardly tangible as it is the case in services. *Service* quality evaluation is slightly different from manufactured *product* quality evaluation because the simultaneity of production and consumption, the heterogeneity, the intangibility and the perishability of the output (Rushton and Carson, 1989; Zeithaml, Parasuraman and Berry, 1985). Berry, Parasuraman and Zeithaml suggest that service quality is the gap between expectations and perceptions about the real service (Parasuraman, Berry and Zeithaml, 1991, Zeithaml, Parasuraman and Berry, 1985; Zeithaml, Berry and Parasuraman, 1988) and that we have to assess the difference between the consumers' expectations and their perception of the service quality. Buttle (1996) suggests that this measure, although correct from a theoretial point of view, is no useful and a direct single question could collect the same information: if the vendor has realized preestablished performance expectations, his level of satisfaction is also high. Expectations depend, among other factors, on corporate image, which can be depicted by brand name, and external communications to customers (Grönroos, 1982; Parasuraman, Zeithaml and Berry, 1988), such as the number of stars which are related to services offered for the hotel establishment (Israeli, 2002; López Fernández and Serrano Bedia, 2004).[5] Reasoning by analogy with goods quality, two components have been identified in service quality (Normann, 1984): Technical quality refers to service design attributes — the service designed to be received by the customer — and functional quality —the service really provided during the service encounter.

How perceived service quality is affected by the organizational form? On the one hand, top-quality is extremely difficult to control by direct supervision. It is very costly to explain and to exactly define in advance how to deliver a quality service in each case. It is easier to give some guidelines and formation and to allow the personnel to decide how to offer the service. However this is difficult

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[4] In their study on internationalization in the hotel industry, Contractor and Kundu (1998a, 1998b) conclude that larger size does not lead to organizational forms characterized by greater control through ownership. However, they refer to the size of the hotel chain whereas we refer to the size of the actual hotel.

[5] Stars reflect an official hotel classification made by government. This classification is related to number and type of services offered by the hotel establishment. Hotels in many countries used this type of classification but the same number of stars in different countries is not necessarily related to exactly the same type and number of services.

to control. It is worthy to mention that improving service design and features is an entrepreneurial initiative and high-powered incentives are needed to motivate those improvements, particularly at hotel management level. As we have stated, residual claimancy motivates the parties to search for new services attributes which are valued by the buyer. This implies that hybrid forms, like a management contract, probably result in enriched service attributes than that offered by a hierarchy. However, this difference should not be appreciated in lease contracts with regard to integrated hotel. The reason is that hotel chains incorporate leased hotels into their network being the hotel managers employees. We can then formulate the following hypotheses:

H3a*: When a hotel produces high control costs by direct supervision, a management service contract will result in higher quality than leased and owned establishments.*

H3b*: When a hotel produces high control costs by direct supervision, leasing and insourcing will result in a similar quality performance.*

On the other hand, good coordination (uncontested coordinated realignments) is essential to offer high quality service. It refers to the degree to which the pre-established design conditions are observed and depends on the right actions being taken by all the agents in the service flow chain. Customer perceived quality is good when delivered service is similar or superior to the consumer's expectations (promised quality) which requires all the agents taking the right actions in each moment of the service flow chain. This calls for an important coordination effort that is less costly exerted by a hierarchy than by more market-oriented mechanisms of governance. The reason, as we stated for the second hypothesis, is that *a)* the price system does not offer the classical informative advantage regarding the use of fiat and *b)* agents' reaction is easily anticipated because there is a pre-agreement about the continuity of the activity that there is no exist in market exchanges. Both leased hotels and owned hotels base their relationship with the hotel chain by fiat meanwhile management service contracts are more based in the price system. These predictions are consistent with Michael's (2000; 2002) papers about franchising. He predicts that franchising will coordinate worst than a hierarchy and will offer lower quality because of the high-powered incentives of the residual claimancy. We therefore hypothesize:

H4*: When a hotel yields high coordination costs, ownership and leasing will result in higher performance (perceived quality) than managed hotels.*

Lease contract present an important contractual hazard regarding quality: the overuse (or undermaintenance) of the leased assets (Benjamin, de la Torre and Musumeci, 1995; Allen and Lueck, 2003). The owner is usually interested in saving as much as possible in the facilities maintenance because he is not directly profiting those investments. Similarly, the facilities user is not interested in investing in the maintenance of the building when this affects the long run assets returns. Additionally, the user usually does not pay for the intensity of use but just for the right of using the asset which creates an interest in overuse to increase the profits. This misalignment of interests may

result in a lower maintenance of the building. However, the building is one of the key assets for consumer perception of quality. Refurbishment and maintenance of physical assets deeply influences quality evaluations. Given that parties perfectly know these consumer's preferences for restored and new buildings, leasing contracts are not attractive when the maintenance is going to be a relevant concern (e.g. when the building is old). Ownership is clearly preferable in these situations because the maintenance problem is internalized. Management contract hotels are probably very similar to integrated hotels because the operator company is still working and sharing profit and revenues with the management. The third hypothesis is:

H5: *When maintenance is an important concern in a hotel, leasing will result in lower performance (perceived quality) than management contract and, particularly, ownership.*

4 EMPIRICAL ANALYSIS

4.1 SAMPLE DESCRIPTION

The above research propositions were tested on a sample of 255 hotel establishments. They belong to the six main hotel chains operating in Spain. In 2003, these chains maintained a total of 170,893 rooms in 866 establishments worldwide, with 50.32% of the rooms and 56.69% of the establishments being located in Spain (Hostelmarket, 2004). All the typical mechanisms of governance were represented: *1)* fully-owned or majority-owned (40.18% of establishments); *2)* minority joint venture (5.77%); *3)* building or business leasing (38.57%); *4)* management contract (12.47%) and *5)* franchising (3%). We focus on the main three mechanisms of governance -majority-owned, leasing and management contract- because we did not have enough observations for an empirical analysis for franchising and minority joint ventures. Furthermore, franchising, as previously mentioned, was only utilized by one chain (Sol Meliá). Table 1 shows descriptive statistics of the sample (see pairwise correlation coefficients in Table 4 in the appendix), and Table 2 defines the variables.

Table 1. Descriptive statistics

	ALL (N=255)				MANAGEMENT (N=31)				LEASING (N=118)				OWNERSHIP (N=106)			
VARIABLE	**Mean**	**Sd**	**max**	**min**	**mean**	**Sd**	**max**	**min**	**mean**	**sd**	**max**	**min**	**mean**	**sd**	**max**	**min**
Perceived quality	7.726	0.732	10	5	7.995	0.646	9.044	6	7.564	0.659	10	5.809	7.827	0.795	10	5
Governance form	1.294	0.693	2	0	0	0	0	0	1	0	1	1	2	0	2	2
3 stars	0.353	0.479	1	0	0.258	0.445	1	0	0.449	0.500	1	0	0.274	0.448	1	0
4 stars	0.569	0.496	1	0	0.645	0.486	1	0	0.534	0.501	1	0	0.585	0.495	1	0
5 stars	0.078	0.269	1	0	0.097	0.301	1	0	0.017	0.130	1	0	0.142	0.350	1	0
L guests	5.475	0.668	7.063	3.761	5.177	0.624	6.943	4.304	5.419	0.628	6.866	3.761	5.625	0.690	7.063	3.829
Geographical concentration	10.067	9.850	28	1	7.194	8.503	28	1	10.890	10.115	28	1	9.991	9.841	28	1
Facilities age	7.871	6.310	42	2	6.032	3.860	16	2	8.297	5.610	33	2	7.934	7.468	42	2
Historical building	0.153	0.361	1	0	0.161	0.374	1	0	0.136	0.344	1	0	0.170	0.377	1	0
Beach	0.254	0.437	1	0	0.226	0.415	1	0	0.229	0.422	1	0	0.292	0.457	1	0
Downtown	0.726	0.447	1	0	0.774	0.425	1	0	0.729	0.446	1	0	0.708	0.457	1	0
Sol	0.345	0.476	1	0	0.323	0.475	1	0	0.288	0.455	1	0	0.415	0.495	1	0
Husa	0.157	0.364	1	0	0.226	0.425	1	0	0.220	0.416	1	0	0.066	0.250	1	0
Nh	0.294	0.456	1	0	0.419	0.502	1	0	0.331	0.472	1	0	0.217	0.414	1	0
Riu	0.031	0.175	1	0	0	0	1	0	0.008	0.092	1	0	0.066	0.250	1	0
Ac	0.102	0.303	1	0	0.032	0.180	1	0	0.025	0.158	1	0	0.208	0.407	1	0
Hotetur	0.071	0.257	1	0	0	0	1	0	0.127	0.335	1	0	0.028	0.167	1	0

The sample only included hotel establishments located in Spain, for several reasons. First, the chains provide limited information on hotel establishments in foreign countries and, for some variables, it was impossible to obtain. Second, the influence of the country in the choice of mechanism of governance for entry has been deeply studied and tested in the literature. The same cannot be said about internal or domestic governance. Third, this sampling controls the effect on the choice of mechanism of governance of the peculiarities (regulation, economic and political stability, sector organization) of a specific country (market). Furthermore, considering only one country avoids the bias that idiosyncratic service in each geographical area could cause to quality perceptions.

Table 2. Variable definitions

Variable	*Definition*
Perceived quality	Service quality perception
Governance form	0= Management service contract 1= Lease contract 2 = Total or majority ownership
3 stars	1 for a 3-stars hotel
4 stars	1 for a 4-stars hotel
5 stars	1 for a 5-stars hotel or a grand deluxe hotel
L guests	Log of the number of guests
Geographical concentration	Number of hotels belonging to the chain in the same province
Facilities age	2005-Building or reforming year
Historical building	1 for a hotel located in a historical building
Beach	1 for a beach hotel
Downtown	1 for a downtown hotel
Husa	1 for a hotel belonging to the HUSA chain
Nh	1 for a hotel belonging to the NH chain
Riu	1 for a hotel belonging to the RIU chain
Ac	1 for a hotel belonging to the AC chain
Hotetur	1 for a hotel belonging to the Hotetur chain
Sol	1 for a hotel belonging to the Sol Meliá chain

Once we had identified the hotels, the 2004 and 2005 *Guía de Hoteles de España* (Professional Edition) provided detailed information about the features and services offered by each hotel in Spain (Turespaña 2004 y 2005). However, we ruled out 59 cases because some data about the size of the establishment and about the building year were missed, being the initial sample size of 337. The information on the hotel mechanism of governance was obtained initially from the Hostelmarket Census of Hotels and Apartments for January 2004 and the Hostelmarket Annual Reports for 2003 and 2004. These give information on the owner of the building, the operating and/or managing company and the operating regime. Since this classification slightly differs from our mechanism of governance categories, it was necessary to recode these variables by identifying the chains' "direct" mechanisms (a stake in the capital) and sometimes the "indirect" mechanisms (such as common administrators) for controlling the companies that own or manage certain establishments. This was done taking data from the chains' reports, also the SABI data base (System for the Analysis of Balance Sheet on the Iberian Peninsula) and the web sites of the chains studied (www.solmelia.com; www.nh-hotels.com;

www.riu.com; www.hotetur.com; www.husa.es; www.ac-hotels.com) for each of the establishments and from Turespaña (www.tourspain.es). Altogether, it was impossible to ascertain the mechanism of governance of 31 hoteles, being the operative sample to estimate the mechanism of governance choice reduced to 306 establishments.

On the other hand, information about the quality perceived in each establishment by the clients was gathered in different specialized web sites. Particularly, we used the most important web sites in Spain: Booking, Venere, Hotelsearch, Atrapalo, Quehoteles, Centraldereservas, Muchoviaje, Activehotels, Tripadvisor y Expedia. This is a new data source but it is starting to be used in academic hotel studies (Briggs, Sutherland and Drummond, 2007). These web sites gather comments and assessment of the service performed. We used a general assessment of the service because a very similar question was available for all the web sites. We computed for each establishment the mean of all the assessment in each web site weighted by the number of comments. Unfortunately we have not been able to find any assessment for 51 hotels. The final sample for performance regressions has then 255 observations.

4.2 ESTIMATION

The final aim for our statistical analysis is to evaluate the influence on perceived quality of one mode of governance compared to another mode controlling for different hotel features. The difficulty with this model is that the choice of governance is likely to be chosen not randomly, which implies that a simple OLS of performance as a function of organization mode leads to biased estimates and subsequent conclusions (Masten 1996, Hamilton and Nickerson 2003, Mayer and Nickerson 2005). Hamilton and Nickerson (2003) highlight that many empirical papers on organizational choice and performance have failed to account for this estimation problem. Only a few papers has taken into account a correction for this bias selection or treatment effect (see Yvrande-Billon and Saussier 2004 for a review). This approach is what has been called a switching regression model (Maddala 1983, ch. 9; Greene 1997, ch. 20, Hamilton and Nickerson 2003).

Hamilton and Nickerson (2003) applies this switching regression model to organization choice and performance. The model has two stages. The first-stage of the model uses covariates to predict the choice of organization mode using ordered probit formulation. The reason of using an ordered probit model is because the dependent variable is ordinal in terms of the property/decision right granted to hotel chain (Contractor and Kundu, 1998a). This has all decision rights in insourced hotels. Leasing establishments are a bit different because decision rights are restricted by the lease contract. Residual rights on the facilities belong at least to the owner while they belong to the hotel chain in insourced establishments. Management contract establishment granted the lowest property rights to the hotel chain. Hotel chains influence the operator company setting as hotel director one of their own hotel

directors. This offers an important control over the operator company, but it is restricted by the rights granted by contract to each party and the operator is still a running company. The model is:

$$G_i^* = \beta' X_i + u_i \qquad (1)$$

Where G_i^* is a not observable measure of governance. However we observe the chosen contract G_i, being:

$$G_i = 0 \text{ si } G_i^* \leq k_1,$$
$$G_i = 1 \text{ si } k_1 < G_i^* \leq k_2,$$
$$G_i = 2 \text{ si } G_i^* > k_2$$

X_i are independent covariates that influence modal choice; β' is a vector of coefficients; u_i is distributed normally; G_i =0 corresponds to management service contract; G_i = 1 corresponds to lease contract and G_i.=2 correspond to fully-owned establishment or a majority joint venture. The second stage analyzes performance, guests' perceived quality in our case, conditioned on the choice of the mechanism of governance. So perceived quality for management service contract, lease contract and ownership, respectively, takes the next form:

$$E\,[Q_0 \mid G_i = 0] = \gamma'_0\, W_i + E\,[\varepsilon_i = \mid G_i = 0] \qquad (2)$$

$$E\,[Q_1 \mid G_i = 1] = \gamma'_1\, W_i + E\,[\varepsilon_i = \mid G_i = 1] \qquad (3)$$

$$E\,[Q_2 \mid G_i = 2] = \gamma'_2\, W_i + E\,[\varepsilon_i = \mid G_i = 2] \qquad (4)$$

where Q_0, Q_1 and Q_2 are the perceived quality in management contract hotels, leasing hotels and company-owned hotels, respectively; W_i is the reduced form vector of exogenous covariates; and γ is a vector of coefficients. Note that W_i is included in X_i to econometrically identify Equation (1). It is generally preferred to use at least one instrument to identify the equation (Hamilton and Nickerson 2003). Assuming that Q_0, Q_1 and Q_2 are jointly distributed, Equations (2), (3) and (4) become

$$E\,[Q_0 \mid G_i = 0] = \gamma'_0\, W_i - \sigma_0\, [\varphi(\beta' X_i)/\Phi\,(\beta' X_i)] \qquad (5)$$

$$E\,[Q_1 \mid G_i = 1] = \gamma'_1\, W_i - \sigma_1\, [\varphi(\beta' X_i)/\Phi\,(\beta' X_i)] \qquad (6)$$

$$E\,[Q_2 \mid G_i = 2] = \gamma'_2\, W_i - \sigma_2\, [\varphi(\beta' X_i)/\Phi\,(\beta' X_i)] \qquad (7)$$

where $\varphi(\cdot)$ is the density function and $\Phi\,(\cdot)$ is the distribution function of the standard normal, and σ_0, σ_1 and σ_2 are coefficients. While all observations are used to estimate Equation (1), only those observations that are managed, leased or owned are used for estimating Equations (5), (6) and (7), respectively. The terms $E\,[\varepsilon_i = \mid G_i = 0]$, $E\,[\varepsilon_i = \mid G_i = 1]$ and $E\,[\varepsilon_i = \mid G_i = 2]$, which are commonly referred to as inverse Mill's ratio, correct for endogenous self-selection. Hypotheses concerning modal choice are evaluated by coefficients estimated in the first stage of the model, whereas hypotheses concerning quality performance are evaluated by comparing coefficients from the three equations in the second stage of the model.

5 RESULTS AND DISCUSSION

Table 3 reports the estimations of the switching regression model. The first column shows the ordered probit results. The model is statistically significant ($\chi 2$ = 68.98**) with a pseudo R^2 of 0.13 and correctly predicts for 64.57% of the observations. First, *Geographical concentration* estimate is statistically significant and positive (p<0.10). This suggests that a high concentration of hotels of the same chain increases the likelihood of choosing hotel ownership, which support our first hypothesis that mechanisms of governance based on ownership are predominant when monitoring cost are low. We argue that several hotels in a single area facilitate control by direct supervision due to economies of scale in terms of monitoring device. Then, management contracts are chosen when the hotel chain has not yet developed a framework in the local area.

Second, the second hypothesis is partially supported. Coordination costs are estimated by the predefined category of the establishment and by the hotel size. On the one hand, *3 stars* estimate is statistically significant and positive (p<0.05), being *4 stars* the omitted variable to avoid colliniarity problems. However, *5 stars* is not statistically different from cero. This suggests that being a 3-stars category hotel increase the likelihood of hotel ownership (insourcing) in comparison with a 4 stars category hotel. Conversely, there are no differences between 4-stars category and 5-stars category hotels in their propensity to integrate the establishment. This does not support our second hypothesis because we should have found a negative parameter for *3 stars* and a significant estimate for *5 stars*. There is a path dependency for this finding. This chains mainly started in the 3-start segment growing later towards more sophisticated markets (4-stars and 5-stars). The typical starting mode is the direct management of the hotels, which means a high proportion of ownership in 3-start category. Later the growth of the chain was base on different organizational mode, but the initial advantage of 3-starts category in the proportion of ownership has not still been compensated.

Conversely, *L guests* estimate is significant (p<0.01) and positive, which provides support for the idea (H2) that the larger coordination costs increase the likelihood of insourcing hotels. Two explanations arise here. First, the know-how needed to manage a great hotel is scarce because it is costly to obtain. Chains locate their most-qualified managers (those who are able to run a large hotel) in those hotels in which their effort is more profitable for the company. Management service hotels are not fitting in this category because hotel chain shares their profits and income with the operator company. If they act rationally they will locate second-class managers in the latter type of establishments. Second, large hotels are more complex to control and manage and they require more uncontested coordinated realignments because it is more important the global output than the individual preferences. Hierarchy offers better results in this type of effort than hybrid forms as we have argued. Furthermore, we have to note that large hotels usually act as flagships for the brand, being a point of reference for both customers and staff.

Third, the coefficient for *Facilities age* is significant (p<0.05) and positive, which suggests

that older buildings are likely integrated. This is reasonable because an important source of problems in lease contract is the facilities maintenance. The owner should pay for these costs but the benefits go for the hotel chain who is managing the establishment. Moral hazard problems could appear in this situation. Similarly hotel chain tends to overuse the building because the marginal cost is cero. Consequently hotel chains and owners knows that hiring old facilities may be very costly because they will present more problems than new ones and this yield high negotiation costs. This problem is also present in management contract but it is attenuated by the sharing system of profits and income. Both parties' interests are better aligned.

We introduced several variables into our first-stage model to control for main different markets (*beach* and *downtown*) but did not obtain statistically significant results, as shown in Table 3. Similarly, *historical building* is not significant. Finally, we introduced a variable for control by the chain as different companies may have different governance policies. The variable omitted to avoid colliniarity is *Sol*. *AC* obtains a significant (p<0.01) and positive parameter, which can be interpreted as a higher tendency of this chain towards integration (ownership) in comparison with the Sol Meliá chain. Conversely, coefficient for *Hotetur* are negative and statistically significant (p<0.01), which suggest that those chains tend to use less ownership than Sol Meliá chain.

Table 3. Switching Regression Model

Variables	*Ordered probit estimates for Governance Form*	*Perceived Quality for:*		
		Management	*Leasing*	*Ownership*
3 stars	0.3588* (0.16)	0.0305 (0.71)	-0.0937 (0.11)	-0.0820 (0.30)
5 stars	0.5058 (0.35)	2.0325 (1.21)	0.9443** (0.30)	-0.2803 (0.41)
L guests	0.4347** (0.14)	0.2990 (0.75)	-0.0205 (0.10)	-0.0530 (0.30)
Geographical concentration	0.0157† (0.01)	0.2330 (0.32)	0.0014** (0.01)	0.0283† (0.017)
Facilities ages	0.0186* (0.01)	0.5040 (0.45)	-0.0358** (0.01)	-0.0033 (0.02)
Historical building	0.2144 (0.22)			
Beach	0.0549 (0.22)	-0.2118 ((0.44)	0.0183 (0.17)	-0.1315 (0.29)
Downtown	0.2040 (0.16)	0.1312 (0.46)	-0.0774 (0.14)	0.1420 (0.25)
Husa	-0.3078 (0.24)	-1.2906† (0.64)	0.1054 (0.15)	-0.1330 (0.43)
Nh	-0.3093 (0.21)	-0.8321 (0.54)	0.3622* (0.14)	-0.2546 (0.32)
Riu	0.4078 (0.35)		-0.5014** (0.28)	0.0570 (0.53)
Ac	1.6871** (0.39)	2.7425 (3.22)	1.0037* (0.49)	1.1907 (1.18)
Hotetur	-0.7678** (0.24)		-0.1403 (0.25)	0.0308 (0.67)
Mills management		2.3388 (2.30)		
Mills_Leasing			-0.2015 (0.77)	
Mills_Ownership				0.4984 (1.23)
_cons		9.8630** (1.44)	8.1178**(0.77)	7.2947* (3.25)
μ_1	1.6774			
μ_2	3.2602			
Number of obs	306	31	118	106
Wald χ^2/ F	68.98**	1.59	4.06**	3.91**
Pseudo R^2/ R^2	0.13	0.4241	0.3365	0.2827

Legend*: Estimates (standard deviation)* † p < 0.10; * p < 0.05; ** p < 0.01

We should now analyze the perceived quality. Given the methodological problem discussed

above, we should not run a simple OLS regression to determine whether the independent variables directly influence perceived quality, irrespective of the choice of organizational form. Although not showed, we run this regression to observe that *Governance form* is not statistically significant. This is not properly because hotel chains are likely to choose the organizational form that they believes will offer more perceived quality (high performance). This means that they are not choosing organizational form randomly (the implicit assumption if we run the simple OLS regression (Hamilton and Nickerson, 2003). We then controlled for the endogeneity problem using a switching regression.[6] Historical building is the variable we have used to solve the problem of identification and we assume that it has no effect on performance.

First, luxury establishments, where the complexity and refinement of the delivered services is the highest (*5 stars vs. 4 stars*), perform better in terms of perceived quality in leased hotels than in insourced establisments. Additionally the management contract estimates is much larger than lease contract parameters and this is also larger than ownership estimate which is even negative. This partially support H3 and suggest that residual claimancy motivates the parties to search for new services attributes which are valued by guests. This is an interesting finding for practitioners because it suggests that hotel chain managers should pay more attention to the incentive system in integrated hotels. It is also interesting to note that we had not appreciated theoretical differences between lease contract and insourced hotels, meanwhile our results suggest that there exit. Hypothesis 4 is not supported because we do not appreciate a higher performance of ownership in comparison with management contract when we are dealing with large establishment.

Regarding *Geographical concentration* results, they confirm the first hypothesis that the higher the geographical concentration of the hotels of a chain, the higher the propensity to integrate and they also offer additional information. The higher performance comes more from the outstanding performance of ownership (and lease contract) when hotel chain keeps their establishments concentrated than from the bad performance of management contract, supporting H3. This makes sense because this concentration facilitates direct supervision which is necessary for a hierarchy to work properly.

Another interesting result is that the coefficient for *Facilities age* is statistically significant and negative only for lease contracts. This suggests that lease contracts are not suitable for dealing with old facilities. This supports H5 argument that the main problem for lease contract is the maintenance of the facilities due to the misalignment of interest between the owner and the tenant (the management company). This is also an interesting finding for practitioner because it suggest that maintenance policy should be carefully negotiated in the contract.

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[6] Our inverse Mills ratios are not significant meaning, however, that endogeneity is not a big concern

Lastly, the results show the existence of some type of chain effect. Reference category is Sol Meliá and significant results appear related to leasing hotels in NH, Riu and AC chains. Thus, NH and AC obtain a superior performance in quality related to Sol Melia leased hotels. Conversely, Riu gets a worse quality performance in leased hotels than Sol Meliá. The explanation could be some type of chain specialization or preference in particular organizational form.

6 CONCLUSIONS

This paper studies the relationship between the organizational form choice and performance in the hotel sector. Particularly, we have considered as a measure of performance the guests' perceived quality. We argued that governance mechanisms affect perceived service quality. First, functional quality is related to what Milgrom and Roberts (1992, p. 91) define as a coordination problem with design attributes, which are better solved through a hierarchy because this mechanism of governance facilitates coordination. Consequently, an integrated firm should perform better in terms of functional quality. Second, technical quality depends on the knowledge and on agents' motivation and initiative because they should scrutinize consumer preferences to find out which attributes or combination of service attributes are preferred at any one time. Hybrid forms, management service contracts and leasing in our study, probably improve the low-powered incentives within the firm (Williamson, 1991) because the agent (the hotel operator) is better aligned with the principal (chain owners) (Contractor and Kundu, 1998a and 1998b). However, the problem with this high incentive intensity is that it may deteriorate the perceived quality due to the externality problem about the quality (Rubin, 1978) and the participation of several residual claimants makes difficult to transfer the kwon how of the business, especially when valuable, difficult-to-imitate resources are involved.

Using a two-stage switching regression model to control for endogeneity, we tested these main arguments on a sample of 255 hotels which belong to the six main hotel chains operating in Spain. The first-stage results about the likelihood of modal choice showed that the higher the monitoring costs (measured by the dispersion of chain's establishments), the more likely it is that management contract is used. Another finding was that the larger the establishment size, the higher the likelihood of insourcing. We interpret this results as an evidence that chains select hierarchy when coordination problems seems to be the most relevant as it is the case in largest resorts. Latter result is also coherent with the resource based view argument that transmitting the know-how needed for successfully managing such establishments into the market is more costly than within the firm. However, we do not found support for this argument if we consider that luxury hotels are more complex to manage and require more knowledge. Results for the lowest star-category (*3-stars*) suggest that these hotels are more integrated in relation with 4-stars category, when the expected result was the opposite. Chain effects were also found, which means that not all the chains have the same propensity to use each organizational form.

In the second stage of the regression we estimate the different impact that organizational forms have on perceived quality. Our main results are that luxury hotels perform better in terms of perceived quality when there are several residual claimants along the vertical chain. This is an interesting finding for practitioners because it suggests that hotel chain managers should pay more attention to the incentive system in integrated hotels. We also confirm the first hypothesis that the lower the monitoring costs, the higher the propensity to integrate. However we have seen here that this is due to the outstanding performance of ownership but it is not due to the bad performance of management contract. Furthermore, we also observe that facilities maintenance is a big concern in lease contract because it reduces the perceived quality, especially in this type of organizational form. Finally, the results show the existence of some type of chain effect, what can be understood as a signal that not all the chain have equal competences in dealing with particular organizational forms.

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APPENDIX

Table 4. Pairwise correlation coefficients

	Perceived quality	*Governance form*	*3 stars*	*4 stars*	*5 stars*	*L guests*	*Geographical concentration*	*Building year*	*Historical building*	*Beach*	*Downtown*	*husa*	*nh*	*Riu*	*ac*	*sol*
Governance form	0.0892															
3 stars	-0.1796*	-0.0259														
4 stars	0.2045*	0.018	-0.8024*													
5 stars	0.0098	0.1263*	-0.1972*	-0.2871*												
L guests	-0.1165*	0.2750*	-0.0729	0.1308*	0.0817											
Geographical concentration	-0.0963	0.1514*	0.2463*	-0.2008*	-0.0831	0.3433*										
Facilities age	0.2943*	-0.027	-0.1559*	0.1104*	0.081	-0.1195*	-0.1018*									
Historical building	-0.0087	-0.039	-0.1722*	0.0573	0.2482*	-0.1527*	-0.1086*	0.0904								
Beach	-0.2049*	0.1067*	0.0825	-0.0398	-0.026	0.4893*	0.3327*	-0.1617*	-0.2326*							
Downtown	-0.0335	-0.0649	-0.031	0.0131	0.0512	-0.1670*	-0.1824*	-0.0325	0.1989*	-0.2461*						
husa	-0.0453	-0.2287*	-0.0045	-0.0587	0.0285	-0.3353*	-0.2259*	-0.0718	0.1167*	-0.1996*	0.1232*					
nh	-0.0103	-0.1347*	0.1820*	-0.1379*	-0.0766	-0.2202*	-0.037	0.0281	0.0707	-0.2879*	0.2547*	-0.2205*				
riu	0.0165	0.1741*	-0.0712	0.1371*	-0.0754	0.2993*	0.2180*	0.0479	-0.1455*	0.3608*	-0.3341*	-0.1579*	-0.2119*			
ac	0.3560*	0.2399*	-0.2526*	0.1714*	0.1417*	-0.1970*	-0.2798*	0.2671*	0.0226	-0.2387*	-0.0537	-0.1464*	-0.1963*	-0.1406*		
hotetur	-0.1592*	-0.0522	0.2622*	-0.2431*	-0.0771	0.1134*	0.2779*	-0.1614*	-0.0815	0.3371*	-0.1651*	-0.1176*	-0.1578*	-0.1130*	-0.1047*	
sol	-0.1546*	0.0367	-0.0874	0.0917	0.0501	0.3196*	0.077	-0.0999	-0.0141	0.1179*	0.0533	-0.2691*	-0.3610*	-0.2586*	-0.2396*	-0.1926*