The Inter-Organizational Effect of Monitoring costs, Market and Scale in the Service Industry[1]

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ABSTRACT

The study focuses on the choice of alternative governance forms in the service industry. We analyses the choice between traditional independently owned and managed firms and vertical marketing systems like voluntary chains, franchising and vertically integrated chains. Based on agency theory and scale theory we argue that factors such as the need for control of service quality, the level of control costs, financial risk and scale, and the market environment affect the choice of governance form. Our hypotheses were tested on a sample of 650 hotels. The results indicate that size, population size and population density of the local market are important factors influencing the choice of governance form.

INTRODUCTION

Closely intertwined with the worldwide expansion of the service industry we have observed a transformation of the inter-organizational structure from traditional independent firms into a complex network of arrangements like franchising systems, voluntary groups and vertical integration (Contractor and Kundu, 1998). Although a lot of anecdotic evidence has been brought forward, to our knowledge few empirical studies have actually tested the impact of factors generated from agency theory. The relevance of agency theory in the service industry can be characterized by a high degree of asymmetric information between the brand name owner and the interaction between the customer and the service-organization representing the brand in the market. Thus the owner of a brand name will face a problem of safeguarding this transaction that is costly to monitor and control. However, the service function creates satisfaction and brand loyalty and brand value. Therefore the brand owner will have to meet an important strategic problem; how can a choice of governance structure,

either a traditional system or a vertical marketing system safeguard the brand value against opportunistic behavior given the high asymmetric information associated with market dynamics in services, internationalization of the service industry, cultural complexity and intangibility of the service product (Nykiel, 1997) ?

The paper is organized as follows: We first present the theoretical perspectives underlying our research. We develop seven hypotheses based on economic theories of organization that link important antecedents to the choice of governance form. We then report the research methodology, and present the results of the empirical testing of the hypotheses. Finally, we discuss the theoretical implications, limitations and future research.

THEORY AND HYPOTHESES

Governance, control and ownership of hotel services

There are several reasons why hotel services are operated by contracts between independent companies rather than integrated in one organization. For example, a local company that traditionally has had control over the entire operation, may find it difficult to get international visitors, and thus decides to enter an agreement with an international hotel chain. In this way, the local hotel can get access to an international brand name and an international reservation system. Furthermore, the brand owner can provide the local hotel with management competence. From the perspective of the international hotel chain, such an agreement can provide access to good locations and reduce the need for capital compared to wholly owned operations. In addition, the international hotel chain rests it’s operations on the local entrepreneurial drive, management talent and local market knowledge (Lafontaine and Kaufman, 1994). From both actors' perspective, this is a question of control over activities versus getting access to resources provided by other companies. By cooperating on specific activities, both the local hotel company and the international hotel chain get access to

resources provided by the other actor, but at the same time they will not be able to fully control all dimensions or activities.

Contractor and Kundu (1998) argue that four dimensions are especially important to control in the hotel industry. These are (1) control of operational management and quality, (2) control of capital and property, (3) control of competence/expertise, and (4) control of brand and reservation system. However, actors can control any of these four dimensions without having ownership, and as pointed at above, the control of the four dimensions will often be split between two or more companies.

Our theoretical reasoning around the factors influencing governance form or contract is agency theory (cf., Bergen, Dutta and Walker 1992, Fama and Jensen 1983, Eisenhardt 1989). The relationship between a hotel chain and the local hotel can be viewed as a principal-agent relationship or a contractual relationship. The brand owner (principal) delegates operational decisions to the local hotel. According to agency theory, the basic contractual problem is to design and implement a contract so the agent acts according to the interests of the principal. The brand owner who employs an agent always have the power to revoke the agent representing the hotel brand (Shindler, 1997). The principal may also be the property owner that rent to the brand owner (agent). When the hotel chain invest specifically in a local property without safeguarding it`s investments against the "horizon of opportunism" (Williamson, 1985), it might loose it's location specific investments.

Based on the specific tasks the agent is supposed to perform, the primary contract choice is between behavior-based and outcome-based contracts. It is thus the specific character of the task that determines the choice of contract form. Three important task characteristics that are supposed to influence the choice of contract are risk, the need for control of output quality, and control and monitoring costs (Eisenhardt, 1989).

However, agency theory is rather limited in its scope as it primarily pays attention to factors that are internal to the principal-agent relationship. The theory does not include external factors that may affect the choice of contract or governance form. We will therefore extend agency theory and include factors that are external to the principal-agent relationship, especially factors related to market size and competitive environment. It is likely to assume that market size will affect the choice of governance form, as hotel chains can have several hotels in larger markets and thereby reduce control and monitoring costs for each individual hotel. Furthermore, competitive environment can also influence the choice of governance form, as the potential for earning profits is likely to influence the choice of entering a new market (Hart, 1983). Since governance form also affects how the profit is shared between principal and agent, we should expect that the profit potential in a specific market would also influence governance form. We will in the following discuss factors suggested by agency theory in more detail and the theoretical implications of monitoring costs, market environment and scale. We develop hypotheses linking each dimension to the choice of governance form.

Monitoring Costs

Control of free riding on brand equity

An important task for all service operations is to provide and secure quality at the local level in such a way that the value of the brand name of the chain is maintained by high quality of products and services, high quality of execution of service delivery and establishing symbolic and evocative image (Muller, 1998). Service quality is produced at each local hotel in the interaction between the hotel and the customer, and the control of service quality is an important function for a hotel chain that might produce both price premiums and customer loyalty. According to agency theory, the principal's ability to control service quality is closely

related to the principal's ability to acquire valid and accurate information about the agent's actions. This is often a question of implementing information systems for surveillance and monitoring purposes, and the agent's ability to develop such systems in a specific principal-agent relationship is assumed to affect the choice of contract.

The need for control of service quality is expected to be higher for hotels located in non-repeat customer environments, such as close to roads with dense traffic and airports, than for hotels in repeat customer environments. There are two reasons for this**.** First, when the customers are non-repeat, the value of a brand name is larger. Non-repeat customers have little or no ability to choose the hotel based on previous experience with a particular hotel. Brand names are important means of communicating or signaling standard quality and reduce the perceived risk for the customer. Second, if the quality of a particular hotel operating under a brand name is low, the costs of poor quality in such hotels will be transferred to other hotels operating under the same brand name through decreased brand loyalty (Brickley, Dark and Weisbach 1991). Studies from the hotel industry in the U.S. indicate that there is a free riding problem in the industry. Empirical evidence shows that the outcome-dependent agents (i.e. franchisees) do not carry necessary advertising costs (Michael, 1999). Franchised hotel chains advertise half as much as integrated hotel chains (Michael, 1999). We should therefore expect that the brand-owner would choose to vertically integrate hotels located in non-repeat customer environments and prefer owned units to both voluntary hotels and franchising. We also expect more vertical marketing systems than traditional systems at highway locations. Thus, we propose the following hypothesis:

H 1: Hotels located in non-repeat customer environments will be more vertically integrated than hotels located in repeat customer environments.

Control of breadth of service products

The breadth of production of services makes it more difficult and costly to observe (Jensen and Meckling, 1976; Shepard, 1993). Following the guidelines from agency theory, we should expect less integration whenever the agent's effort is difficult and costly to observe (Holmstrom, 1979). Service quality and customer response may only be possible to measure and to control during the time-limited interaction with the customers. Brand building activities performed by the local hotel may be difficult and costly to observe and control. It will be expensive for a brand name owner to monitor the daily operation of a local hotel since the control of service production require a high degree of presence. On the other hand, monitoring the outcome of the transactions may be less costly. The brand owner i.e. have easy access to performance information through the reservation system. We should expect that the complexity of observing the agents effort should increase with an increase in activities offered by the hotel. A bed-and-breakfast hotel should be less expensive to control than a five-star hotel with restaurants, swimming pools and fitness studio.

H 2: The larger breadth of service products offered at the hotel, the less vertically integrated the hotel tend to be.

Distance

Furthermore, the costs of controlling should also increase as the distance from chain head quarter to the local hotel increases. A hotel that is located close to the chain head quarter can be assessed and controlled more easily and at lower costs than a hotel far away from the chain head quarter. With an increase in the spectrum of activities offered by the hotel, and as the distance from chain head quarter to the local hotel increases, the costs of vertical integration

will also increase (Shepard 1993), resulting in less effort based governance and more performance oriented contractual arrangements (Holmstrom, 1979). We therefore suggest the following hypothesis:

H 3: The longer distance from the headquarters the less vertically integrated the hotel tends to be.

Market Environment

Since vertical integration requires a high level of control that can be very costly, we should expect that more vertically integrated hotel chains would prefer to be present in markets or locations where it is as convenient as possible to monitor and control the behavior of the local hotel.

Population size

First, it is reasonable to argue that control and monitoring costs will be relatively lower for hotels located in larger local markets. The presence of several hotels in such markets may represent some degree of normative pressure, e.g. industry standards, best practice, benchmarks, that all hotel managers/owners will try to follow (Abrahamson and Fombrun 1994). Transparency and the presence of norms may be sanctioned through, for example, the value of job offers from other companies (hotels) in the industry. Furthermore, it will be easier and less costly for the chain to observe the behavior of the local hotel in larger markets as traveling costs to such locations are likely to be less than to smaller markets (e.g. due to airports and other transport systems). A hotel chain may also have several hotels located in larger markets resulting in scale economies related to control and monitoring costs. We therefore advance the following hypothesis:

H 4: Hotels located in larger markets will tend to be more vertically integrated than hotels located in smaller markets.

Population density

It will probably contribute to reduced per unit monitoring costs if a unit is located in densely populated areas (Nygaard and Myrtveit, 2000). A sales area manager therefore could control more units at lower costs per unit (Norton, 1988). Thus,

H5: The higher population density within the local hotel environment the more will the hotel tend to be vertically integrated

Competitive environment

When approaching a less attractive market with high degree of competition, the brand name owner has to face higher degree of business risk. According to agency theory (Eisenhardt, 1989) the principal (the brand owner) will tend to transfer more risk to an agent by applying less integrated contractual arrangements when the markets become less attractive because of fierce competition. A hotel chain looking for new business opportunities is likely to invest and establish new business operations in those markets that are conceived to yield the largest profits. Hotel chains should thus be inclined to operate vertically integrated hotels in markets that are assumed to yield large profits, as compared to less attractive markets. The same reasoning can, however, also be applied for local investors, investing in traditional (independent) hotels or voluntary chain hotels. Although this may be the case, anecdotal evidence suggests that such investors will be less willing to withdraw from local markets, even when profitability falls. Furthermore, local hotel owners are more specialized in their

investments than hotel chains. Both the chain and the local hotel owner invest in the same industry, but the local hotel owner is also specialized geographically. Unlike vertical marketing systems, the local independent entrepreneur therefore cannot diversify investments away from risk. A local hotel owner may thus have fewer investment alternatives. This allows the following hypothesis:

H 6: Hotels located in less competitive markets will be more vertically integrated than hotels located in more competitive markets.

Scale

When establishing a new hotel, a brand owner will be concerned about the investment itself, and the amount of capital that will be locked into the investment and therefore cannot be used for alternative purposes. It is also likely that such capital investments will affect the choice of governance form. In particular, capital investment considerations should be more important for establishing larger hotels than smaller hotels. When a company is exposed to large risk, the company will demand a risk premium for accepting the risk. Such a risk premium represents a cost (reduced risk-adjusted net present value) for the owner, and vertical integration will reduce this cost. First, vertical integration offers the local hotel different benefits such as a brand name, reservation system, and competence, and furthermore, vertical integration gives the owner a better assurance for not loosing the investment when establishing larger hotels (Brickley, Dark and Weisbach, 1991). There might also exist scale advantages in marketing and in administration of hotels that encourage integration (Scherer, 1980). Second, in the case of full vertical integration, ownership of the hotel lies with the chain and not a local businessman. As an integrated hotel chain owns and

operates several hotels, the chain is better able to reduce risk through diversification. This allows the following hypothesis:

H 7: Larger hotels will be more vertically integrated than smaller hotels.

RESEARCH METHODOLOGY

The hypotheses were tested in the Norwegian Hotel Industry. Since there is no complete database containing all Norwegian hotels, we developed a database consisting of 650 hotels. We gathered information about these hotels from hotel directories, different web sites, and by contacting the hotels operating in Norway by phone. Of the 650 hotels, 306 were independently owned and managed, 151 hotels were members of voluntary chains, 70 hotels were operated by franchised contracts, and 123 hotels belonged to vertically integrated chains.

Based on the different information sources mentioned above, we gathered specific data about each individual hotel. After developing this database, we constructed and measured the following eight variables:

Governance form. In the hotel industry we are able to observe (1) traditional systems like independent hotels that are owned and managed by a local business entrepreneur, and vertical marketing systems like (2) voluntary hotel chains where a number of relatively independent hotels cooperate on activities such as procurement, a common brand name, reservation system and marketing, (3) franchised hotel chains and (4) vertically integrated hotel chains. We argue that these governance structures represent structural degrees of the level of vertical integration. Traditional independent hotels are close to market transactions. Voluntary groups are less integrated than and franchising systems are less integrated than vertically owned hotels (Coughlan et.al. 2001).

Non-repeat versus repeat customer environments. Closeness to a road with dense traffic (Brickley, Dark and Weisbach, 1991; Dahlstrom and Nygaard, 1994) was used as a proxy for non-repeat customer environment and an indication of potential free riding opportunities for the single hotel. Hotels closely located to such roads were classified as being in non-repeat customer environments, while hotels far away from such roads were classified as being in repeat customer environments.

Monitoring costs. (1) Breadth of activities offered by the hotel (Shepard 1993; Nygaard and Myrtveit, 2001), and (2) the distance from chain head quarter to the local hotel were used as proxy variables for control and monitoring costs (Brickley and Dark, 1987). We obtained information about which of the following activities each hotel offered: (1) swimming pool, (2) fitness room, (3) sauna, (4) solarium, (5) bicycle rental, (6) horse riding, (7) boat rental, (8) fishing, (9) alpine skiing, (10) hiking, (11) golf, (12) tennis, (13) squash, and (14) rafting. The variable was constructed as the sum of these service activities offered by each hotel. Furthermore, we calculated the distance from head quarter in terms of the number of kilometers from the chain head quarter to the local hotel.

Market size. Two proxy variables were used as indicators of market size. These are (1) **population size** and (2) **population density**. Population size was measured as the number of inhabitants in the local community (Chung and Kalnins, 2001), and whether the hotel was located in an urban area (city/town) or in a rural area (village) measured population density (Norton, 1988). Hotels located in urban areas were classified as being in densely populated areas, whereas hotels located in rural areas were classified as being in less densely populated areas.

Competitive environment. The number of inhabitants in the community divided by the total number of hotel beds in the local community was used as a proxy for competitive environment. This proxy variable captures the potential demand in the market relatively to the

established capacity, and should thus reflect the attractiveness of the market. Due to the scaling of this variable, we should note that higher values reflect less attractive markets, and lower values indicate more attractive markets.

Hotel size. Hotel size was measured as the number of beds in the hotel (Chung and Kalnins, 2001).

Descriptive statistics and the correlation matrix are presented in Table 1.

[Insert Table 1 about here]

RESULTS

The hypotheses were tested by logistic regression analyses with governance form as the dependent variable. Logistic regression is suitable for testing how a dichotomous dependent variable can be explained by a set of independent variables. We tested four different models, and each model represents a choice between two different governance forms. The results are shown in Table 2. All four models fit the data reasonable well with correct classifying rates ranging from 68.9 % at the lowest to 76.5 % at the highest.

[Insert Table 2 about here]

We first tested for differences between independent hotels and hotels that were part of a hotel chain (Model 1). We therefore collapsed voluntary hotels, franchised hotels and vertically integrated hotels into one category. In this way we were able so investigate whether chain operated hotels differed from independent hotels. The model correctly classifies 72.9 % of the cases (-2LL = 720.747). The effects of population size, population density, and hotel size are all significant. This implies that chain hotels in general are larger than independent hotels, and furthermore, are located in larger markets than independent hotels. Model 2 addresses the choice between voluntary and franchising. The model fits the data reasonable

well (-2LL = 216.206), and classifies 76.5 % of the cases correctly. We note that population density, hotel size, and competitive environment affect governance form in the hypothesized directions.

Model 3, addressing the choice between voluntary and vertical integration, classifies correctly 74.5 % of the cases (-2LL = 297.542). We see that distance from head quarters, population density, and hotel size has significant effects on governance form. However, the effect of distance from head quarter is opposite of what was predicted. Model 4 analyzes the choice between franchise and vertical integration. The model fits the data reasonable well (-2LL = 226.391). 68.9 % of the cases are correctly classified. The effects of number of activities, distance from head quarter, population size, and hotel size are significant, but again the effect of distance from head quarter is opposite of the hypothesis.

In comparing these results to the hypotheses, no support was found for hypothesis 1 predicting hotels located in non-repeat customer environments to be more vertically integrated than hotels located in repeat customer environments. Hypothesis 2 predicting hotels requiring high levels of control costs (due to the breadth of service products) to be more vertically integrated than hotels requiring lower levels of control costs received minor support. The results indicate that consistent with our theoretical predictions vertically integrated hotels offer fewer activities than franchised hotels. With regard to hypothesis 3 (distance from head quarter) the results yielded no support for the hypothesis. Two of the models show significant coefficients, but opposite of what was predicted. Two models supported hypothesis 4 that population size affect the choice of vertical marketing systems to traditional systems and (model 4) that vertically integrated hotels tend to be located in more populated areas than franchised hotels.

Hypothesis 5, predicting hotels located in more urban markets to be more vertically integrated than hotels in smaller markets, was supported in three of the models. Hypotheses 6

that hotels located in less competitive markets to be more vertically integrated than hotels located in less attractive markets was supported in model 2.

Hypothesis 7 predicting larger hotels to be more vertically integrated than smaller hotels were supported across all four models.

DISCUSSION AND IMPLICATIONS

Our theoretically derived hypotheses suggested that, the monitoring costs, market environment and scale are factors that should affect vertical integration in the hotel industry. The empirical analyses indicate that size measured in terms of number of beds is the most important factor determining the choice of governance form within the hotel industry. Size seems to foster vertical integration along the whole continuum from independent hotels to full vertical integration. We have argued that vertical integration reduces the relative risk in two ways. First, since vertical integration offers the local hotel benefits such as brand name, reservation system, and competence, vertical integration gives the owner a better assurance for not loosing the investment especially when investing in larger hotels (Brickley, Dark and Weisbach, 1991). Second, by vertical integration, the chain can better reduce risk through diversification than a local businessman. The results support these arguments. Our findings also indicate that there might be scale advantages in organizing this industry vertically (Scherer, 1980).

The results are mixed with regard the monitoring costs hypotheses. The hypothesized effect of customer environment (repeat versus non-repeat) was not supported. Neither have previous studies in other industries supported this hypothesis (Dahlstrom and Nygaard, 1994). We did find scarce effect of control costs stemming from the breadth of service activities offered by the hotel. Other studies from other industries have not found any relationship between product breadth and governance either (Slade, 1992). Surprisingly, we found the

effect of distance from head quarters to the local hotel to be opposite of our predictions in two models. We argued that monitoring costs would be a function of geographical distance. Previous studies have supported this argument (Rubin, 1978; Brickley and Dark, 1987). However, this finding might indicate that better and less costly communications and information technology (e.g. email/internet) increase the ability to control behavior at the local hotel regardless of geographical distance, and at lower costs (Waters, 2001).

Finally, we found some evidence that vertical integration of hotels is related to the competitive attractiveness of the local market, although the results are mixed. The hypothesized effect was supported in Model 2 (voluntary versus franchise), but received no support in the other models, although the coefficients are in the right direction in two other models). The hypothesis deserves further investigation. In particular, we may speculate whether “private” money and local ownership will act differently compared to investors without any social ties to the specific location. Also further investigation should consider the alternative theory that competitive pressure is itself a disciplinary device for the brand name owner. Therefore Machlup (1967) and Hart (1983) argue that agency costs only exist when competition is imperfect. According to this theoretical perspective we should expect the exact opposite effect of more attractive non-competitive environments. Under conditions of "cut throat”-competition there is no room for opportunism, moral hazard or managerial slack, thus it is less costly for the brand owner to use vertical integration or less outcome dependent contracts (Machlup, 1967). Although some empirical evidence from the hotel industry supports this approach (Pak, 2002) this conflicting perspectives need to be further analyzed in order to give more precise directions for empirical research in the service sector.

Our findings also indicate that the location of the hotel, especially population size and population density of the local market have consequences for governance efficiency. It seems that vertical integration is more common in urban markets. We have argued that monitoring

and control is less costly in such markets, and furthermore, marketing benefits from vertically integrated chains may also be larger in such markets.

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TABLE 1
Descriptive statistics and correlation matrix

	Mean	Std. dev.	1	2	3	4	5	6
Non-repeat versus repeat customer environments	0.5	0.5	1.00					
Breadth of service Activities offered	4.2	3.0	.18**	1.00				
Distance from chain head quarters to the local hotel	527.5	579.0	-.08*	-.12**	1.00			
Population size	62148	131584	-.32**	-.37**	-.26**	1.00		
Population density	0.5	0.5	-.10**	-.32**	-.03	.44	1.00	
Hotel size (# beds)	140	110	-.03	.22**	-.15**	.21**	.26	1.00
Competitive environment	7.5	10.1	.16**	.35**	-.08	-.22**	-.35**	.08*

TABLE 2
Logistic regression with governance form as dependent variable

	Traditional system versus Vertical Marketing System	**Governance Choice Between Vertical Marketing Systems**		
	Model 1	Model 2	Model 3	Model 4
Independent variables	Independent hotels versus all vertical chain formats	Voluntary versus franchise	Voluntary versus vertically integrated	Franchise versus vertically integrated
Monitoring Costs:				
H1: Non-repeat versus repeat customer environments	.105	.421	.163	-.116
H2: Breadth of Service activities offered by the hotel	.032	.096	-.094	-.153**

TABLE 2 (cont.)
Logistic regression with governance form as dependent variable

	Traditional system versus Vertical Marketing System	**Governance Choice Between Vertical Marketing Systems**		
	Model 1	Model 2	Model 3	Model 4
Independent variables	Independent hotels versus all vertical chain formats	Voluntary versus franchise	Voluntary versus vertically integrated	Franchise versus vertically integrated
H3: Distance from chain head quarters to the local hotel	-	.001	.088***	.081**
Market Environment				
H4: Population size	.002*	-.002	.001	.003*
H5: Population density	.825***	1.684***	.739**	-.707
H6: Competitive environment	-.006	-.57**	-.003	.019
Scale:				
H7: Hotel size (# beds)	.011***	.007***	.008***	.003*
- 2 Log likelihood	720.747	216.206	297.542	226.391
Cox and Snell R Square	.240	.237	.252	.128
Correct classification	72.9 %	76.5 %	74.5 %	68.9 %
N	650	221	274	193

* $p < .10$
** $p < .05$
*** $p < .01$