

## ***Explaining the Strategic Groups-Firm Performance Relationship: A Multilevel Approach Applied to Small and Medium-Sized Hotel Companies in Spain\****

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One of the main research questions in the field of strategic management is why firms obtain different performance levels. This paper answers this question from the strategic groups approach. This paper analyzes the linkage between strategic groups and firm performance offering a multilevel analysis about the relative importance of intergroup and intragroup performance differences based on the use of hierarchical linear models. The results show that intragroup differences explain firm performance better than intergroup differences.

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### ***Introduction***

One of the main research concerns in the field of strategic management is the reason firms achieve different levels of performance (Rumelt, Schendel, and Teece 1994). Although the traditional

industrial organization approach points to industry structure as the main determining factor for firm performance (Bain 1959; Scherer 1970), the resource-based view asserts that a firm's resources are the most relevant factors (Barney 1991; Peteraf 1993; Wernerfelt 1984). Another

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level of analysis—strategic groups—appears between industry and firm. Strategic groups are sets of companies within an industry that pursue mutually similar strategies (Porter 1979).

The impact of group membership on firm performance has been a central topic in the research on strategic groups (Cool and Schendel 1987; McGee and Thomas 1986; Peng, Tan, and Tong 2004; Thomas and Venkatraman 1988). Some studies identify significant performance differences between strategic groups (Leask and Parker 2007; Neill and Rose 2006; Reger and Huff 1993), but others do not reach any conclusive results (Amel and Rhoades 1988; Cool and Schendel 1987; Fiegenbaum and Thomas 1990; Lawless 1989; Olusoga, Mokwa, and Noble 1995; Wiggins and Ruefli 1995; Zúñiga-Vicente, de la Fuente-Sabaté, and Suárez-González 2004). There is also conflicting evidence with regard to performance differences among members of the same strategic group. These differences have been analyzed less than intergroup differences. Some studies have found significant intragroup performance differences (Claver-Cortés, Molina-Azorín, and Pereira-Moliner 2006; Cool and Schendel 1988; Lawless, Bergh, and Wilsted 1989), whereas others have found no conclusive results (Athanasopoulos 2003). Therefore, empirical research does not provide clear evidence of the group–performance relationship. This lack of agreement is one of the most prominent shortcomings of this line of research (Barney and Hoskisson 1990).

Our study offers a couple of contributions to address this shortcoming. First, we provide fresh insights into the relationship between strategic groups and performance, comparing differences in performance across groups (intergroup differences) with differences in performance among firms within each group (intragroup differences). From this comparison, we determine what kind of difference better explains firm perfor-

mance, and we contribute to the literature by offering possible reasons for the non-conclusive results in the research into the relationship between strategic groups and performance, collecting conflicting approaches in the literature on strategic groups to propose the hypotheses.

Second, we offer an empirical contribution by introducing the multilevel analysis approach into the strategic groups literature, applying hierarchical linear models (HLM), which have hardly been used in the study of strategic groups (McNamara, Deephouse, and Luce 2003; Short et al. 2007). Strategic groups and firms are dependent levels of analysis because firms are nested into groups. Strategic groups are formed by firms, and consequently, a multilevel or hierarchical structure exists. Traditional statistical tests, such as regression analysis or analysis of covariance, lean heavily on the assumption of independence of the observations. If the independence assumption is violated (and in multilevel data, this is almost always the case), the estimates of the standard errors of conventional statistical tests are much too small or underestimated, and this results in many spuriously significant results (Hox 2002; Rasbash et al. 2005).

We proceed in this paper as follows. First, we present the arguments underpinning the different hypotheses. Then we explain the research method used to test them based on HLMs. Next, we present the results. We finish with our conclusions and mention some of the aspects that could guide future research.

### ***Intergroup and Intragroup Differences in Firm Performance: Theory and Hypotheses***

Research on the strategic group–firm performance link traditionally focuses on the study of intergroup differences in performance (Cool and Schendel 1987; Fiegenbaum and Thomas 1993; Lawless

and Tegarden 1991; Leask and Parker 2007; Veliyath and Ferris 1997; Wiggins and Ruefli 1995; Zúñiga-Vicente, de la Fuente-Sabaté, and Suárez-González 2004). In contrast, intragroup performance differences receive far less attention (Cool and Schendel 1988; Lawless, Bergh, and Wilsted 1989). Only McNamara, Deephouse, and Luce (2003) included research that draws comparisons between these two types of differences in performance and their significance in the variability of firm performance within one sector.

The present study collects arguments from different theoretical approaches as to whether intergroup differences explain firm performance to a greater extent than do intragroup differences. These arguments may conflict. For this reason, we have used some of the approaches to justify one hypothesis and the others to justify an alternative.

The approach that suggests that intergroup differences explain firm performance better than intragroup differences do takes a traditional view of industrial organization economics and proposes that firms belonging to a group collude to isolate themselves competitively from firms outside their group (Caves and Porter 1977; Fiegenbaum and Thomas 1990). As a result, this collusion benefits firms belonging to the same group as collusion leads to similar performance among them (McNamara, Deephouse, and Luce 2003). From this perspective, the mobility barriers of an industry also generate sustainable performance differences among strategic groups (Olusoga, Mokwa, and Noble 1995) because they reduce the capacity of outside firms to imitate the strategic position of inside firms (Caves and Porter 1977). These differences may be due to the uncertainty over the resources necessary to construct a specific strategy, the market imperfections that must be overcome to obtain these resources, and the investment that is needed to change strategy (Hatten

and Hatten 1987; Veliyath and Ferris 1997).

There are other approaches that favor intergroup differences, and they come from structural inertia theory (Hannan and Freeman 1984), industrial organization theory in its modern version (Porter 1980), the resource-based view (Barney 1991; Peteraf 1993; Wernerfelt 1984), the dynamic capability approach (Hamel and Prahalad 1994), the cognitive perspective applied to strategic groups (McNamara, Deephouse, and Luce 2003; Porac, Thomas, and Baden-Fuller 1989; Reger and Huff 1993), and population ecology theory (McKelvey 1982). The first four approaches consider that some specific internal factors, such as the combination of tangible and intangible resources, prevent firms from changing their strategy and therefore from joining another group. According to the cognitive approach, cognitive models represent a mobility barrier that makes it difficult for a firm to decide to change group because strategy-makers would be forced to adopt a new mental model. Hodgkinson (1997) argued that because of cognitive inertia, many firms continue working in the same way even when their operations are not going well because of the inability of strategy-makers to revise their mental models of the competitive space fast enough to adapt successfully to a change in the environment. From the population ecology perspective, nonadaptation to change is what makes enterprises stable in the long term. Therefore, changes in the environment result in the selection of the strongest firms, that is, those that will be able to survive these changes.

Moreover, Stigler (1964) and Wernerfelt (1984) pointed out that the combination of resources characterizing each group is very specific, and the members of the group employ the same resources to implant very similar strategies. Therefore, it is difficult for a member of a group to develop a different strategy because of the mobility barriers and the

isolating mechanisms (Rumelt 1984), and this fact reduces intragroup performance differences.

From the approaches of mobility barriers and industrial organization economics, intragroup rivalry tends to be rare because group members can more easily recognize their mutual dependence (Caves and Porter 1977). Members of the same group may cooperate, or tacitly collude, with one another (Peteraf 1993; Porter 1979). Similarly, they have a homogeneous resource commitment that will lead them to act and react in a similar fashion when faced with competitive changes (Smith et al. 1997). These two approaches consider that firms within the same group also have homogeneous strategies and goals that may yield almost identical sources of competitive advantage. This comes about because the level of analysis in these approaches is the industry, not the individual firm. From these two perspectives, a high degree of rivalry occurs among groups because they have heterogeneous resources and different competitive behavior patterns, and this makes it difficult to predict and coordinate the actions of rivals across groups (Porter 1980). Thus, the degree of rivalry is likely to be greater among groups than within groups, as a result of which intergroup performance variability will exceed that of intragroup performance. Therefore:

*H1: Intergroup performance differences explain firm performance variability better than intragroup performance differences.*

The exact opposite is also possible. In contrast to the industrial organization economics approach, the resource-based view of the firm suggests that rivalry among enterprises in the same group increases as their resources become more homogeneous (Barney 1991). Similarly, because of the apparent resource homogeneity, the likelihood of these firms

stealing market share from one another increases (Hatten and Hatten 1987).

The same is argued from the strategic management perspective, which considers that enterprises see firms that are closer to them as their direct rivals. Therefore, they exploit to the full the possible differences existing in such areas as resource allocation and capability development and create isolating mechanisms to prevent copying or imitation (Cool and Schendel 1988; Lawless, Bergh, and Wilsted 1989; McNamara, Deephouse, and Luce 2003). Within this approach, there are research studies that classify enterprises according to the degree of strategic identification with their group and draw a distinction between core firms and secondary ones (Ketchen, Thomas, and Snow 1993; McNamara, Deephouse, and Luce 2003; Peteraf and Shanley 1997; Reger and Huff 1993). The fact that subgroups of firms exist within a strategic group gives proof of intragroup strategic heterogeneity, which in turn could generate intragroup performance differences.

Similarly, the cognitive approach claims that rivalry among members of the same group could be very strong because of the identification of group members as their main competitors (Stoel and Sternquist 2004). Therefore, members of the group can react more strongly to their strategic actions than to those of firms belonging to different groups. Consequently, intragroup rivalry could be greater than intergroup rivalry (Fiegenbaum and Thomas 1995; Porac, Thomas, and Baden-Fuller 1989; Porac et al. 1995).

In relation to the intergroup differences described earlier, the traditional collusion perspective points out that these differences are significant. However, more recent work from this approach considers that intragroup performance differences are significant because collusion among firms within the same strategic group is difficult to maintain (Cool and Dierickx 1993; Kwoka and Ravenscraft 1986; Lawless and Tegarden

1991). Collusion may break down because of a number of conditions as when there is a large number of rivals within a strategic group, when the members within a group are similar in terms of market share because the strategic actions of a firm with a small market share will not have consequences for a firm with a big share, or when there is a lack of relationships, leadership, or trust among the members of a group as these factors make internal rivalry within groups stronger (Kwoka and Ravenscraft 1986; Porter 1980). In this sense, Porter (1979) suggested that the greater the market interdependence, the stronger the rivalry among those firms and the lower the chances of collusion.

In addition, the equifinality principle plays a relevant role as far as intergroup differences in performance are concerned. According to this principle, in the study of systems, different initial states can lead to similar end states. Therefore, different strategies may produce similar performance levels within one industry (Doty, Glick, and Huber 1993; Mehra and Floyd 1998; Thomas and Venkatraman 1988), due to which some or all of the groups in the industry may occupy statistically comparable performance positions.

Therefore, all these approaches project an increased rivalry within groups that might reduce group performance and increase the variance in intragroup performance differences.

*H2: Intragroup performance differences explain firm performance variability better than intergroup performance differences.*

## **Research Method**

### **Sample and Data Collection**

We analyzed strategic groups in the Spanish lodging industry, one of the pillars of the Spanish tourism industry. Spain ranks second in the world in this industry, both by number of travelers (after France) and by revenues generated by tourism (after the United States) (World Tourism Organization 2008). Three- to five-star Spanish individual hotel establishments formed the population of this study. The main data source was the Official Hotel Guide published by Turespaña. The total population was 3,900 hotels. We carried out the study using a structured mail questionnaire with closed questions. A total of 295 hotel managers decided to collaborate in the study,<sup>1</sup> which constitutes a response rate of 7.6 percent, with a sampling error of 5.5 percent.

The hotels in our sample had from one to 227 workers, the average being 46 workers. Of the respondents, three-star hotels made up 58.1 percent, four-star establishments 37 percent, and five-star hotels only 5 percent. The average size of the hotels was 125 rooms and 241 beds. Finally, regarding type of hotel management, 42.9 percent of the establishments were chain-affiliated,

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<sup>1</sup>Although the response rate may seem low, it is close to the mean obtained by mail surveys in Spain (del Brío, Fernández, and Junquera 2002). Spain does not have a strong tradition of collaboration with research centers. Additionally, when it comes to studying strategy and performance, companies are usually reluctant to answer because they tend to be afraid to show their strengths and weaknesses. Some international studies have even had to admit that they had serious problems with response rates in Spanish firms. Very et al. (1997) examined French, British, and Spanish firms. The rates of response were 27 percent among French firms, 34 percent in British firms, and only 6 percent for their Spanish counterparts. Stamped addressed envelopes for the answers were enclosed for the purpose of improving the response rate together with the promise to return a report of the results to the participants. Furthermore, the deficiencies detected in the answers were rectified through telephone calls or e-mail.

whereas the remaining 57.1 percent were independent.

Nonresponse bias was assessed by comparing early versus late respondents (Armstrong and Overton 1977), the rationale being that late respondents are more similar to nonrespondents than are early respondents. The data set was divided into thirds according to the number of days from initial mailing until receipt of the returned questionnaire. Pearson's chi-square tests and Student's t-test between the first and the last thirds indicated no statistically significant difference in the mean responses for all the variables measured. Therefore, there was no obvious evidence of response bias in this data set. In addition, the hotel categories in the sample and the population were significantly related and there were no significant differences between the number of rooms and beds in the sample and in the population.

Since all construct measures were collected in the same survey instrument answered by a single respondent (the hotel manager), the possibility of common method variance was present. Following Podsakoff and Organ (1986) and Podsakoff et al. (2003), Harman's single factor test was applied and seven factors were extracted with the first factor accounting for 24.63 percent of the total variance. Therefore, the observed relationships among constructs were not largely accounted for by the systematic variance associated with the measurement technique.

### Measure Development

We obtained the variables used to identify and interpret the strategic groups by means of two procedures. The first was a review of the literature

devoted to key success factors in the hotel industry, which turn out to be essential for the achievement of a competitive advantage as well as for business success (Ohmae 1982). The second involved in-depth interviews with 10 hotel industry experts—five hotel managers, the president of a hoteliers' association, and four university lecturers involved in teaching and research in the field of tourism—who had to identify those factors they regarded as essential for competition within the hotel industry.

After this process, we linked the answers from the industry experts with previous works that describe key success factors in the hotel industry (Chan and Wong 2006; Fridolin 1995; Geller 1985; Sanchis and Campos 2001) (see Table 1). From this link, we decided to employ the variables proposed by the experts as key success factors because of their great similarity to the factors employed in previous studies. Table 2 shows the methods used to measure each of these variables. In addition, a pilot test carried out with 10 hotel managers proved useful to improve and refine the previous version of the questionnaire.

As for performance, objective and perceptual variables were used to measure this variable. This combination of variables is of paramount importance in the lodging industry because these establishments commercialize intangible experiences (Haber and Reichel 2005). Objective performance was measured using three variables: the occupancy rate per room (which is the ratio between occupied and vacant rooms), gross operative profit (GOP), and GOP per available room per day (GOPPAR per day).<sup>2</sup> These variables are appropriate for measuring the performance of an indi-

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<sup>2</sup>GOP and GOPPAR cover 10 intervals in which hotel managers had to locate them. The percentiles 0, 5, 10, 25, 50, 75, 90, 95, and 100 of the mean values for these variables in the 221 Spanish hotel firms with a single three- to five-star establishment obtained from the *Sistema de Análisis de Balances Ibéricos* database were calculated. We did it this way because these

vidual hotel establishment (Brown and Dev 1999) because they are always known by the manager of an individual hotel establishment. Regarding perceptual performance, an adaptation of Camisón's (1999) scale was chosen (see Table 3). This scale was composed of 10 items that were valued from 1 to 7 using a Likert-type scale according to the comparison that each hotel manager drew in relation to each item with respect to the known competitors (1 meaning much worse than competitors and 7 much better than them).

In this sense, this study employed strategic and performance variables specific to the lodging industry as measured from a questionnaire. Therefore, despite the fact that these variables do not appear in any database, which would allow us to analyze the strategic groups in a dynamic way, the method of measuring them improved the accuracy of the results.

### **Validity and Reliability of Perceptual Measures**

An extensive review of the literature and the expert judgment of academics and professionals in the lodging industry assured high content validity. Construct validity was assessed through a factor analysis for each measure (see Table 3). The items of all variables were grouped together in a single factor. However, two latent variables were obtained in the area of environmental strategy: basic environmental strategy (a factor in which the highest scores were obtained in the items associated with business costs) and advanced environmental strategy (a factor that contained the items representing a greater effort and commitment by the enterprise). The items included in the information and communication technologies and information systems (ICT/

IS) use level were also classified into two factors: internal ICT/IS use (this scale included the items related to the use made by the top and middle managers for the purpose of sharing information with one another and with other areas in the hotel) and external ICT/IS use (which included the items related to the use of ICT/IS by top managers to obtain information about the tourism industry and to communicate with their own customers). In addition, two latent variables were identified on the perceptual performance scale: competitive performance (as all the variables with significant scores in this factor could be measured through the firm's accounting or financial ratios) and stakeholder satisfaction (which included employee and customer satisfaction levels).

Criterion-related validity was measured through the correlation between the different performance variables and the rest of the strategic variables. The correlation matrix shows that most of the predictor variables are significantly related ( $p < .05$ ) to performance, which provides evidence of criterion-related validity.

Reliability can be estimated using Cronbach's alpha. In this respect, the minimum advisable value—0.7 (Nunnally 1978)—is exceeded in every single factor.

### **Analysis**

Testing the hypotheses required the simultaneous assessment of performance variance at two dependent levels of analysis: the firm level determines variance within a strategic group, whereas the group level determines variance among different strategic groups. As strategic groups are formed by firms, we have a multilevel dependent structure with two levels of analysis. Regression

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were the only objective data to which we could have access, and also because as we were told by the practitioners and researchers consulted during the exploratory study, it was not advisable to ask directly for these variables.

**Table 1**  
**Key Success Factors Proposed by Industry Experts and Coincidence with Other Studies**

Key success Factors Proposed by Industry Experts	Geller (1985)	Fridolin (1995)	Sanchis and Campos (2001)	Chan and Wong (2006)
(1) Facilities	<ul style="list-style-type: none"> <li>• Delivery of a superior product in terms of physical plant</li> </ul>	<ul style="list-style-type: none"> <li>• Hotel image</li> <li>• Consumer participation in the design of hotel products</li> </ul>	—	• Hotel product
(2) Human Resources	<ul style="list-style-type: none"> <li>• Employee attitude</li> <li>• Guest satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>• Staff-tourist contact</li> <li>• Coordination between tasks and activities</li> </ul>	<ul style="list-style-type: none"> <li>• Improve staff qualification and experience</li> </ul>	• Good service delivery
(3) Quality Management	<ul style="list-style-type: none"> <li>• Guest satisfaction</li> <li>• Revenue maximization</li> <li>• Cost control</li> <li>• Enhanced customer price value perception</li> </ul>	<ul style="list-style-type: none"> <li>• Hotel image</li> <li>• Coordination between tasks and activities</li> <li>• Tight quality monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Service quality</li> <li>• Achievement of synergies and reduction costs</li> </ul>	• Good service delivery
(4) Environmental Management	<ul style="list-style-type: none"> <li>• Guest satisfaction</li> <li>• Revenue maximization</li> <li>• Cost control</li> </ul>	<ul style="list-style-type: none"> <li>• Cost control</li> <li>• Hotel image</li> <li>• Cost control</li> </ul>	<ul style="list-style-type: none"> <li>• Achievement of synergies and reduction costs</li> </ul>	—
(5) ICT/IS	—	<ul style="list-style-type: none"> <li>• Hotel image</li> </ul>	<ul style="list-style-type: none"> <li>• Service commercialization</li> <li>• Utilization of information technologies and a suitable research and development policy</li> <li>• Service commercialization</li> </ul>	—
(6) Intermediation Level	<ul style="list-style-type: none"> <li>• Revenue maximization</li> <li>• Increased market share</li> <li>• Achievement of the right market segmentation</li> </ul>	<ul style="list-style-type: none"> <li>• Hotel image</li> <li>• Matching supply and demand</li> <li>• Sales force</li> </ul>	—	—
(7) Type of Hotel Management	<ul style="list-style-type: none"> <li>• Delivery of a superior product in terms of physical plant</li> <li>• Increased market share</li> </ul>	<ul style="list-style-type: none"> <li>• Hotel image</li> </ul>	—	—



**Table 2**  
**Strategic Variables Employed to Identify the Strategic Groups**

Facilities	
Category	Number of stars
Size	Number of rooms
Room Equipment and Services	Sum of 38 items referring to these variables drawn from Turespaña's Official Hotel Guide. If the hotel has the item, it scores 1; if not, it scores 0.
Delivered Price	Average price of a double room
Human Resources	
Employee Objective Training	Sum of the scores obtained in each of the items referring to official and specific training in the top management, middle management, and rest of employees. Regarding official training, 1 is used when employees do not have primary studies, 2 if they have primary studies, 3 if they have secondary education or vocational training, 4 if they have a diploma (three-year degree), and 5 if they are a graduate or have a higher level. As for specific training, the score is 1 when there is no specific training, 2 if employees have attended tourism and hospitality courses, and 3 for master's courses.
Employee Subjective Training	Sum of the scores obtained in each of the items referring to this variable that appear in Table 3. Items valued using a seven-point Likert scale (from 1, much worse than its competitors to 7, much better than its competitors) (Boudreau, Boswell, and Judge 2001; Tihanyi et al. 2000).
Training Offered by the Firm	Sum of the valuations obtained in the two items in Table 3 that refer to this variable. The items are measured with a Likert scale in which 1 means I totally disagree and 7 means I totally agree (Boudreau, Boswell, and Judge 2001; Tihanyi et al. 2000).
No. of Employees per Room	Total no. of workers/no. of rooms (Brown and Dev 1999).
Total Quality Management (TQM) Commitment	Sum of the top management's degree of commitment to each one of the principles of total quality management adapted from those proposed by Flynn, Schroeder, and Sakakibara (1994); Saraph, Benson, and Schroeder (1989). The items are those reflected in Table 3. The valuation of each item was carried out with a Likert scale in which 1 means I totally agree and 7 means I totally disagree.

**Table 2**  
**Continued**

Environmental Management	Sum of the valuations obtained in the top management's degree of commitment to each one of the items appearing in Table 3. Scale proposed by Carmona-Moreno, Céspedes-Lorente, and de Burgos-Giménez (2004). The valuation was carried out using a Likert-type scale in which 1 is no commitment and 7 means total commitment.
Information and Communication Technologies and Information Systems (ICT/IS) No. of ICT/IS Used	An objective summative scale: if the hotel has an Internet connection (one point); if it uses property management systems (one point); if it has a web page (one point); if it has an intranet (one point); if it is connected to global distribution systems (one point); and finally, different scores depending on whether the most advanced system that a customer can use to make a reservation is—traditional (0 points), the e-mail (one point), off-line (two points), or online (three points) (Yeung and Law 2004).
ICT/IS Use Level	Sum of the valuations obtained in the items related to this variable collected in Table 3. These items measure how often managers use ICT/IS for different tasks; 1 being never and 7 being always (Andersen 2001; Winata and Mia 2005).
Importance for the Investment in ICT/IS	Sum of the valuations obtained in the two items related to this variable shown in Table 3. The items were measured using a Likert-scale in which 1 means I totally disagree and 7 means I totally agree (Andersen 2001; Winata and Mia 2005).
Intermediation Level	Percentage of customers who come from tour operators, travel agencies, IMSERSO (government-subsidized trips for pensioners), direct or passing, and other intermediaries (Bastakis, Buhalis, and Butler 2004; Buhalis 2000).
Type of Hotel Management	The hotel was classified as (1) independent; (2) belonging to an association of independent hotels; (3) belonging to a chain managed on an ownership arrangement; (4) renting; (5) management contract; or (6) franchising (Ingram 1996; Ingram and Baum 1997).

**Table 3**  
**Perceptual Measures and Reliability**

Variables/Items	Factor 1	Factor 2
<b>Subjective Training</b>		
1-General Training of the Manager with Respect to the Known Competitors	0.77	
2-General Training of the Middle Management with Respect to the Known Competitors	0.82	
3-General Training of the Rest of Employees with Respect to the Known Competitors	0.79	
4-Specific Training of the Manager with Respect to the Known Competitors	0.69	
5-Specific Training of the Middle Management with Respect to the Known Competitors	0.84	
6-Specific Training of the Rest of Employees with Respect to the Known Competitors	0.75	
Cronbach's Alpha	0.86	
Eigenvalue per Factor	3.62	
Percentage of Variance Explained per Factor (Percent)	60.35	
Accumulated Percentage of Variance Explained (Percent)	60.35	
Correlation Matrix Determinant	0.03	
KMO Index	0.72	
Bartlett's Significance Test of Sphericity	0.00	
<b>Training Offered by the Firm</b>		
1-The Firm Makes an Effort to Give Employees In-House Training	0.96	
2-The Firm Makes an Effort to Provide Ongoing Training for Its Employees	0.96	
Cronbach's Alpha	0.91	
Eigenvalue per Factor	1.84	
Percentage of Variance Explained per Factor (Percent)	92.09	
Accumulated Percentage of Variance Explained (Percent)	92.09	
Correlation Matrix Determinant	0.29	
KMO Index	0.50	
Bartlett's Significance Test of Sphericity	0.00	
<b>TQM Commitment</b>		
1-The Management is Committed to Quality	0.72	
2-The Customers' Present and Future Needs Are Known by the Firm	0.70	
3-The Firm Collaborates with Intermediaries in Order to Improve the Product Offered in the Establishment	0.63	
4-The Firm Collaborates with Suppliers in Order to Improve the Product Offered in the Establishment	0.73	
5-The Establishment Staff Receive Training in Quality-Related Issues	0.82	
6-Employee Motivation Is Encouraged	0.82	

**Table 3**  
**Continued**

**Variables/Items**

7-All the Staff Are Involved in the Elaboration of the Product Offered	0.83	
8-Improvements Are Identified in the Service Delivery Process	0.86	
9-Objective Compliance Is Monitored and Deviations Are Corrected	0.85	
10-A Culture Focused on the Continuous Improvement of the Product Offered Is at Work	0.87	
Cronbach's Alpha	0.93	
Eigenvalue per Factor	6.19	
Percentage of Variance Explained per Factor (Percent)	61.88	
Accumulated Percentage of Variance Explained (Percent)	61.88	
Correlation Matrix Determinant	0.00	
KMO Index	0.92	
Bartlett's Significance Test of Sphericity	0.00	
<b>Environmental Management</b>		
<b>Basic Environmental Management</b>		
1-Purchase of Ecological Products	0.63	
2-Environmental Collaboration Is Made Easier for the Customer	0.50	
3-Reduction in the Use of Environmentally Dangerous Products	0.77	
4-Energy-Saving Practices	0.86	
5-Water-Saving Practices	0.87	
6-Selective Collection of Solid Residues	0.51	
Cronbach's Alpha	0.83	
<b>Advanced Environmental Management</b>		
7-The Firm Trains Its Employees in Environmental Matters		0.71
8-Compensation Is Given to Employees with Environmental Initiatives		0.83
9-Use of Ecological Arguments in Marketing Campaigns		0.82
10-Organization of Environmental Activities by the Firm		0.86
11-The Firm Has a Long-Term Environmental Approach		0.67
12-Quantification of Environmental Savings and Costs		0.65
Cronbach's Alpha		0.89
Eigenvalue per Factor	5.99	1.59
Percentage of Variance Explained per Factor (Percent)	49.94	13.23
Accumulated Percentage of Variance Explained (Percent)	63.17	
Correlation Matrix Determinant	0.00	
KMO Index	0.90	
Bartlett's Significance Test of Sphericity	0.00	

**Table 3**  
**Continued**

Variables/Items		
<b>ICT/IS Use Level</b>		
Internal ICT/IS Use		
1-The Manager and the Middle Management Use the E-Mail to Communicate with One Another	0.88	
2-The Manager and the Middle Management Use the Information Technologies to Access the Information about Other Areas of the Same Establishment	0.84	
3-The manager and the Middle Management Use the Information Technologies to Exchange Information with Other Departments	0.89	
Cronbach's Alpha	0.87	
External ICT/IS Use		
4-The Manager and the Middle Management Use the Internet to Obtain Information about the Tourism Sector		0.89
5-The Manager and the Middle Management Use the Internet to Communicate with Customers		0.88
Cronbach's Alpha		0.77
Eigenvalue per Factor	2.88	1.14
Percentage of Variance Explained per Factor (Percent)	57.54	22.77
Accumulated Percentage of Variance Explained (Percent)	80.31	
Correlation Matrix Determinant	0.11	
KMO Index	0.74	
Bartlett's Significance Test of Sphericity	0.00	
<b>Importance of the Investment in ICT/IS</b>		
1-The Firm Is Prone to Invest More in ICT/IS	0.93	
2-The Firm Assigns Importance to ICT/IS for the Management of Its Establishment	0.93	
Cronbach's Alpha	0.85	
Eigenvalue per Factor	1.75	
Percentage of Variance Explained per Factor (Percent)	87.26	
Accumulated Percentage of Variance Explained (Percent)	87.26	
Correlation Matrix Determinant	0.45	
KMO Index	0.50	
Bartlett's Significance Test of Sphericity	0.00	
<b>Perceptual Performance</b>		
Competitive Performance		
1-Room Occupancy Rate	0.59	
2-Market Share Gain	0.62	
3-Average Sales Growth in the Last Five Years	0.64	
4-Income per Room	0.84	
5-Gross Total Profit	0.90	
6-Gross Profit per Room	0.89	

**Table 3**  
**Continued**

Variables/Items		
7-Wealth Creation (Accounting Value of the Firm with Respect to Its Market Value)	0.81	
8-Capacity to Generate Profit in Times of Crisis	0.80	
Cronbach's Alpha	0.92	
Stakeholder Satisfaction		
9-Customer Satisfaction Level		0.83
10-Employee Satisfaction Level		0.86
Cronbach's Alpha		0.71
Eigenvalue per Factor	5.51	1.19
Percentage of Variance Explained per Factor (Percent)	55.10	11.88
Accumulated Percentage of Variance Explained (Percent)	66.98	
Correlation Matrix Determinant	0.00	
KMO Index	0.88	
Bartlett's Significance Test of Sphericity	0.00	

and covariance analyses consider these two levels as independent, which may lead to spuriously significant results. We employed HLMs to solve this problem. HLMs assess the relationships simultaneously within a particular hierarchical level (intragroup performance), as well as those between or across hierarchical levels (intergroup performance), because HLMs take into account the dependence of the two levels of analysis (Hofmann 1997; Raudenbush and Bryk 2002).

We employed an HLM with two aggregation levels made up of two submodels with no predictors, level 1 and level 2 (Raudenbush et al. 2004). For instance, if the research problem is based on data about enterprises nested in groups, the level 1 submodel would represent the relationship existing between the enterprise-level variables, and the level 2 submodel would reflect the influence of groups on them. Formally, there are  $i = 1, \dots, n_j$  units in Level 1 nested within  $j = 1, \dots, J$  Level 2 units. The level 1 and level 2 submodels would be mathematically represented as follows:

$$\text{Level 1: } Y_{ij} = \beta_{0j} + r_{ij}$$

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + u_{0j}$$

where  $Y_{ij}$  is the performance of the  $i^{th}$  firm in the  $j^{th}$  strategic group,  $\beta_{0j}$  is the performance of each firm,  $\gamma_{00}$  is the mean performance of each group or the grand mean performance, Variance ( $r_{ij}$ ) or  $\sigma^2$  is the variance of intragroup performance, and Variance ( $u_{0j}$ ) or  $\tau_{00}$  is the intergroup performance variance.

From the previous two submodels we can obtain a mixed model:

$$Y_{ij} = \gamma_{00} + u_{0j} + r_{ij}$$

We used the intraclass correlation coefficient (ICC) to test whether intragroup performance variance explains a greater or lesser proportion of hotel performance variability than does the intergroup performance variance. Variance ( $Y_{ij}$ ) is equal to variance ( $u_{0j} + r_{ij}$ ) or to  $\tau_{00} + \sigma^2$ . Therefore, we calculated an ICC as follows:

$$ICC = \tau_{00} / (\tau_{00} + \sigma^2)$$

The ICC represents the proportion of business performance variance explained by intergroup performance variance. Therefore, if  $ICC > (1 - ICC)$ , the proportion of firm performance variance explained by intergroup performance variance is greater than that explained by intragroup performance variance, and H1 is supported. On the other hand, if  $ICC < (1 - ICC)$ , the proportion of firm performance variance accounted for by intragroup performance variance is greater than that explained by intergroup performance variance, and H2 is supported.

We had to distribute the firms in their respective strategic groups before applying the HLMs. We carried out a prior principal components factor analysis with the aim of identifying the business strategies adopted by the hotels. We then classified the different hotels according to those strategies in order to specify the strategic groups. Then we grouped the hotels by means of a two-stage cluster analysis (Hair et al. 1998; Ketchen and Shook 1996; Punj and Stewart 1983). First, we applied a hierarchical cluster with Ward's method so as to determine the number of strategic groups and their centroids. Then we used a nonhierarchical cluster to classify the hotels into the different groups obtained employing the centroids.

## Results

Table 4 shows the results of the principal components factor analysis applied to the strategic variables of Table 1. Following Hair et al. (1998), only the factor loads superior to  $|0.35|$  are considered

significant as the sample size is 295 cases. These factors are the business strategies in the Spanish hotel industry.

The first factor is the improvement strategy. Significantly and positively related to it are the following variables: degree of commitment to quality; basic and advanced environmental strategy; training offered by the firm and importance of investment in ICT/IS; and also, though with a lower significance level, subjective training. The second factor corresponds to category and capacity strategy. Significantly and positively related to it are the variables category, price, and equipment and services available at the hotel. The third factor is referred to as technology and management strategy. Significantly and positively related to this strategy are the variables covering ICT/IS use and the type of management or exploitation scheme adopted by the hotel establishment. The fourth factor is called size and distribution strategy, to which are related the variables number of rooms, number of employees per room, and degree of intermediation. Finally, the fifth factor is the human resources strategy. This strategy is exclusively focused on the external training of the human resources selected by the hotel. Employee objective and subjective training are thus significantly and positively related.

Once we had identified the business strategies, they serve to classify the hotels within the different strategic groups. We grouped the hotels by means of a two-stage cluster analysis. In this way, we identified four groups distributed according to the criteria of percentage change of the agglomeration coefficient and the dendogram.<sup>3</sup> Table 5

<sup>3</sup>The analyses include five ways of validating the cluster solution. First, the existence of significant differences between groups in the factors and in the variables is checked. A second way is using a discriminant analysis, which reveals that 98.6 percent of the cases grouped are correctly classified in their respective strategic groups. An external variable significance test (Aldenderfer and Blashfield 1984; Hair et al. 1998) is applied in third place. The variables

**Table 4**  
**Factor Analysis Results**

Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Stars	0.10	0.83	0.20	-0.03	0.13
Price	0.05	0.76	0.26	-0.05	0.07
No. of Rooms	0.15	0.29	-0.03	0.78	-0.11
No. of Employees per Room	0.11	0.46	-0.11	-0.67	-0.20
Equipment and Services	0.08	0.79	0.05	0.30	0.04
Objective Training	0.18	0.16	0.16	-0.08	0.79
Subjective Training	0.39	0.05	-0.06	-0.07	0.64
Training Offered by the Firm	0.77	0.07	0.14	0.06	0.07
TQM Commitment	0.80	-0.03	0.22	-0.05	0.18
Basic Environmental Strategy	0.80	0.07	0.13	0.11	0.12
Advanced Environmental Strategy	0.81	0.13	0.09	0.06	0.01
ICT- and IS-Use Level	0.08	0.22	0.71	0.23	0.05
External ICT/IS Use	0.27	0.35	0.63	0.08	0.01
Internal ICT/IS Use	0.09	-0.03	0.67	-0.21	0.34
Importance of Investment in ICT/IS	0.50	0.14	0.46	0.01	0.16
Intermediation Level	0.08	0.06	0.15	0.75	-0.18
Type of Hotel Management	0.17	0.12	0.59	0.17	-0.33
Eigenvalue per Factor	4.62	2.20	1.89	1.30	1.02
Percentage of Variance Explained per Factor (Percent)	27.18	12.95	11.10	7.62	6.01
Accumulated Percentage of Variance Explained (Percent)	27.18	40.12	51.22	58.84	64.85
Correlation Matrix Determinant	0.00				
KMO Index	0.81				
Bartlett's Significance Test of Sphericity	0.00				

degree of computerization in the hotel and percentage of customers coming through tour operators are selected in order to carry out this validation, and these variables are also significantly different ( $p < .05$ ,  $F$  ANOVA) in each group. In fourth place, hierarchical cluster analysis has been applied employing the rest of the different algorithms from Ward's method. All of them suggest four groups because in the fifth one appears outliers. Finally, opinions of some of the hotel managers interviewed confirm that the solution obtained as well as its interpretation largely fit their perception of the surrounding reality. Therefore, this cluster solution is valid and robust.



**Table 5**  
**Average Values and Significance Test for Each Variable in Each Group**

Variables	Mean				Descriptives			Statistics
	Group 1 n = 103	Group 2 n = 53	Group 3 n = 87	Group 4 n = 72	Total Mean	Min.	Max	
Improvement Strategy	0.7	0.6	-0.3	-0.8	0.0	-3.7	2.1	51.24***
Category and Capacity Strategy	-0.5	1.5	0.2	-0.2	0.0	-1.8	4.0	87.37***
Technology and Management Strategy	-0.2	-0.2	0.9	-0.7	0.0	-3.3	2.3	55.02***
Size and Distribution Strategy	0.1	-1.3	0.3	0.0	0.0	-5.1	3.6	35.58***
Human Resources Strategy	0.4	-0.2	0.1	-0.6	0.0	-3.0	2.7	11.01***
Stars	3.3	4.2	3.6	3.2	3.5	3.0	5.0	0.44***
Price	90.5	185.5	139.3	87.2	115.0	43.61	520	37.84***
No. of Rooms	116.0	79.8	163.4	106.5	124.5	6	870	132.4
No. of Employees per Room	0.4	1.1	0.4	0.4	0.5	0.1	3.5	81.03***
Equipment and Services	15.9	21.2	18.6	15.6	17.3	6	31	16.92***
Objective Training	16.0	15.9	15.9	14.0	15.4	10	21	24.89***
Subjective Training	29.6	28.3	27.1	24.5	27.5	16	42	22.05***
Training Offered by the Firm	12.0	11.7	10.3	8.0	10.5	2	14	42.60***
TQM Commitment	61.3	59.8	56.5	46.4	56.2	10	70	48.94***
Basic Environmental Strategy	34.2	33.6	30.2	25.7	31.0	6	42	36.35***
Advanced Environmental Strategy	24.6	24.5	18.5	15.1	21.0	6	42	27.25***
ICT- and IS-Use Level	6.4	6.7	7.9	5.7	6.7	1	9	77.28***
External ICT/IS Use	10.8	14.4	15.7	6.9	11.7	2	14	48.53***
Internal ICT/IS Use	10.8	11.2	11.9	8.5	10.6	3	21	25.97***
Importance/Investment in ICT	11.8	12.2	12.0	8.7	11.2	2	14	45.01***
Degree of Intermediation (Percent)	60.0	37.8	66.1	55.3	58.2	0	100	8.01***
Type of Hotel Management	2.0	2.2	3.0	1.8	2.2	1	6	0.24***
Occupancy Rate per Room (Percent)	64.5	59.7	66.6	61.2	64.3	10	96	1.132*
GOP	3.7	3.9	4.8	3.9	4.1	1	9	4.099**
GOPPAR per Day	3.9	5.1	4.4	3.9	4.2	1	9	4.456**
Competitive Performance	37.8	37.1	37.5	35.6	37.1	16	56	1.408*
Stakeholder Satisfaction	11.2	10.9	10.7	10.1	10.7	7	14	6.651***

\*F analysis of variance.

<sup>b</sup>Cramer's V.

\*.001 ≤ p < .01

\*\*p < .001;

includes the data for the interpretation of the strategic groups. Although strategic groups are identified from the business strategies, Table 5 includes more descriptive variables so that the strategic groups can be interpreted more clearly.

Group 1 includes hotels that base their competitive advantage on improvement and human resources. These hotels are mostly three-star hotels, either independent or belonging to associations of independent hotels. It is the second cheapest group. These establishments have managed to provide their staff with better training in objective terms and are perceived as the best ones with respect to competitors in subjective terms. Nevertheless, they have the fewest employees per room. This group assigns the most importance to total quality management (TQM) commitment and environmental management.

Group 2 contains hotels that base their competitive advantage on category and capacity. This group includes higher category hotels (mostly four-star establishments) that charge the highest prices, offer the widest range of services both in the rooms and in the hotel premises, and have the largest number of employees per room. They are above the average in the variables related to TQM commitment and environmental management. This group obtains a minimum score in the size and distribution strategy so it is a group formed by the smallest hotels and those receiving the fewest customers from intermediaries.

Group 3 includes hotels that base their competitive advantage on size and internal management. Group 3 achieves maximum values in the technology and management strategy as well as in the size and distribution strategy. Therefore, these are the largest, most intermediated hotels, and those that assign the most importance to ICT/IS use and to investments in this area. The group ranks second in terms of hotel categories

and prices. Moreover, most of them are hotels affiliated with chains and managed on an ownership arrangement.

Finally, reactive hotels form group 4. This group tends to obtain below average scores in the different strategies. These hotels even obtain minimum values in the improvement, technology and management, and human resources (HR) strategies because of minimal scores on all the variables, with the exception of number of rooms and number of employees per room, in which they are just below the average. They are consequently three-star hotels, the cheapest ones, and are mostly independent or belong to associations of independent hotels.

Table 5 shows the analysis of performance differences among groups. According to the results, significant performance differences exist in GOP, GOPPAR per day, and stakeholder satisfaction level among strategic groups. Therefore, there are significant performance differences across strategic groups on three out of five of the performance variables measured.

Having identified the groups, we then applied a one-way analysis of variance (ANOVA) test with random effects in the context of a two aggregation-level HLM in order to test the hypotheses. The results provide confirmation that the ICC is smaller than  $(1 - ICC)$  for all cases (see Table 6). The maximum proportion of business performance variability explained by the intragroup performance variance—99.9 percent—is found in the occupancy rate per room and in competitive performance. The minimum proportion corresponds to GOPPAR per day and stakeholder satisfaction, at 93.0 percent. H2 is therefore fully supported. That is, intragroup performance differences explain a larger proportion of business performance variability than do intergroup performance differences.

**Table 6**  
**Proportion of Variance Explained by Inter-group and Intragroup Performance Differences**

Variable	$\tau_{00}$ ; $\sigma^2$	Variance	Intraclass Correlation Coefficient (ICC)	(Percent ICC)	(1 - Percent ICC)
Occupancy Rate per Room	$\tau_{00}$ $\sigma^2$	0.15 278.63	0.01	1.0	99.9
Gross Operative Profit (GOP)	$\tau_{00}$ $\sigma^2$	0.16 3.85	0.04	4.0	96.0
GOP per Available Room per Day	$\tau_{00}$ $\sigma^2$	0.26 3.66	0.07	7.0	93.0
Competitive Performance	$\tau_{00}$ $\sigma^2$	0.38 51.18	0.01	1.0	99.0
Stakeholder Satisfaction	$\tau_{00}$ $\sigma^2$	0.18 2.49	0.07	7.0	93.0

## ***Discussion and Conclusions***

Most of the research studies on strategic groups examine the potential existence of significant differences in performance among them. However, intragroup differences have been examined less than intergroup differences (Cool and Schendel 1988; Lawless 1989; McNamara, Deephouse, and Luce 2003). In this sense, the present study combines the analysis of intergroup and intragroup differences as it checks the extent to which each of these two types of differences explains firm performance.

The findings confirm that intragroup differences explain business performance variability better than intergroup differences can. These results are consistent with the resource-based view of the firm (Barney 1991; Peteraf 1993; Wernerfelt 1984). In addition, our results agree with those obtained by McNamara, Deephouse, and Luce (2003), which is the only previous study that also compared the variance of performance explained by intergroup and intragroup differences. They concluded that 82.6 percent of the total variance in firm ROA is within groups.

Our results indicate that although hotels in a group may have homogeneous resources, they do not necessarily use or develop them in the same way to implement their strategies. It is not only the resources available that matter but also the way in which the internal organization manages to coordinate those resources and make them work jointly and adequately using a number of organizational capabilities based mainly on organizational design (Barney 1991). Therefore, a certain degree of intragroup heterogeneity exists. That is, some hotels may follow the group strategy closely (core firms), whereas others follow it less closely (secondary firms) (McNamara, Deephouse, and Luce 2003).

The results could equally be due to the existence of certain factors in this industry that can help soften intergroup differences. For example, the chances of collusion among the members of a group may be reduced because there are hotels with customers who have considerable negotiation power (Kwoka and Ravenscraft 1986). These customers are tour operators, who are intermediaries with a strong negotiation position as shown by the fact that in some destinations, a high percentage of tourists come through them.

Another reason to justify our results is that in this study, firms within the same strategic group may not belong to the same competitive group. A competitive group is a set of firms that compete in the same market segments and offer direct substitutes for one another (Leask and Parker 2007). Therefore, whereas strategic groups are defined from the supply point of view, competitive groups are defined from the demand point of view. This difference explains why companies within a strategic group may not have to compete in strongly interrelated markets (Leask and Parker 2007), for example, because they can be located in various tourist destinations. This situation provides an incentive to cooperate (Porter 1979). However, the companies analyzed are individual establishments scattered all over the country and therefore can hardly be expected to cooperate. After all, most of them do not even know one another, and this reduces the possibilities of collusion among them (Kwoka and Ravenscraft 1986).

In addition, the possible lack of coincidence between strategic and competitive groups might favor compliance with the equifinality principle because the strategies implemented by different hotels (which may, in turn, belong to various strategic groups) at the same destination could lead them to reach similar performance levels. The reason lies in the fact that the resources shared by

these hotels at the destination (beach, mountain, cultural resources) might significantly impact on their performance (Canina, Enz, and Harrison 2005; Kalnins and Chung 2004), which could reduce intergroup differences in performance as well as their variability.

As for intragroup differences, should the resources shared at a destination become crucial to explain firm performance, one could expect firms belonging to the same group but located at different destinations to experience an increase in their performance differences because they would not share those resources, and therefore, intragroup differences in performance might increase. An example of this fact occurs when Spanish destinations are classified into coastal and inland because there are significant performance differences between these two kinds of destinations in occupancy rate and GOP but not in the rest of the variables.

Intergroup performance differences explain a small proportion of performance in the Spanish hotel industry in comparison with intragroup differences. However, this result does not mean that the groups are not important in providing an explanation of performance. These results suggest that hoteliers should focus their attention on the strategic actions of the members of their own group. Furthermore, the results show that there are significant performance differences on three of five of the variables.

### **Theoretical Contributions and Managerial Implications**

Limited theoretical development is one of the weaknesses of the field of strategic groups (Lee, Lee, and Rho 2002; Shanley and Peteraf 2005; Singh, Ang, and Leong 2003). In this sense, the present study collects and relates theoretical arguments about the existence of significant intergroup and intragroup differences that have traditionally appeared

separately in the strategic groups literature. This study proposes alternative hypotheses regarding each of the key issues analyzed. We adopted this relatively unorthodox way of undertaking a research work because of the lack of conclusive results drawn from the empirical research about groups, and because of the existence of conflicting theoretical arguments from different approaches that support the conflicting hypotheses.

Another innovative contribution is the use of HLMs to analyze intergroup and intragroup differences and their impact on firm performance simultaneously. Thus, a multilevel approach to strategic groups has been applied, which is considered essential because firms are nested in groups. Since strategic groups and firms are dependent levels of analysis, HLMs allow us to obtain reliable results in comparison with other traditional analyses.

Regarding managerial implications, strategic groups can contribute to a better understanding of the complexity of the lodging industry. The results show that hotel managers know the business strategies that are being implemented and the competitive advantages resulting from these strategies. In addition, hoteliers can evaluate the performance levels achieved by each strategic group and decide what group is more competitive. Hoteliers can identify the strategic variables that have an important effect on competitive advantage and must look after those that are critical in order to compete effectively. Thus, depending on the group to which the hotel belongs, hotel managers must be aware of the strategic status of each of the variables so that they can avoid being left behind in competitive terms, or alternatively, they can elect to join a different group that they may eventually consider more interesting in terms of strategy or performance. Finally, hoteliers should be aware of the performance levels reached

in each group analyzed and they should pay attention to the strategic actions carried out by hotels that develop similar strategies to theirs because as this study has concluded, intragroup differences explain the most relevant proportion of the performance variance.

### Limitations and Opportunities for Future Research

A possible limitation of this research is that the results obtained were dependent on strategy and performance measurements and on group identification procedures. Another limitation is related to the concept of strategic group, which usually presents two aspects: how firms compete and against whom. Given the structural characteristics of the lodging industry, where competition takes place locally in a particular destination, the groups involved only showed the ways in which companies compete, but the firms inside a group may not compete for the same customers because of the geographical distance between them. Therefore, the firms that this study analyzed do not belong to the same competitive group. However, the proposed solution makes sense for practitioners even though they are aware that no rivalry exists among them in some cases.

Finally, regarding future lines of research, it would be interesting to include some new levels of analysis, such as time or location, and carry out a dynamic analysis in order to determine the extent to which strategic groups change over time. This would make it possible to calculate the risk that each group faces. Nevertheless, these analyses must use databases with a time series of the variables measured. Such databases are not available for the hotel industry because its establishments are considered individually.

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