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Empirical paper

A resource generator methodology for hotels

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ABSTRACT

Hotel firms can enhance their performance by accessing external resources through their inter-personal and inter-organizational ties. However, neither has a repertory been compiled of relevant external resources in the sector, nor are appropriate diagnostic and analytical tools available to improve the way these resources may be used. The hotel resource generator is an instrument adapted from the field of sociology that is used here to measure access to those network resources. It is presented in this study as a tool to measure the external resources that condition the performance of hotel firms and is tested on a sample of hotels from Andalusia (Spain).

Introduction

Over the past decade, various works have shed light on inter-organizational ties in the hotel industry and the roles they can play, basically highlighting that these ties with other organizations mean that hotel firms can access and use the external resources of their partners (Chathoth & Olsen, 2003; Chen & Tseng, 2005; Tortoriello, Perrone, & Mcewilly, 2011). Access to third-party resources that are to their advantage include information, knowledge, reputation, financing, entry to new markets, etc.

Moreover, the study of external relations in hospitality has also linked the social capital that both individuals and their organizations possess (Ahmad, 2005; Nemec-Rudez & Mihalic, 2007; Ying & Norman, 2014). Social Capital is a resource derived from the network of social relations that individuals or organizations maintain over time (Adler & Kwon, 2002). Nahapiet and Ghoshal (1998) defined social capital as the set of resources present in the network of the focal firm which it can access. Therefore, social capital is a resource derived from the network of social relations that an individual or an organization maintains over the course of time (Adler & Kwon, 2002; Ying & Norman, 2014).

Social capital is a multidimensional concept (Nahapiet & Ghoshal, 1998), but the literature has fundamentally concentrated on studying the structural dimension (which refers to the structure of the network and the position of the focal firm within it, as factors that allow access to more and to better

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resources) and the relational dimension (which centers on the quality and the qualitative factors of the relations). However, the position in the network and the quality of the ties can in themselves be considered as antecedents to gaining the resources of their partners, in such a way that it is possible to speak of a resource dimension of social capital (Batjargal, 2003; Casanueva & Gallego, 2010). Social capital is therefore linked in a fundamental way to the resources held by the partners of an organization; in other words, the network resources (Lavie, 2008).

In the hotel industry, the way in which different sorts of relevant resources may be obtained has been analyzed on the basis of inter-organizational ties (Cheng & Tseng, 2005; Kim & Oh, 2004; Lin & Wu, 2008; Preble, Reichel, & Hoffman, 2000; Xiao, O'Neill, & Wang, 2008) and through the social capital of firms and individuals (Ahmad, 2005; Hsu, Liu, & Huang, 2012; Lee, 2015; Tortoriello et al., 2011). Not all the resources have the same characteristics to improve performance and to achieve competitive sustainable advantages. Barney (1991) proposed a series of resource characteristics to maintain competitive advantage (value, rareness, imperfect imitability and non-substitutability). This work centers on the value of identifying key resources in the industry.

Thus, the main thread of the study is the set of external resources that hotel directors can access through their individual social capital, For example, they can gain information on industry and ideas to improve their processes, thanks to their contacts with other directors; they can find candidates for the selection processes of their hotel, thanks to the people they know; they can improve their reputation and other types of resources that benefit their hotel and their clients, thanks to their links with local stakeholders.

In the previous literature, there are no systematic works that have proposed how to measure access to network resources through social capital in hospitality and how to analyze them. The objective of this work is to develop and to test a specific instrument of measurement of social capital in the hotel industry (the hotel resource generator), basically linked to the resource dimension of social capital. To do so, a set of key resources in the hotel industry that the directors can access through their contacts will be identified. These key resources are grouped into types or dimensions for better analysis.

In this way, the hotel resource generator will provide information on the social capital of a director and measure it in the structural dimension (breadth of its network), relation (strength of the ties) and resources (what sort of resources may be accessed). This information will help the study of social capital advance in the context of hotels. The generator may be used as a management tool, as it provides information on the potential wealth of human capital and allows us to value what network resources may be accessed.

Literature review

Concern over the identification of key resources in the hotel business and how those valuable resources affect performance, results and competitive advantage has been unceasing in the hospitality literature (Binder, Mair, & Stummer, 2016; Denicolai, Cioccarelli, & Zuchella, 2010; Kim & Oh, 2004).

In general, previous studies in hospitality have followed the logic of the Resource-Based View (RBV) (Barney, 1991; Grant, 1991), to identify important hotel resources and to classify them. On the one hand, they basically distinguish between tangible and intangible resources (Chen & Tseng, 2005; Zigan & Zeglat, 2010) and, on the other, the basic categories of the RBV with some minor changes (Chathoth & Olsen, 2003; Denicolai et al., 2010; Kim & Oh, 2004). Some studies have even centered on skills rather than on the resources themselves (Causin & Ayoun, 2011; Watson & McCraken, 2002).

The main categories of the key hotel resources that have been identified are: physical resources, financial, human, technological and marketing resources, knowledge, information technology, reputation and brands (Casanueva, Gallego, & Revilla, 2015). They all principally refer to the internal resources held by the firm. Barney (1986) proposed using the knowledge of those internal resources and their value as a foundation to guide the acquisition of market resources. However, hotel firms should not limit themselves to the use of resources that they hold at a given moment in time or to those that they might acquire or create. They should instead search for ways of achieving new resources and of using the resources that do not belong to them, but which they can access through collaborative agreements with other people, firms and organizations (Combs & Ketchen, 1999). Barney (1991) underlined that those resources characterized by their social complexity (such as those arising from personal relations) are more difficult to imitate, implying that they bring sustainable competitive advantages.

Therefore, many of the key resources that mean a hotel can compete and can gain competitive advantages over its rivals that are defendable over time may be in the hands of other people, other firms (suppliers, clients and competitors) and other institutions (such as public administrations). Hotel firms should be able to identify who holds those external resources that are of value to them, they should have the possibility of accessing them (through informal relations, alliances, or cooperative agreements with their partners within business networks). Hotel firms will have access to resources through their ties with other organizations (Chathoth & Olsen, 2003; Chen & Tseng, 2005; Tortoriello et al., 2011). They may also achieve those external or network resources through relations that their owners and hotel managers maintain with other actors (Ahmad, 2005; Hsu et al., 2012).

This relational view has also been employed in a detailed study of different categories of hotel resources. Therefore, there are previous works that have pointed to the possibility of obtaining different types of relevant resources in hospitality through external ties: physical resources (Chathoth & Olsen, 2003; Kim & Oh, 2004; Tortoriello et al., 2011), financial resources (Ahmad, 2005; Hsu et al., 2012; Leonidou, Leonidou, Fotiadis, & Zeriti, 2013), human resources (Garrigós-Simon, Palacios-Marqués, & Narangajavana, 2008; Hsu et al., 2012), technological resources and innovativeness (Kim & Oh, 2004; Lin & Wu, 2008), reputation and brands (Chen & Tseng, 2005; Tortoriello et al., 2011), marketing resources (Chen & Tseng, 2005; Denicolai et al., 2010; Zigan & Zeglat, 2010), knowledge (Hsu et al., 2012; Nemec-Rudez & Mihalic, 2007; Zigan & Zeglat, 2010), and information technology (Leonidou et al., 2013).

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Increasing consideration has been given to networks resources in which firms are embedded over recent years. According to Lavie (2008: 548) "network resources are assets that are owned by the firm's partners but can potentially be accessed by the firm through its ties to these partners".

The concepts of structural embeddedness (position occupied by each actor) and relational embeddedness (quality, intensity, and duration of the ties) are attempts to explain the benefits of sharing the resources in the network. However, following the proposals of Lin (1999), some researchers have also highlighted the existence and importance of resource embeddedness (Batjargal, 2003) and of social capital as a resource dimension (Casanueva & Gallego, 2010).

Therefore, if we are to advance our understanding of how a hotel can access external resources through the relations with their managers, an instrument linked to network resources is needed to measure individual social capital: the hotel resource generator, which is an adaptation of a similar model used in the field of sociology (Var der Gaag & Snijders, 2005).

Methodology

Proposed scale of measurement: the hotel resource generator

A satisfactory instrument for the collection of data related to social capital in the hotel sector is needed, so as to analyze in an acceptable way the access that a specific hotel firm has to external resources. Beginning with this premise, we propose a measurement scale for social capital composed of 33 indicators. Each one refers to a particular resource (Table 1).

The scale, adapted from Casanueva et al. (2015), following the theoretical recommendations, is of a multidimensional nature and covers eight types of resources: financial, marketing, knowledge, internationalization, human resources, institutional relations, strategic alliances and new technologies. The grouping of the indicators by type of resource is presented in Table 2.

In this study, it is assumed that none of the eight dimensions that constitute the scale need to show covariance between each other; for example, whether a director might have a high social capital in some of them and a low one in others. We could even affirm that it is a likely situation, whenever it is very complicated for an individual to know people who can provide the eight types of resources that constitute the scale. In this sense, it would not be necessary for a director to possess each and every one of those resources, to consider that the director possesses a particular social capital. Therefore, the eight dimensions that constitute social capital are of a formative nature, given that they endow the construct with meaning, in such a way that the omission of one of them would imply that part of the social capital is missing and would therefore detract meaning from it. In the same way, the indicators that constitute each dimension represent characteristics that collectively explain that type of resource. Each one of them refers to a different aspect and to a different resource, such that they are not interchangeable, which means that they are of a formative nature (Mackenzie, Podsakoff, & Jarvis, 2005). On the basis of these considerations, the idea that the dimensions and the indicators of social capital tend not to co-vary, but to vary in an independent way, is evidence that leads us to affirm their formative nature. We can use the test proposed by Chin (1998) to complete this reasoning, according to which "assuming that all the measures of a construct are coded in the same direction" (which is the case), we may ask whether "an increase of one of the indicators in one direction will imply that the others should change in a similar way". If the answer to this question is negative, the indicators are formative. In this case, it is easy to confirm that the fact of possessing resources associated with foreign financing (INT1), for example, does not imply greater facility to obtain subsidies and public funds (INT3). Likewise, having a great capability to access marketing resources will not necessarily imply a high capability for internationalization.

Development and validation of the scale

We adapted a six-stage model proposed by Churchill (1979) for the development and validation of the measurement scale. However, the third, fourth, and fifth stages of the above model (Churchill, 1979) are only applicable to indicators and constructs of a reflective nature. Henseler, Ringle, and Sinkovics (2009), in turn, established the specific criteria to validate scales of a formative nature. Given that our instrument of measurement is of a formative nature, both at the level of the indicator and at the level of the construct, we have included the stipulations of Henseler et al. (2009) in the generic model proposed by Churchill, where necessary.

Step 1: specify domain of the construct (Churchill, 1979)
The first step implies a proper definition of the construct that is to be measured. In this case, it concerns the individual social capital of the director of a hotel establishment, which gives access to the key external resources, thanks to contacts and relations. In particular, if the directors of hotel firms have a certain endowment of social capital arising from their contacts and their relations, it is necessary to ask whether that really means that their organizations can gain resources that increase their performance or that improve their competitive position.

Approaches to the measurement of social capital vary, depending on the theme that is studied and its dimensions. Van der Gaad and Snijders (2005) proposed an instrument of measurement that quantifies individual social capital through a series of items: the resource generator.

The conventional measurements of individual social capital are: the generator of names – a list of the leading actors and the ties between them – (Snijders, 1999), the generator of positions – known actors and hierarchical professions – (Lin, Fu, & Hsung, 2001; Ying & Norman, 2014) and the generator of resources (Van der Gaag & Snijders, 2005). The generator of resources, unlike the generator of names and the generator of positions, involves surveys that are conducted to highlight access to valuable resources that certain people may have through their ties with other people that own those resources. Snijders and his colleagues prepared a list of social-type resources from theories on the different settings in which a person needs social support. It includes 32 items on which interviewees have to respond to the question: "Do you know

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Table 1 – Measurement scale, social capital.

You know someone that can help you to...	QA		QB	
	Yes	No	Try to quantify in a general way the intensity of the relation with whoever you have most friendship	
			Weak	Strong
INT1. Secure resources from banks and financial entities			1 2 3 4	5 6 7
INT2. Secure financial resources from investors and other non-banking sources			1 2 3 4	5 6 7
INT3. Secure public financing and/or subsidies			1 2 3 4	5 6 7
INT4. Obtain knowledge and information on your clients and your markets			1 2 3 4	5 6 7
INT5. Obtain knowledge and information on the technology that your hotel uses			1 2 3 4	5 6 7
INT6. Obtain knowledge and information on the tendencies in your business and on the future of your sector			1 2 3 4	5 6 7
INT7. Obtain knowledge and information on the key factors of competence in your sector			1 2 3 4	5 6 7
INT8. Obtain knowledge and information on innovations and changes that are affecting your business			1 2 3 4	5 6 7
INT9. Design and/or operation of information technology tools for the management of your hotel (management programs, reserve motor, Global Distribution Service connectivity...)			1 2 3 4	5 6 7
INT10. Design and/or operation of information technology tools for relations with your clients (CRM, Web 2.0...)			1 2 3 4	5 6 7
INT11. Design and/or operation of Internet resources for the management of your hotel			1 2 3 4	5 6 7
INT12. Secure knowledge that is not held on general aspects of hotel management (quality, environment, training, pricing...)			1 2 3 4	5 6 7
INT13. Supervise legal and contractual aspects related to their hotel			1 2 3 4	5 6 7
INT14. Access informal networks of people (businesses, directors, politicians, well-known people...)			1 2 3 4	5 6 7
INT15. Achieve a better position for the business through well-known or prestigious brands			1 2 3 4	5 6 7
INT16. Agree and improve agreements on cooperation with other businesses and institutions (choice of partners, negotiation...)			1 2 3 4	5 6 7
INT17. Access businesses and institutions that allow the exploitation of local resources by your hotel (culture, monuments, patrimony, gastronomy...)			1 2 3 4	5 6 7
INT18. Subcontract, buy or externalize services necessary for your business			1 2 3 4	5 6 7
INT19. Manage agreements with interest groups or manage relations with them			1 2 3 4	5 6 7
INT20. Access and manage possible distribution channels of your hotel or new intermediaries			1 2 3 4	5 6 7
INT21. Shape the reputation of your hotel and/or your firm			1 2 3 4	5 6 7
INT22. Expand the public profile of your firm and/or the destinations in which it is found			1 2 3 4	5 6 7
INT23. Improve its position in business and professional associations and groups			1 2 3 4	5 6 7
INT24. Access public support services for firms that will assist its management			1 2 3 4	5 6 7
INT25. Establish management processes for relations with clients			1 2 3 4	5 6 7
INT26. Access as yet untapped international tourist markets			1 2 3 4	5 6 7
INT27. Improve language training for staff			1 2 3 4	5 6 7
INT28. Establish and develop ongoing training programs for employees			1 2 3 4	5 6 7
INT29. Access candidates to work in your hotel (employees and directors) with a high degree of capability, professionalism and experience			1 2 3 4	5 6 7
INT30. Adapt their products in a more acceptable way to your clients			1 2 3 4	5 6 7
INT 31. Access present-day or potential client data bases			1 2 3 4	5 6 7
INT32. Prepare and use on-line marketing tools			1 2 3 4	5 6 7
INT33. Access favorable locations for establishments and installations			1 2 3 4	5 6 7

somebody that..." (i.e. can repair a bicycle, a car, etc.; has a holiday home, knows about football, can give work-related advice, can do the shopping if you or your family fall ill, can care for your children). On the basis of the approach of those authors, a generator of resources for the hotel sector has been prepared.

Step 2: generate sample of items (Churchill, 1979)

The second stage implies setting indicators that are capable of explaining the construct in question. The techniques that are recommended to approach this step are of an exploratory research type (bibliographic searches, interviews with experts, and brainstorming sessions).

Two channels were followed for the identification of the network resources that comprise social capital. The first was to search for prior references to important resources for hotel firms in the literature. On the one hand, a review of scientific and professional journals was conducted to identify the most highly valued resources in the sector (Casanueva et al., 2015; Chathoth & Olsen, 2003; Tortoriello et al., 2011). On the other hand, various reports from professional associations,

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Table 2 – Indicators grouped by resource type.

Type of resource	Indicators
Financial resources	INT1, INT2, INT3
Marketing resources	INT15, INT19, INT20, INT21, INT25, INT30, INT31, INT33
Knowledge	INT4, INT5, INT6, INT7, INT8, INT12
Information technology	INT9, INT10, INT11, INT13
Human resources	INT27, INT28, INT29
Institutional relations (relational capabilities)	INT14, INT23, INT24
Strategic alliances (relational capabilities)	INT16, INT17, INT18
Internationalization (Global management)	INT22, INT26, INT32

Table 3 – Panel of experts.

Expert 1	Independent Hotel Director, with prior experience of hotel management in a hotel chain.
Expert 2	Consultant. Ex-head of Training and Human Resource Management in one of the 20 leading hotel chains.
Expert 3	Director of Training of Directors from one of the 20 leading hotel chains.
Expert 4	Catering Director of a hotel chain, with wide experience in the sector.
Expert 5	Academic expert in Public Relations linked to the hotel sector.
Expert 6	Director-Proprietor of a chain of tourist apartments.
Expert 7	Public sector manager of tourism planning at an important European destination.

public bodies and industry organizations were studied which, when considered from different perspectives, led to the identification of a series of key resources in the hotel sector. The second channel was to seek the help of experts who proposed the resources to be studied and then selected the most relevant external resources for the hotel firms from among their proposals (Table 3).

Having completed a preliminary selection of the resources collected from secondary sources, a seven-person panel of experts was convened, each member of which was contacted three times via e-mail. The first mailing was to propose a list of resources. The members of the panel were asked for a preliminary list of important resources for firms in the hotel sector that might affect the competitiveness of firms and that could be accessed from their external contacts. After this stage, we obtained a list of 29 possible hotel resources.

Having received and compared the information with other information compiled from secondary sources, their collaboration was again requested, to move on to the filtering of the indicators and their classification by the type of resource that it represented. The set of 49 key resources in the hotel sector was filtered and grouped into the 33 items that made reference to network resources, to which the hotel managers could gain access through their ties and external contacts. The reduced number was due to the redundant nature of some items and to those with very similar meanings. To do so, a new list was prepared with resources that may be obtained through the ties and that grouped together resources from the original list that could share a common significance. This new list was sent to the experts, who suggested changes to the wording of the resources, but not to the proposed list. Therefore, the final measurement scale consisted of 33 resources.

Table 4 – Summary of responses.

	Number of responses	Response rate
Complete questionnaires	200	21.18%
Incomplete questionnaires	362	38.34%
Refusal to participate	267	28.28%
Not possible to contact	115	12.20%
Totals	944	100%

Step 3: evaluation of the measurement model (Henseler et al., 2009)

The third, fourth and fifth stages proposed by Churchill were aimed at testing the reliability and validity of the measurement model, in a process that can result in the filtering of the scale, when removing indicators and constructs that are not very consistent. None of them are suitable in the case of formative indicators, as the conventional measures of validity and reliability are considered applicable to this type of variable (Bagozzi, 1994). Validity tests should be done, for this type of model, based on theoretical reasoning and expert opinion (Diamantopoulos & Winkholfer, 2001). We therefore apply, from that point, the established requirements to evaluate the models with formative measurements. These models should be assessed both at the level of the construct and at the level of the indicator (Henseler et al., 2009).

Sample and data collection: an empirical investigation into the social capital of hotel directors located in the Autonomous Region of Andalusia was conducted, for the purposes of assessing this measurement model. Andalusia is the fourth tourist region (after Catalonia, the Canary Islands, and the Balearic Islands) in Spain by numbers of visitors and is one of its main international tourist destinations. The population under study refers to the hotel establishments inscribed in the Official Register of Tourism of Andalusia. Each record in the register corresponds to an individual hotel, regardless of whether it belongs to a hotel chain. And, specifically, the 'Gran Lujo [High Class]' establishments and those with 1-to-5 stars, which amounted to 1691.

A random sample was contacted, stratified by category of establishment and province, obtaining 200 duly completed questionnaires with a response of over 21%; comparable to those obtained by other researchers in Spain (López-Gamero, Claver-Cortés, & Molina-Azorín, 2011). Data collection was carried out through computer-assisted telephone interviews (CATI), and computer-assisted web-interviewing (CAWI), in April 2013. A summary of the responses is shown in Table 4.

Measurement model: We used the variance-based structural equation modeling system, Smart PLS 2.0.M3, to analyze the model of formative measurement (Reinartz, Haenlein, & Henseler, 2009). The use of this model is justified by the novelty of the subject and its potential for theoretical development (Chin & Newsted, 1999). Prior to the data analysis, the resource generator was recoded with two items: the item referring to whether the directors had contacts with someone who can provide a resource (originally measured in a dichotomous way)

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and the item referring to the strength of the relation (measured on a scale of 1–7), resulting in a Likert-type scale with 8 levels, where zero signified the absence of a relation.

Finally, it is necessary to include a dependent variable in the model, to continue with the analysis of the scale. In this case, we chose to include the innovative capability of the hotel establishment. The justification is linked to the nature of this variable, which requires a high commitment of resources from the hotel. Therefore, the improvement of the innovative capability of a hotel establishment should be positively influenced by the capability of their directors to access the necessary resources. This variable is of a reflective nature and is composed of three indicators. No indicator had to be removed for the validity and reliability analysis (factorial loads of 0.8629, 09.261, 08091, respectively) and all the values were over the acceptance threshold (AVE = 0.7522, Composite Reliability = 0.9008, *R* Square = 0.1413 and Cronbach's Alpha = 0.8347).

Analysis of the data: the evaluation of the measurement model should be done at the level of the construct and of the indicator. It is a second-order model, so a two-step approximation was employed (Chin, 2010). The required sampling size to test the hypotheses in the variance-based structural equation models, reached a value of 111 observations in this case (power = 0.80 and Alpha = 0.05) based on variance. We may therefore affirm that the sampling size, of 200 observations is sufficient for the objectives of the investigation (Green, 1991).

The first-order measurement model is depicted in Fig. 1.

The evaluation of the model at the construct level implies an assessment of its external validity, nomological validity and discriminant validity. All these measures attempt to justify that the formative construct reflects the meaning that is expected of it, although the two first are the outcome of theoretical reflection, while the discriminant validity can be established at a quantitative level, if the correlations between the constructs are under 0.7 (Urbach & Ahlemann, 2010). We may confirm the existence of discriminant validity.

Having confirmed the construct validity, the evaluation at the level of the indicator was performed. The first aspect to consider in this analysis is the possible multicollinearity of the indicators that compose each first-order construct, as well as of the eight dimensions that constitute the second-order ones. To do so, in line with the theoretical recommendations, the two-step approach was used, so we worked with the scores calculated by the program for each of the first-order components (Wright, Campbell, Thatcher, & Roberts, 2012). The representation of the second-order measurement model is shown in Fig. 2. In this figure, we highlight eight components of social capital of managers that allow hotels to access external resources that are valuable for their activities.

As may be seen in Table 5, the principal components analysis led us to affirm that there were no problems of multicollinearity, as all the condition indexes were well below 30 (the highest was 6.4) and almost all of the VIF values were under 3.3, which implies an absence of multicollinearity problems (Wong, 2014).

The second aspect of relevance to the analysis of the formative measurement models is the assessment of the weights and their statistical meaning. In what follows (Tables 6 and 7), the values for the first and the second-order models are shown, respectively.

The correlation of factor loading has to have a negative sign, to affirm that a weight goes in the opposite direction to the construct to which it is linked. In this case, the only indicator with an inverse correlation to the construct is INT3. In this way, the financial dimension is the one to which the indicator belongs, for the second-order model, which shows an inverted relation with the social capital construct. If the weight is not significant, the loading of the indicator should be analyzed, such that if it is over the value of 0.5, the indicator

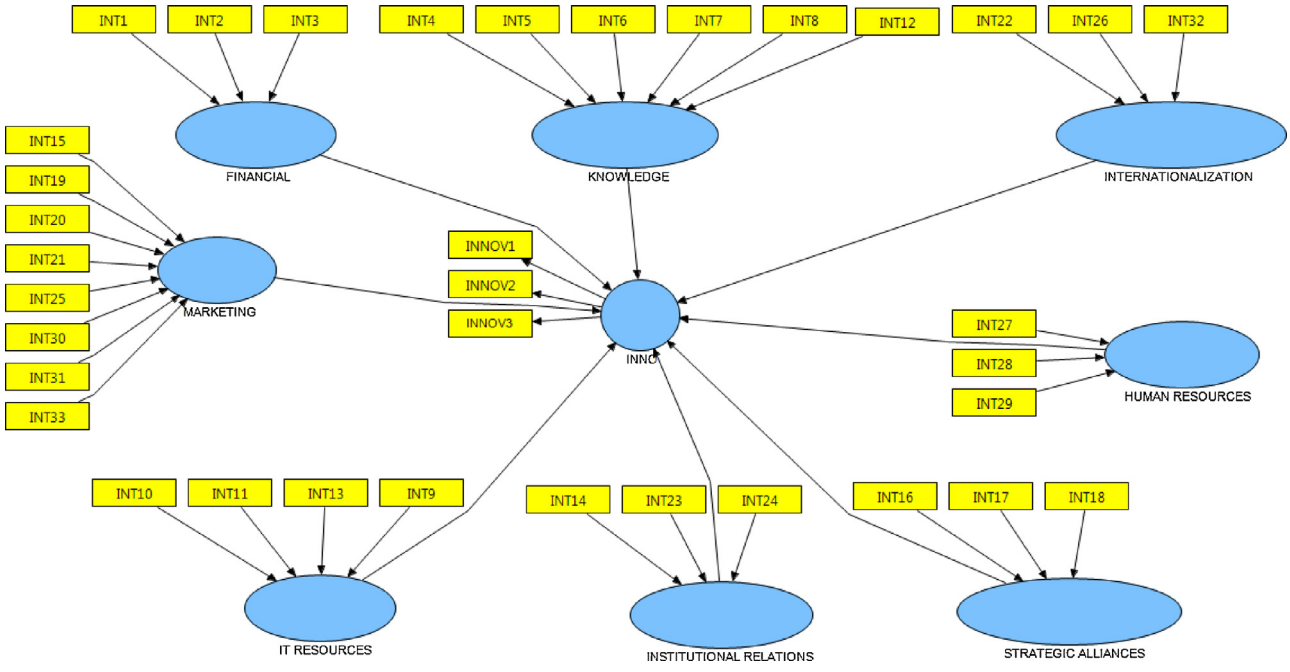

Fig. 1 – First-order measurement model.

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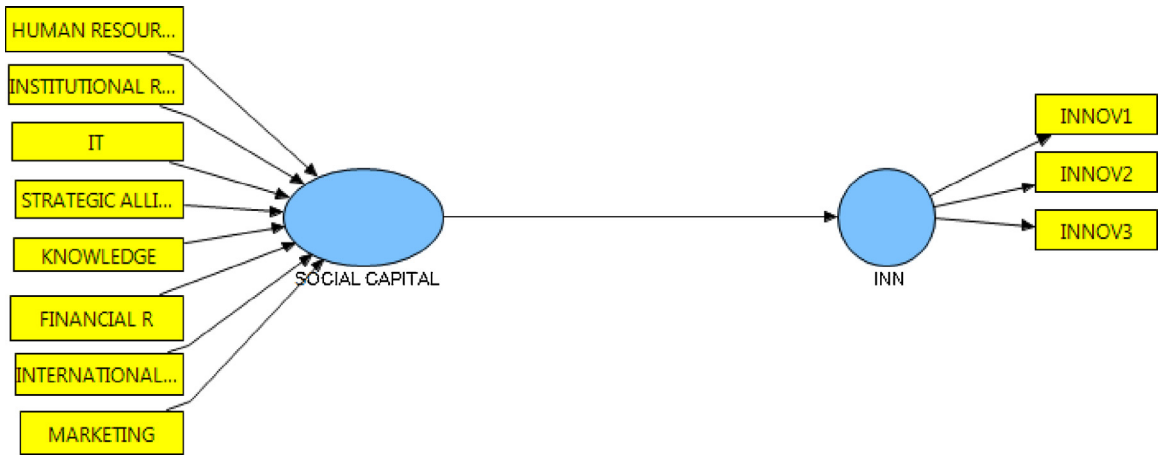

Fig. 2 – Second-order measurement model.

Table 5 – Diagnostics of multicollinearity.

Type of resource	Indicators	VIF	Condiction index	Second-order model	
				VIF	Condition index
Financial resources	INT1	1.211	2.152	1.120	1.000
	INT2	1.216	2.290		1.844
	INT3	1.115	2.755		1.888
Marketing resources	INT15	1.561	2.500	2.380	1.966
	INT19	1.738	2.858		2.275
	INT20	1.835	3.019		2.585
	INT21	1.712	3.160		2.618
	INT25	1.724	3.372		2.931
	INT30	2.098	3.573		3.403
	INT31	1.437	4.070		
	INT33	1.559	4.365		
Knowledge	INT4	1.550	3.373	1.892	
	INT5	1.832	3.630		
	INT6	2.343	4.037		
	INT7	1.672	4.588		
	INT8	1.908	4.919		
	INT12	1.398	5.490		
Information technology	INT9	2.922	3.043	1.509	
	INT10	3.690	3.985		
	INT11	2.731	5.376		
	INT13	1.331	6.403		
Human resources	INT27	2.099	2.552	1.322	
	INT28	2.020	2.613		
	INT29	1.249	4.072		
Institutional relations	INT14	1.369	1.994	1.663	
	INT23	1.505	2.295		
	INT24	1.345	2.573		
Strategic alliances	INT16	1.240	2.189	1.678	
	INT17	1.229	2.291		
	INT18	1.191	2.645		
Internationalization	INT22	1.242	2.290	1.663	
	INT26	1.413	2.450		
	INT32	1.549	2.951		

is kept on the scale. Otherwise, the statistical significance of the load would be analyzed, to remove those indicators with lower loads than 0.5 that are not significant. Once this process is over, it is neither necessary to remove any indicator from the first-order measurement model, nor dimensions from the second-order model. The value obtained for each weight, once it is considered significant and is not excluded from the scale, allows conclusions to be reached on the instrument of measurement. We approach this analysis in the results section.

Results: Having concluded the analysis of the measurement model, we can affirm its validity, both from the point of view of the construct and at the level of the indicator. This validity was corroborated in both the first-order and the second-order models. We may therefore affirm that the social

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Table 6 – Statistical meaning of the weights for the first-order model.

	Weight	Weight t statistics	Loading	Loading t statistics
INT1 → FINANCIAL	0.792	8.3442***		
INT10 → IT	−0.396	3.7613***	0.1931	
INT11 → IT	−0.6098	6.7418***	0.0049	
INT12 → KNOWLEDGE	0.5404	10.0924***		
INT13 → IT	0.9325	23.7346***		
INT14 → INSTIT. RELAT	0.3404	6.1003***		
INT15 → MARKETING	0.5815	10.7131***		
INT16 → STRATEGIC A	0.876	23.9876***		
INT17 → STRATEGIC A	0.2939	5.2398***		
INT18 → STRATEGIC A	−0.066	1.3911	0.3261	7.4467***
INT19 → MARKETING	0.022	0.3611	0.6028	
INT2 → FINANCIAL	0.2952	2.472**		
INT20 → MARKETING	0.4056	5.7376***		
INT21 → MARKETING	0.0601	1.006	0.593	
INT22 → INTERNATIONAL	0.3737	5.8233***		
INT23 → INSTIT. RELAT	0.6415	12.5982***		
INT24 → INSTIT. RELAT	0.2341	4.1418***		
INT25 → MARKETING	−0.0265	0.4834	0.5289	
INT26 → INTERNATIONAL	0.2126	2.9173**		
INT27 → HUMAN RESO	0.2535	1.9259*		
INT28 → HUMAN RESO	0.7567	5.6853***		
INT29 → HUMAN RESO	0.1023	0.9837	0.5065	
INT3 → FINANCIAL	−0.7242	6.5271***	−0.4356	
INT30 → MARKETING	0.2292	4.4797***		
INT31 → MARKETING	0.0466	0.6339	0.5028	
INT32 → INTERNATIONAL	0.6433	13.4759***		
INT33 → MARKETING	−0.0811	1.2715	0.4222	7.9573***
INT4 → KNOWLEDGE	0.458	7.8256***		
INT5 → KNOWLEDGE	0.0387	0.5447	0.5661	
INT6 → KNOWLEDGE	−0.3007	3.3462***	0.5182	
INT7 → KNOWLEDGE	0.1447	2.3168*		
INT8 → KNOWLEDGE	0.3857	5.7958***		
INT9 → IT	0.7605	9.5338***		

$t(0.05; 4999) = 1.645$; $t(0.01; 4999) = 2.327$; $t(0.001; 4999) = 3.092$.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

Table 7 – Statistical meaning of the weights for the second-order model.

	Weight	Weight t statistics	Loading	Loading t statistics
FINANCIAL	−0.2025	6.3225***	−0.2839	
IT	0.4672	12.201***		
KNOWLEDGE	0.1903	5.4657***		
INSTIT. RELAT	0.0408	0.9639	0.5841	
MARKETING	0.1977	4.8185***		
STRATEGIC A.	0.3284	11.7228***		
INTERNATIONAL	0.1354	3.2243***		
HR	−0.0096	0.2345	0.4362	13.2538***

$t(0.05; 4999) = 1.645$; $t(0.01; 4999) = 2.327$; $t(0.001; 4999) = 3.092$.
*$p < .05$.
**$p < .01$.
*** $p < .001$.

capital of the director can be measured through a formative scale of eight dimensions, composed of thirty-three different resources. However, not all of them acquire the same relevance in the composition of that relational capital (Table 8).

A study of the weighting of the Social Capital construct allows us to analyze and hierarchize their formative dimensions for the sector and the context under analysis. In this sense, six dimensions are clearly shown that have a significant weight in the social capital of the directors: resources associated with internationalization, resources arising from strategic alliances, knowledge-related resources, financial resources, information-technology resources and marketing resources. Although with a certain impact on the social capital of the directors, the others (resources related to institutional relations and human resources), were of no statistical significance.

As may be seen, access to new information technologies is converted into the resource with the highest impact on social capital, followed by the possibility of establishing strategic alliances, access to marketing resources and knowledge, and those that facilitate the internationalization of the hotel. All these resources, most of an intangible nature, are linked to improvements in the competitiveness of the firm. The importance of the first of them is unquestionable in today's competitive environment, where communication has to be established on a continuous basis with all agents involved

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Table 8 – Values of the weights.

Type of resource	Indicators	Weight	
Financial resources	INT1	0.792	−0.203
	INT2	0.2952	
	INT3	−0.7242	
Marketing resources	INT15	0.5815	0.198
	INT19	0.022	
	INT20	0.4056	
	INT21	0.0601	
	INT25	−0.0265	
	INT30	0.2292	
	INT31	0.0466	
	INT33	−0.0811	
Knowledge	INT4	0.458	0.190
	INT5	0.0387	
	INT6	−0.3007	
	INT7	0.1447	
	INT8	0.3857	
	INT12	0.5404	
Information technology	INT9	0.7605	0.467
	INT10	−0.396	
	INT11	−0.6098	
	INT13	0.9325	
Human resources	INT27	0.2535	−0.010
	INT28	0.7567	
	INT29	0.1023	
Institutional relations	INT14	0.3404	0.041
	INT23	0.6415	
	INT24	0.2341	
Strategic alliances	INT16	0.876	0.328
	INT17	0.2939	
	INT18	−0.0662	
Internationalization	INT22	0.3737	0.135
	INT26	0.2126	
	INT32	0.6433	

in the creation of value, in real time and in a bidirectional manner. The appearance of social networks and their implications for the sector justify the crucial importance of this resource. With regard to hierarchization, the possibility of forming strategic alliances with other firms in the sector appeared to be a resource of great weight within social capital. This is especially relevant for the sector, as the firms appear to be gaining awareness of the importance of establishing inter-organizational ties, to gain competitive advantage. The third relevant resource arises from marketing resource, followed by knowledge and internationalization. It is clear that the design of successful strategies requires acceptable knowledge of all factors, both clients and competitors, as well as the general business environment. The remainder, of a more tangible nature, are human and financial resources, which hold less relevance for the hotel firms. The latter, in addition, affects social capital in a negative way.

Step 4: developing norms (Churchill, 1979)

The process of developing the scale concludes when norms and standards are established that permit the assessment, for each individual sample, of their position with regard to the variable that they are trying to measure. In this case, the social capital held by each director. However, Churchill specified that this is not necessary when an absolute reference value may not be established, which is the case that concerns us here. It is a question of comparing each individual with the average of the group to which the individual belongs on these scales, rather than with a general standard. There is therefore no need to establish those standards for this instrument of measurement and they will have to be established for each specific area of study.

Discussion

The principal contributions of this study have been the identification of network resources that are relevant for the hotel firm and their grouping into categories and dimensions, followed by the construction of a valid measurement model, based on earlier proposals in the field of sociology, which we call the Hotel Resource Generator. In particular, the use of the Hotel Resource Generator in a sample of hotels in Spain has allowed us to identify categories of resources and a hierarchization of their contribution to the individual social capital of hotel managers.

The findings of this research are in line with previous work on the definition and on the valuation of those dimensions or categories of resources in the hotel industry (Casanueva et al., 2015). They allow us to contrast the theoretical dimensions proposed in the previous literature against the empirical data.

The validation process of the measurement model was completed with a hierarchization of the dimensions or types

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of network resources linked to the social capital of the directors. These results are limited to the case of the hotel directors in Andalusia. In this sense, it has been confirmed that the most relevant type of resources for innovation are linked to information technology, to strategic alliances, to knowledge and to marketing (Chen & Tseng, 2005; Leonidou et al., 2013; Tortoriello et al., 2011).

Conclusions

Our work has important theoretical implications. On the one hand, a fundamental group of implications are related with the development of the resource-based view in hospitality, and particularly with the incipient application of a strategic network-theory based focus to the hotel industry. On the other, based on the network resources concept (Lavie, 2008) and on a deeper understanding of the resource dimension of social capital (Batjargal, 2003), it has been possible to consider a repertory of relevant network resources in hospitality. This analysis complements and completes the previous conceptual baggage on key resources in hospitality (Casanueva et al., 2015). Finally, the development of the hotel resource generator gives us the opportunity to connect the endowment of social capital of the hotel manager with the performance of the hotel. Performance in the hotel industry is a complex concept and the hotel directors expressed different perceptions on the subject (Israeli, Barkan, & Fleishman, 2006; Sainaghi, 2010). However, the true value of social capital should be demonstrated by comparing it with performance (Sainaghi & Baggio, 2014).

Use of the hotel resource generator would also improve practice in the sector. In the first place, through the proposal of key resources in hospitality, a hotel firm can understand what resources it possesses, which of them it may obtain through its current relations and which it needs to acquire or create, because it cannot obtain them through those relations. It may be used as a simple check-list in small hotel firms and in individual hotels, to know which employees have access to external resources and what those resources actually are. In second place, it is also a good management tool for management. The social capital of the directors of hotel firms can be measured with this instrument. What is measured is of importance for the firm. Such measurements could prompt directors to make more effort and to motivate them to increase their individual social capital. It could also be used for the evaluation of candidates to occupy these sorts of posts.

The limitations and future lines of investigation of the present work are closely linked. The list of resources and their grouping into categories has been conditioned by the choice of investigators, such that they may be improved by using other sources of data and analysis in different contexts. In second place, the hotel resource generator still needs further testing to improve it as an instrument of measurement. It has been applied to a sample from a local area, at a single although a significant tourist destination, and in the context of a defined hotel industry, unlike the models found in the United States or Asia. The use of the instrument considering contingency factors such as the type of hotel management, the size of the hotel, the type of tourist destination and the geographic area, would shed greater light on individual social capital in hospitality. The resource generator in hotels is a good yardstick of the resource dimension of the individual social capital of hotel managers, but it provides poor information on both the relational and the structural dimension. Therefore, a future line of work should center on complementing information on social capital supplied by the instrument with appropriate measures for the egonet structure of each manager.

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