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Abstract

Museums are organizations that need to maintain relationships with several stakeholders in order to achieve their economic and social objectives. In this context, the current paper explores the effect of an organization's bonding social capital and a manager's social capital on the organization's ability to build external relationships, in other words, bridging social capital. Results from the study indicate that the structure of internal social capital (cohesion and diversity) and the manager's role as a structural hole facilitate relations with stakeholders and other museum networks. Moreover, collective social capital (bonding and bridging) has a direct impact on innovative proposals, on the museum's image and on fundraising, all of which entail key management implications.

Keywords: social capital, bridging ties, museums,

Introduction

Their educational and cultural mission aside, museums are organizations which have been forced to adopt business management models that will allow them to face up to an ever-more complex economic and competitive context. Many of these organizations are aware that only by implementing efficient business management systems that will enable them to become self-financing or by merging different models for securing resources will they be able to ensure their survival. To this end, museums are engaging in innovating their cultural proposals in an effort to attract visitors, enhance their image and reputation and to design new mechanisms to raise funds through donors and sponsors or via crowdfunding. For instance, the Louvre recently

raised €1 million from small contributors to acquire the unique jewel-incrusted 18th-century Teschen table from its private owners (The New York Times, 2015).

Yet, not all museums are equally successful in their efforts. One key factor in the development of innovations and access to resources is the organization's social capital. This is built at internal – strong and mutually beneficial relationships between the company's employees and teams– and external levels – the organization's relationships with stakeholders and other institutions. The need to draw on social capital in museum management has already been highlighted in some of the world's leading museums. As for the relationship with visitors, art museums are experimenting with new ways to cultivate a closer relationship with the public (The New York Times, 2013). With regard to relationships with sponsors, this is particularly evident in the major American museums. According to the New York Times (2015), "in the United States, museums have long courted sponsors who have in turn benefited from shows devoted to their creations. The Guggenheim Museum was a forerunner in the late 1990s, with exhibits featuring clothes by the designer Giorgio Armani and motorcycles by BMW". Likewise, the relationship with other museums is crucial. The curators of the Prado Museum and the Reina Sofia museum in Spain explain that they network with other institutions since this enables them to exchange exhibitions, as well as coproduce or undertake traveling exhibitions (El País, 2012).

In addition to external and internal social capital, organizations also need managers who put their own social resources and social capital at the service of said organizations. The relationship aspect of managers is an indication of the role they play as structural holes. Said structural holes reflect those positions in the network which provide a link between individuals who would otherwise not be in touch with one another (Granovetter, 1973; Burt, 2000). Publications such as Forbes (2013, 2014) point to how managers' social capital contributes to their reputation as an upstanding person who is skilled in his/her field. Proof of the importance

of managers' social capital is the emphasis in the LinkedIn profile or professionals' Klout Score, measuring a person's level of influence in social networks.

In this context, the current paper seeks to analyze the influence of both internal and managers' social capital on external social capital and its impact on museum innovation and economic performance. Although various authors have concurred in pointing out the necessary relation between social capital, innovation and performance in for-profit organizations, such relations are yet to be evidenced in the case of nonprofits and more concretely for cultural organizations. Specifically, this research pursues the following objectives: (1) to analyze the role played by the organization's internal social capital and the manager's social capital as a structural hole in the formation of external social capital; and (2) to explore the influence of the various dimensions of social capital on innovation and performance measured in terms of museums' fundraising capacity as well as their image and prestige.

Our work thus contributes to the literature on social capital, positing the interrelationships between the specific levels encompassed therein (internal, external and individual social capital), and their application to the case of cultural organizations. Although the literature has underpinned the existence of individual social capital as opposed to collective social capital, no studies have as yet explored the interrelation between the two. In addition, our work contributes to the study of cultural organizations by adopting the social capital and social network theories as a main approach to interpret how museums react to turbulent times and attempt to achieve innovation, reputation and funding through social capital. We analyze whether the social capital a museum acquires from different sources (internal, external and structural holes) exerts differential effects on innovation and performance. Innovation is related to organizing new exhibitions and to offering cultural activities from other artistic domains, such that the novelty resides in merging different cultural experiences (theater, music, movies, literature, fashion, dance, etc.). As regards performance, we focus on two aspects of museums'

economic performance: reputation and incomes. On the one hand, reputation consists of a sum of intangibles based on the perception of product and/or service quality, sustainability, social responsibility, a positive image, honesty and good governance. On the other hand, the need for funding, mainly when public financial support has decreased, entails engaging donors and sponsors in backing museums' activities, as well as the need for the museum to increase its own commercial revenues.

In addition, we adopt an international approach by considering museums from several countries (France, Germany, Spain, the UK, and the USA) that represent different managerial styles and different traditions in their funding policy: the continental Europe model and the Anglo-American model. The continental Europe model is characterized by the high degree of public involvement in the running of cultural institutions with museums proving more reluctant to embrace private funding, whereas governments in the Anglo-American model are non-interventionist and the creation of private museums and foundations is more common (The New York Times, 2015). Although the distinction between the two models is beginning to disappear, major differences are still evident between various museums' capacity to innovate (Bakhshi & Throsby, 2010).

Social capital: concept, dimensions and levels of analysis

Social capital is a theoretical body embracing contributions from various branches of social sciences (Adler and Kwon, 2002) in an effort to explain how social networks might act as real capital, in the sense of providing an array of benefits (economic, personal and professional status, etc.). The many and varied theoretical approaches to address the issue have spawned a wide range of proposals concerning the definition of social capital (Adler and Kwon, 2002; Burt, 2000; Vargas, 2002), its antecedents and consequences (Gedajlovic *et al.*, 2013) as well as its various dimensions and how these may be measured (Chetty and Angdal, 2007; Narayan

and Cassidy, 2001; Woolcock, 1998). All the definitions of social capital do, however, make some mention of relationship networks, the resources they contain, or both (Payne *et al.*, 2011). In the present work, we assume social capital to encompass an individual's or a group of individuals' network of relations and the resources contained in the network or which may be accessed through it (Batjargal, 2003; Galán and Castro, 2004; Nahapiet and Ghoshal, 1998).

With regard to levels of analysis, Payne *et al.* (2011) conclude that social capital may be analyzed at either an individual (an individual's social capital) or a collective (the social capital of a group, a community or an organization) level. Individual social capital and group social capital follow their own dynamics vis-à-vis antecedents and results, although they may interrelate (Portes, 1998; Woolcock, 1998). In the case of an organization, the various levels of social capital co-exist, since each member of the organization has their own individual social capital (based on their own relations), whereas the organization possesses group social capital. Broadly speaking, the accumulation of individual social capital amongst the organization's members is assumed to benefit the creation of group social capital, although the latter is not merely the sum of all the former but the result of social interaction between the individuals within the organization (Leana and Van Buren, 1999).

Following Payne *et al.* (2011), within group social capital (in our case, a museum's social capital), a distinction may be drawn between internal social capital and external social capital. Such a distinction between internal and external social capital bears a close resemblance with the notions of social capital bonding and social capital bridging, respectively (Adler and Kwon, 2002; Chetty and Agndal, 2007).

Internal social capital is that which is established amongst the members of the organization (Chety and Agndal, 2007; Yli-Renko *et al.*, 2002) and is related with so-called bonding social capital. This view of social capital focuses on collective actors' internal characteristics (Adler and Kwon, 2002), specifically cohesiveness or closure (Burt, 2000; Galán and Castro, 2004).

A dense network is one whose members are strongly interconnected through close ties and who share a collective conscience (Coleman, 1988; Burt, 2000; Galán and Castro, 2004; Stone and Hughes, 2002). Other authors also include member diversity and heterogeneity as further relevant features of groups (Burt, 1992; Galán and Castro, 2004; Yli-Renko *et al.*, 2002). A network will prove to be more varied the more diverse its members in socio-economic, cultural, and ethnical terms, etc. (Batjargal, 2003; Lin, 1999; Stone and Hughes, 2002). As a result, we describe a museum's internal social capital through the cohesion and diversity present amongst its workers and managers.

External social capital refers to the organization's links with external actors (Adler and Kwon, 2002; Yli-Renko *et al.*, 2002). According to Adler and Kwon (2002), it is a resource located in the external linkages of a focal actor, in other words, bridging social capital. In the case of museums, bridging social capital includes their relations with stakeholders: visitors and current audience, friends of the museum associations, volunteers, artists, other national and overseas museums, individual donors, corporate donors and politicians. The ties that make up a network of relations might be strong or weak depending on how close and long-lasting the relations on which said network is based prove to be (Burt, 1992; Granovetter, 1973). Consequently, a museum's external social capital can be described in terms of tie strength with stakeholders.

Through authors such as Woolcock (2001) and Grootaert *et al.* (2003), the World Bank adds a third notion to the concepts of social capital bonding and bridging: namely, that of social capital linking, related to networks which are able to establish relations with powerful groups or individuals who are very often at levels which social capital bridging and of course bonding (Stone and Hughes, 2002) cannot access easily. Social capital linking is closely related to Granovetter's (1973) notion of structural holes and Burt's (2000) notion of brokerage. A structural hole is the position occupied by a member in a network allowing them to link two groups that would otherwise not be connected. The network member who occupies a structural

hole controls the flow of resources between said groups and benefits from such intermediation (brokerage). In the case of museums, it is the manager or curator who is mainly charged with playing such a role.

Building external social capital

The link between internal social capital and external social capital

As pointed out previously, social capital is considered a type of capital since it generates benefits for the individuals or groups that possess it (Adler and Kwon, 2002; Kliksberg, 1999). In the case of so-called bonding social capital, said benefit is reflected through individuals' motivation and capacity to convey tacit and redundant knowledge (Adler and Kwon, 2002). The existence of this kind of social capital enables organizations to design an internal network of relations that can bind together the activities undertaken by the various groups of individuals that make up the network. Thus, having internal social capital or bonding available would entail direct benefits in the shape of greater complementarity between organizational resources, use of synergies between its components, greater effectiveness and efficiency in coordinating and controlling internal actions, and cutting internal transaction costs, etc. (Coleman, 1988, 1990). Such benefits might also be reflected in access to new networks (Burt, 2004; Granovetter, 1973) and greater access to other stakeholders' external resources (Foley and Edwards, 1999; Gabbay and Zuckerman, 1998).

One feature of a group or an organization's internal social capital is the strong ties and close-knit relations amongst members, such cohesion lessening the possibility of engaging in opportunistic behavior, thus enhancing the climate of relations and increasing security in transactions (Butler and Purchase, 2008; Coleman, 1988; Davidsson and Honig, 2003; Granovetter, 1985; Gulati *et al.*, 2000; Lin, 1999). All of this favors the exchange of resources and information within the group (Burt, 2000). Gedajlovic and Carney (2010) state that the

features of family businesses (such as cohesion, long-term focused relations and tie strength amongst members) make it more likely that individual resources (which would include the external relations of each individual in the network or individual social capital) would be made available to the group, thereby increasing the group's links with other external actors (bridging social capital).

Insofar as members of a network display varying profiles and careers (diversity), they are more likely to possess different resources and have access to a greater variety of external relations. Lin (1999) and Batjargal (2003) also propose this link between diversity and the wealth of a network in terms of resources and contacts. By making these links available to the organization its members could be turning the sum of each member's relations into the organization's group social capital (Chen, 2013; Yli-Renko *et al.*, 2002). As a result:

H1: A museum's internal social capital (cohesion-H1a and diversity-H1b) has a direct and positive influence on the museum's external social capital.

The role of the director as a structural hole.

Structural holes theory (Burt, 1992) proposes that players who occupy brokerage positions between separate clusters in a social network have better access to information and that this position in the network (structural hole) might provide them with competitive advantage. The bulk of the literature states that subjects occupying a structural hole benefit personally from their capacity for mediating between interconnected groups (Burt, 2000 and 2004; Granovetter, 1973; Podolny and Baron, 1997).

In museums, the role of the structural hole is played mainly by the manager or curator. One role of the museum curator is brokerage between the organization and external elements. Thus, the curator's individual social capital, which is necessary for brokerage, is reflected not only in the number of direct person to person contacts (ties) with representatives of other institutions

and bodies, but also the strength of these ties. As a result, we define the museum curator's social capital as the amount (number of contacts) and quality (strong links) of contacts with representatives of other institutions (museums, public and private foundations, as well as central, local and regional authorities, together with educational and research establishments) in areas that are both related and unrelated with the museum's activities.

Managers with a rich network of relationships are able to add value to their organizations by means of these relationships (Butler and Purchase, 2008; Yli-Renko *et al.*, 2002). In organizational contexts, the curator's position as a structural hole may also lead to improved organizational social capital (Xiao and Tsui, 2007). Insofar as the curator's links are made available to the organization, individual social capital may become external social capital for the organization (Yli-Renko *et al.*, 2002). Therefore:

H2: The curator's social capital (in related areas-H2a and non-related areas-H2b) has a direct and positive influence on the museum's external social capital.

Social capital and results

Effects of the museum's internal social capital.

Social capital has direct effects on performance, particularly for areas in which competitiveness is based on intangible resources and capacities and which, therefore, cannot easily be procured in markets (Davidsson and Honig, 2003; Gedajlovic y Carney, 2010). Many authors are now underpinning the importance which social networks are gaining vis-à-vis securing business success, since individual interaction provides organizations with the chance to obtain fresh information from a range of sources.

Innovation within an organization is the result of the exchange and merging of its members' intellectual capital (Nahapiet and Ghoshal, 1998; Tsai and Ghoshal, 1998) and it is precisely social capital which ensures these exchanges through cohesion (Coleman, 1990). The cohesion

generated thanks to these close ties increases the extent and speed with which information is transferred amongst members and ensures how such information will be used (Tsai and Ghoshal, 1998). Relationships characterized by a high degree of cohesion display high levels of cooperation (Gulati, 1998) and the cooperation atmosphere is helpful to provide richer market knowledge and various technology that leverages the development of innovations (Koka and Prescott, 2002). Coleman (1988) points to the benefits of being situated in a dense and cohesive network. Actors located in central positions in dense networks obtain greater access to and control over information and other innovation-related resources. In addition, according to Coleman, these networks generate behavioral norms and sanctions for opportunistic attitudes, which is why the information is shared with greater trust. Commonly-held regulations and values also improve mutual comprehension and reduce misunderstandings between the actors in the network (Ahuja 2000; Dyer and Nobeoka 2000). Accordingly, those individuals with a greater level of bonding social capital will increase their innovativeness (Inkpen and Tsang, 2005; Nahapiet and Ghoshal, 1998).

As already pointed out, diversity involves the presence of different ideas and resources amongst an organization's members, ideas and resources which might be merged so as to generate fresh knowledge at both an organizational (Burt, 2004; Camelo-Ordaz and Valle-Cabrera, 2005; Yli-Renko *et al.*, 2001) and an individual level (Chen, 2015).

Accordingly, organizations displaying a greater level of bonding social capital will increase their innovativeness (Inkpen and Tsang, 2005; Nahapiet and Ghoshal, 1998). Internal social capital allows for greater productivity and innovation by cutting access costs to information (Knack and Keefer, 1997), generating larger amounts of knowledge (Landry *et al.*, 2001; Morgan, 1997), increasing group decision-making and joint action (Fountain and Atkinson, 1998) as well as more efficient use of resources (Gui, 2000).

H3: A museum's internal social capital (cohesion-H3a and diversity-H3b) has a direct and positive influence on its innovation performance.

One aspect which has received scant attention in the literature is the effect of an organization's internal social capital on its reputation. Lu (2014) shows that managers of firms located in the high social capital regions are more likely to be concerned about their reputation of providing transparent information regarding their businesses. In a work context, where reputation proves vital to obtaining results, Burt (1992), Podolny and Baron (1997) or Xiao and Tsui (2007) show how social capital is linked to professional success. In the context of online communities, Hsu (2015) indicates that social capital is a key antecedent of knowledge sharing, and that the wealth of knowledge and information results in community reputation.

If we extrapolate the above results, it could be conjectured that the cohesion and links between the members of an organization (in our case, a museum) have a positive impact on their reputation. A close-knit team will voluntarily seek to make its activities transparent to its target audience and to thus enhance its reputation. In addition, a close-knit team will voluntarily convey to other agents (press, tourist agencies, other museums) the institution's smooth functioning. Furthermore, various actors will have a more favorable impression of organizations that are able to draw on diverse work teams, as an indication of their greater cultural and social wealth. As a result,

H4: The museum's internal social capital (cohesion-H4a and diversity-H4b) has a direct and positive influence on the museum's reputation.

Effects of the museum's external social capital.

The museum's external social capital (or bridging social capital) lies in the relations which the museum as an institution maintains with the various stakeholders to whom it is linked, which includes its institutional relationship with other museums.

According to Granovetter (1973), actors who develop ties with disconnected groups gain access to a broader array of ideas and opportunities than those who are restricted to a single one. Various empirical studies have underlined the role of bridging social capital as a factor that positively influences individuals' (or organizations') innovativeness or their capacity to access new knowledge (Ahuja 2000; Bell 2005; Burt 1992; Chetty and Agndal, 2007; Davidsson and Honig, 2003; Yli-Renko *et al.*, 2001; Zaheer and Bell, 2005). A firm's relation with the various actors (other firms or institutions) involved in an industrial network improves its innovation (Capaldo, 2007; Zaheer and Bell, 2005), business (Lee, 2007; Sasi and Arenius, 2008) and financial performance (Park and Luo, 2001). Moreover, Blasco, *et al.*, (2010) point out that external social capital enables the organization to position itself at different levels of the external network with the aim of locating and transferring valuable resources, minimizing external transaction costs and reducing the costs incurred by establishing links with stakeholders (Butler and Purchase, 2008).

In the case of museums, maintaining relationships with certain agents (prominent firms, other museums, associations, etc.) is not only a source of innovation but also a way to forge an organization's reputation, attract funds, or engage other stakeholders. Links with firms might prove to be a source of sponsorship as well as a means of setting up new exhibitions. For example, the Guggenheim Museums in New York, was pioneering in such relations with firms when it staged exhibitions of Giorgio Armani suits and BMW motorbikes. The relationship with other museums is also crucial. The directors of the Prado or Reina Sofía museums state that they network with other institutions since such networks afford them the chance to exchange exhibitions, coproduce or stage traveling exhibitions (El País, 2012). Therefore,

H5: The museum's external social capital has a direct and positive influence on the museum's performance (innovation-H5a; reputation-H5b and fundraising-H5c).

Interaction between results

The positive effect of innovation on cultural institutions' performance has been highlighted in a number of works. For theaters, Voss *et al.* (2006) show how innovation is linked to higher income through increased ticket sales. Camarero *et al.* (2011) also show how organizational and technological innovations as well as innovation in value creation in museums enhance economic (e.g. income from ticket sales), market (e.g. reputation and prestige) and social (conservation or improvement of the collection) performance.

Given the diversification of the target audience, museums are aiming to implement innovations which may help to attract a wider public (tourists, as opposed to those who may be termed "connoisseurs"), specific groups (students, teachers, families, amongst others), as well as offering services to other target audiences (the press, travel agencies). If we add to this the fact that information and communication technologies applied to museum management can help to improve efficiency in terms of costs, we are accepting that innovation in museums can contribute towards enhancing economic performance. Further, increasing the frequency with which new activities are programmed, merging the traditional museum visit experience with other wide-ranging cultural activities in an effort to reach out to a broader audience, substantially contributes towards enhancing the museum's image (Ministry of Culture, 2011b). Such activities might also act as a magnet to attract funding from firms and donors who are willing to link their image to ground-breaking projects. Therefore,

H6. Innovation in the museum has a positive impact on reputation (H6a) and fundraising (H6b).

Reputation is an intangible asset that organizations possess which has a positive impact on business performance. In museums, external image is expected to have a positive influence on attracting income (commercial sales and funding from donors and sponsors), with reputation proving to be a dimension of brand equity and an antecedent of loyalty. Henard and Dacin (2010) indicate that for companies with a reputation for innovative products, consumer excitement and expectation of satisfaction can emerge. Previous studies have also found that the organization's reputation has a positive effect on the willingness to donate money and time and on volunteer recruitment (Hankinson, 2001; Bennett and Gabriel, 2003; Sarstedt and Schloderer, 2010). Sarstedt and Schloderer (2010) found that reputation anticipates donor willingness to give money and to work as an honorary member. Therefore,

H7. Reputation has a positive impact on fundraising.

Research methodology

Sample and measurement of constructs

A questionnaire was designed to measure the variables in the model. The questionnaire was sent via postal mail to museum curators in France, Spain, the United Kingdom, the United States, and Germany. The domain consisted of 3,500 museums (800 British, 1000 French, 1,300 German, 800 North-American, and 900 Spanish). The questionnaire was translated into the different languages by professional translators in order to ensure equivalence of measures between languages. The questionnaire could be answered and returned via postal mail (we included a stamped addressed envelope) or via online (we included a cover letter with the questionnaire in which we offered a URL address to answer the online questionnaire). In the cover letter it was indicated that the questionnaire should be completed by the manager or curator, who has a general knowledge of the institution's social capital as well as their own social capital. Information was gathered from February to December 2014. The total number

of responses collected during the process once incomplete questionnaires had been removed was 556 (39 American, 66 British, 119 German, 131 French, and 201 Spanish). In the Table, we describe the sample according to the type of museum, the type of funding, and visitor numbers.

Insert here Table 1

Measurement of constructs and validation

As for the measures of the various concepts, we created ad hoc scales based on a review of literature addressing social capital but adapted to the context of museums. Items were measured on a scale of five points, 1 indicating "Strongly disagree" and 5 "Strongly agree".

Internal social capital comprises two dimensions, cohesion and diversity (Galán and Castro, 2004). Cohesion was measured with a reflective scale of five items which involve several aspects related with the strength of the relationship between the museum's employees such as collaboration, group identity, shared values, mutual trust, and cooperation (Nahapiet and Ghoshal, 1998; Stone and Hughes, 2002; Tsai and Ghoshal, 1998). Diversity was measured by means of a formative scale of four items that include different professional profiles, academic background, country of origin, as well as ideas and opinions in the group of employees (Stone and Hughes, 2002).

To measure *manager's social capital,* we differentiated two aspects: the role of the manager as a structural hole in related areas (that is, museums of the same kind and agencies related with the museum's activity) and the role of the manager as a structural hole in non-related areas (museums of another kind, public and private foundations, national, regional, and local authorities, associations, and teaching and research centers not directly linked to the museum's activity). In order to evaluate the size and strength of ties for each relational area, we asked the museums' curators to indicate the number of people they knew in different agencies related

and not related with the museum's activity on a three-point scale (1=some; 2=several; 3=many). They were also asked whether they maintained a close personal relationship with some of these contacts (five-point Likert scale from completely disagree to completely agree). For each agency, we multiplied the number of contacts by the closeness of these relationships. In this way, we obtained five formative items to measure the manager's role as a structural hole in related areas and other five formative items to measure the role as a structural hole in non-related areas.

External social capital was divided into relationships with stakeholders and relationships with other museums. Relationships with stakeholders referred to the closeness of a museum's relationships (from not very to close relationship) with visitors, members, volunteers, artists, donors, or political leaders, whereas relationships with other museums included other national, international, and other specialized museums.

Formative scales were also used to measure the results. *Innovation* was evaluated by six items, three five-point Likert items which indicate the frequency of new activities, cultural experiences and activities organized by the museum, and three items dealing with exhibitions (total number, own production and international ones) held over the last two years. *Reputation* was reflected on a five-item scale which refers to the improvement in the museum's image and reputation over the last three years in the museum's local community, specialized press, travel agencies and in the area. Finally, *incomes* were measured by four items referring to the increase in income through donations, sponsorship, commercial revenue and public revenue over the last three years.

Since our sample comprises museums of quite differing sizes, we attempted to evaluate this aspect by using size as a control variable when measuring variables and by estimating the proposed model. To do this, we considered the number of visitors as a variable of seven categories that we describe in Table 1.

Table 2 reports the descriptive statistics (means and standard deviations) and reliability values for the reflective scale. As regards validating the formative constructs, Diamantopoulos and Winklhofer (2001) suggest using normal regression diagnostics to assess formative index validity. Table 2 shows the variance inflation factor (VIF) for the indicators. These values evidence that multi-collinearity is not a problem in the construction of the formative indexes as each value was significantly below 5. The correlation matrix is provided in Table 3.

Insert here Table 2

Insert here Table 3

We performed Harman's single-factor test to assess the possible impact of common method variance. Exploratory factor analysis with all the indicators gave twelve factors with an eigenvalue of over 1.0 (total variance explained=73%), with a first factor explaining only 24.73% of variance. Since there is no single factor accounting for the majority of the covariance among the measures, the possible impact of common method bias is minimal.

Results

In order to test the proposed hypotheses, we used the Partial Least Squares approach (PLS), specifically, *SmartPLS* 3.0 software (Ringle *et al.,* 2005). The level of statistical significance of the coefficients (both of the measurement and the structural model) was calculated by means of a bootstrapping procedure with 500 sub-samples. We estimated the model using the consistent PLS algorithm which ensures that parameter estimators are consistent and asymptotically normal under standard assumptions (Dijkstra and Henseler, 2015).

The factorial loadings and weights of the items as well as the p-value are shown in Table 2. In Table 2, presented previously, the values of the variance inflation factor (VIF) are also shown as are the outer weights of each indicator. We observe that collinearity is not at a critical level.

As for the significance of the formative indicators, Hair *et al.* (2014) explain that non-significant indicator weights should not be interpreted as indicative of poor model quality measurement. When an indicator's outer weight is non-significant but its outer loading is high (above 0.50), the indicator should be interpreted as absolutely important but not as relatively important. In our analysis, the absolute contribution of the indicators can be interpreted as relevant, with 0.474 being the lowest outer loading, except for one item of the Incomes variable (public incomes) which was removed from the analysis.

In order to evaluate convergent validity in formative measurement models, testing whether the formatively measured construct is highly correlated with a reflective measure of the same construct is recommended (Hair *et al.*, 2014). In our research, in order to limit the length of the questionnaire, we did not include reflective scales for network resources and so were unable to test convergent validity. Finally, discriminant validity was established since the item-to-construct correlations were higher with each other than with other construct measures. Moreover, each construct shares less than half of its variance with other constructs, that is, construct intercorrelation is less than 0.71 (Fornell and Larcker, 1981).

In Table 4, we show the PLS path parameters. As regards the explained variance of the endogenous variables, R^2 adjusted values were 0.324 for relationship with stakeholders, 0.290 for relationship with other museums, 0.376 for innovation, 0.434 for reputation, and 0.341 for incomes.

The SRMR (standardized root mean square residual) for the estimated model is 0.053. The SRMR is a goodness of fit measure for PLS and is defined as the difference between the observed correlation and the predicted correlation (Henseler *et al.*, 2014). A value below 0.08 is considered a good fit. Finally, Table 5 shows the indirect and total effects.

Insert here Table 4

Insert here Table 5

Considering the impact of internal social capital (cohesion and diversity) on external social capital (relationship with stakeholders and other museums), H1 is partially supported. Whereas the diversity of the museum's team has a positive effect on the development of external social capital (H1b is supported), the cohesion of the museum's team only has a positive impact on the relationship with stakeholders, but does not impact on the relationship with other museums, therefore partially supporting H1a. H2 also found support. Managers' social capital is positively related with the museums external social capital. When managers act as a structural hole in related areas (such as museums of a similar domain and other institutions related with culture), the museum is able to forge close ties with stakeholders and other museums (H2a). Similarly, the manager's role as a structural hole in non-related areas also contributes to increasing close relationships with stakeholders and other museums (H2b). In support of H3 and H4, the two dimensions of internal social capital, cohesion and diversity, increase innovation and reputation. As for the influence of external social capital on the museum's results, H5a and H5b are supported. Relationships with stakeholders and other museums have a positive and significant effect on innovation and reputation. As for H5c, relationships with stakeholders have a positive effect on museum income, but the effect of the relationships with other museums does not prove significant. Partial support is found for the remaining hypothesis, H6. Innovation has a positive impact on reputation (H6a), and reputation on incomes (H6c), but the direct effect of innovation on incomes is not supported (nor is the indirect effect). As regards control variables, results indicate that the larger a museum, the higher the results in innovation, reputation and incomes.

Finally, when analyzing indirect and total effects, we observe that the indirect effect of internal social capital on innovation and reputation (through external social capital) is positive and significant. We can thus conclude that external social capital partially mediates the impact of

internal social capital on the museum's innovation and reputation. In addition, the indirect effect of managers' social capital on results is significant. We estimated the direct effects of managers' social capital on results and they proved non-significant. External social capital thus totally mediates the effect of a manager's social capital on the museum's results.

Discussion and managerial implications

This study focuses on the case of museums to underline the influence of an organization's social capital (internal and external) on innovation, reputation and incomes. Moreover, it points to the manager's central role as a structural hole

The study makes a significant contribution to social capital literature, since it simultaneously considers several dimensions of social capital: individual versus collective social capital and internal versus external social capital, and thus delves more deeply than prior partial analyses which only address isolated dimensions or variables of a firm's social capital. It also contributes to cultural organizations research, as it establishes a relationship between the organization's social capital and the manager's social capital.

First, we find that cohesion in the organization, that is, shared values, trust, cooperation, or group feelings amongst employees, helps build relationships with stakeholders and has a positive influence on the museum's ability to innovate and on its reputation. Furthermore, the variety and diversity among museum employees are related to innovation, reputation, and to the relationships with stakeholders and other museums. In other words, the greater the internal richness of relationships, the greater the external richness of contacts. If internal social capital is a relevant resource, the manager's external contacts are a further source of value. Managers' social capital plays a key role in the ability to maintain relations with stakeholders and other museums, such that, indirectly, this will impact performance.

Second, our findings show that museums which maintain relations with a range of different stakeholders and with other museums that belong to other networks will diversify their network of contacts and will have a greater chance of innovating and raising funds from various sources. This impact of external social capital on innovation, reputation and fundraising reflects the need to interact with external actors so as to acquire fresh knowledge and resources that are not developed internally by the museums itself. Such knowledge, information or external resources provide value and enable the museum to undertake its work more efficiently (by facilitating the staging of new exhibitions, activities, cultural experiences, etc.), contribute substantially to enhancing its image and ultimately help to achieve better performance.

Finally, our results highlight that greater innovation by the museum, programming new activities, staging independent exhibitions, providing visitors with new experiences, etc., leads to a better image for the museum, which again brings about enhanced performance.

Managerial implications

The present study provides useful guidelines for museum managers, these guidelines underscoring the importance of intangible resources, specifically those relating to social capital, within the process of innovation (in exhibitions, cultural experiences and activities) and in the organization's reputation and fundraising. From a practical standpoint, the conclusions highlight the importance of considering social capital as a strategic resource to be managed. Efficient management depends on developing internal relations, making use of managers' social capital and engaging with external actors through the appropriate resources and establishing strong efficient ties with them.

In this way, museum managers who decide to undertake an innovation project focusing on achieving innovation in exhibitions, cultural experiences and on a range of activities coupled with an enhanced reputation and fundraising should seek to manage internal social capital as

best as possible, fostering work group cohesion and making a commitment to team diversity. Organizations should first promote cohesion, in other words, communication, mutual trust, cooperation among employees, as well as encouraging informal relations amongst them. When addressing innovation, the collaborative approach should be considered as should achieving a sound reputation in which both internal and external relations prevail in order to secure better performance. Secondly, group diversity should be fostered, since variety affords access to strategic resources that help attain innovation by sharing complementary knowledge.

Likewise, it is also crucial to build bridges outwards, in other words to create external social capital through relations with stakeholders (visitors, friends of the museum, volunteers, donors, etc.) and with other national and international museums. Museums, as well as other organizations that depend on multiple target audiences, need to create networks of relations, even communities around the museum, in which each actor strives to generate a common value. Those museums which are able to create stable links with external actors will be better placed to access fresh, varied and non-redundant information and will be more able to innovate, secure funds and boost their image.

Our findings bear out the role played by managers' social capital (structural hole) as a key factor for guiding these relations with stakeholders and other museums towards innovation, a better image for the museum and fundraising. It could be said that managers might put their relational social capital at the service of the cultural organization. Therefore, the manager's relations or contacts with other networks and agents can provide opportunities to access innovation and financial resources (Fornoni, et.al, 2012). Indeed, museums appear to be increasingly willing to hire managers who are able to attract an ever wider array of resources. Hence, the ideal situation with regard to top managerial skills in museums would be for managers to be trained in a range of different areas (for instance, in new communication media), enabling them to forge and maintain links with new audiences and institutions (artists,

students, young people, media, etc.) and to access different networks (The New York Times, 2010).

Limitations and further research

As with all research work, the present study is not without its weaknesses and limitations, which point the way to future inquiry. First, measurement of social capital and performance has been based on museum managers' subjective perceptions. Although it is difficult to find measures which reflect comprehensively and in a comparable manner a manager's or a museum's social capital, we feel that the study might be complemented by other research work based on objective (albeit not perfect) measurements of social capital such as the specific number of stakeholders (sponsors, volunteers, friends, donors, associations, etc.) with whom the museum or the manager is linked. Furthermore, reputation and fundraising may be measured using external indicators, such as mentions in the media and the amount of external funding secured by the museum, respectively.

Second, future research should examine more exhaustively the interaction of managers' social capital and reputation and the organization's social capital and reputation. In the current paper, we introduce the manager as a resource for the firm, as one who builds relationships and devotes them to the organization. However, an alternative perspective could be to analyze the impact of an organization's reputation on managers' ability to build relationships and social capital and to use it as a personal resource.

Third, our model does not take account of the impact of other aspects such as the main source of funding, type of ownership (private versus public ownership), or the managing institution (direct public management, publicly managed, but independently run, or private).

References

Adler, P. & Kwon, S. (2002). Social capital: prospects for a new concept, *Academy of Management Review,* 27 (1), 17-40.

Ahuja, G. (2000). Collaboration networks, structural holes, and innovation: a longitudinal study, *Administrative Science Quarterly*, 45 (3), 425-555.

Bakhshi, H. & Throsby, D. (2010). *Culture of innovation. An economic analysis of innovation in arts and cultural organisations*. NESTA, Londres.

Batjargal, B. (2003). Social capital and entrepreneurial performance in Russia: a longitudinal study. *Organization Studies*, 24 (4), 534-556.

Bell, G.G. (2005). Clusters, networks, and firm innovativeness. *Strategic Management Journal*, 26, 287-295.

Bennett, R. & Gabriel, H. (2003). Image and reputational characteristics of UK charitable organizations: an empirical study. *Corporate Reputation Review*, 6, 276–289.

Blasco, P., Navas, E. & López, P. (2010). El efecto mediador del capital social sobre los beneficios de la empresa: una aproximación teórica, *Cuadernos de Estudios Empresariales*, 20, 11-34.

Burt, R.S. (1992). *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.

Burt, R.S. (2000). The network structure of social capital. *Research in Organizational Behaviour*, 22, 345-423.

Burt, R.S. (2004). The structural holes and good ideas, *American Journal of Sociology,* 110 (2), 349-399.

Butler, B. & Purchase, Sh. (2008). The use of social capital among Russian managers of a new generation. *Industrial Marketing Management*, 37 (5), 531-538.

Camarero, C, Garrido, M.J. & Vicente, E. (2011). How cultural organizations´ size and funding influence innovation and performance: the case of museum, *Journal of Cultural Economics*, 35, 247-266.

Camelo-Ordaz, M.C. & Valle-Cabrera, R. (2005). Efectos de la diversidad del equipo de alta dirección y del proceso de búsqueda de acuerdos en la visión innovadora de las empresas. *Cuadernos de Economía y Dirección de la Empresa*, 23, 5-30.

Capaldo A. (2007). Network structure and innovation: The leveraging of a dual network as a distinctive relational capability, *Strategic Management Journal*, 28, 585-608.

Chen, H. (2013). CEO Tenure and R&D Investment: The Moderating Effect of Board Capital. *The Journal of Applied Behavioral Science*, 49(4), 437-459

Chen, W. (2015). Mediatizing the network model of cultural capital: Network diversity, media use, and cultural knowledge along and across ethnic boundaries. *Social Networks*, 40, 185-196.

Chetty, S. & Agndal, H. (2007). Social capital and its influence on changes in internationalization mode among small and medium-sized enterprises". *Journal of International Marketing*, 15 (1), 1-29.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 95-120

Coleman, J. S. (1990). *Foundations of Social Theory*. Cambridge, MA: Harvard University

Davidsson, P. & Honig, B. (2003). The role of social capital among nascent entrepreneurs. *Journal of Business Venturing*, 18, 301–331.

Diamantopoulos A. & Winklhofer, H. (2001). Index construction with formative indicators: an alternative to scale development. *Journal of Marketing Research*, 38, 260–277.

Dijkstra, T.K. & Henseler, J. (2015). Consistent and asymptotically normal PLS estimators for linear structural equations, *Computational Statistics and Data Analysis*, 81,10–23.

Dyer, J. H. & Nobeoka, K. (2000). Creating and managing a high-performance knowledge-sharing network: the Toyota case. *Strategic Management Journal*, 21 (3), 345-367.

El Pais (2012). Los directores del Prado, Reina Sofía y Thyssen dan batalla a la crisis http://cultura.elpais.com/cultura/2012/01/21/actualidad/1327169172_419713.html (Acceded, September, 2015)

Foley, M.W. & Edwards, B. (1999). Is it Time to Disinvest in Social Capital?. *Journal of Public Policy*, 19 (2), 141-173.

Forbes (2013). http://www.forbes.com/sites/jeannemeister/2013/01/03/2013-the-year-of-social-hr/ (Acceded, July, 2015).

Forbes (2014): http://www.forbes.com/sites/chriscancialosi/2014/09/22/4-reasons-social-capital-trumps-all/ (Acceded, July, 2015).

Fornell C, & Larcker DF. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39–50.

Fornoni, M., Arribas, I., & Vila, J. E. (2012). An Entrepreneur's social capital and performance: The role of access to information in the Argentinean case". *Journal of Organizational Change Management,* 25(5), 682-698.

Fountain, J.E. & Atkinson, R. (1998). Innovation, Social Capital, and the New Economy, in *Progressive Policy Institute (PPI) Briefing* July 1.

Gabbay, S. M., & Zuckerman, E. W. (1998). Social capital and opportunity in corporate R & D: the contingent effect of contact density on mobility expectations. *Social Science Research,* 27,189-217.

Galán, J.L. & Castro , I. (2004). Las relaciones interorganizativas como fuente de capital social. *Universia Business Review*, 2 (2), 104-117.

Gedajlovic, E. & Carney, M. (2010). Markets, hierarchies & families: Towards a transaction-cost theory of the family enterprise". *Entrepreneurship Theory and Practice*. 34(6), 1145-1171.

Gedajlovic, E., Honing, B., Moore, C.B., Payne, G.T. & Wright, M. (2013). Social capital and entrepreneurship: a schema and research agenda. *Entrepreneurship Theory and Practice*, 37 (3), 455-478.

Granovetter, M.S. (1973). The Strength of Weak Ties. *American Journal of Sociology*, 78 (6), 1360-1380.

Granovetter, M.S. (1985). Economic action and social structure: The problem of embeddedness". *American Journal of Sociology*, 91 (3), 481-510.

Grootaert, C., Narayan, D., Nyhan-Jones, V. & Woolcock, M. (2003). "*Integrated questionnaire for the measurement of social capital*". The World Bank Social Capital Thematic Group. World Bank: June 23.

Gui, B. (2000). "Beyond transactions: On the interpersonal dimension of economic reality". *Annals of Public and Cooperative Economics*, nº 71 (2), 139-169.

Gulati, R. (1998). Alliances and networks. *Strategic Management Journal,* 19, 293-317.

Gulati, R., Nohria, N. & Zaheer, A. (2000). Strategic Networks. *Strategic Management Journal*, 21, 203-215.

Hair J F, Hult, GTM, Ringle CM, & Sarstedt M. (2014). *A primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks: Sage.

Hankinson, P. (2001). Brand orientation in the charity sector: a framework for discussion and research, *International Journal of Nonprofit and Voluntary Sector Marketing*, 6, 196–288.

Henard, D.H. & Dacin, P.A. (2010). Reputation for product innovation: Its impact on consumers. *Journal of Product Innovation Management*, 27, 321–335.

Henseler, J., Dijkstra, T. K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W., Ketchen, D. J., Hair, J. F., Hult, G. T. M., & Calantone, R. J. (2014). Common beliefs and reality about Partial Least Squares: Comments" on Rönkkö & Evermann (2013), *Organizational Research Methods,* 17 (2), 182-209.

Hsu, C.P. (2015). Effects of social capital on online knowledge sharing: positive and negative perspectives, *Online Information Review*, 39 (4), 466-484.

http://www.nytimes.com/2010/03/18/arts/artsspecial/18NEXTGEN.html (Acceded, July, 2015)

http://www.nytimes.com/2013/03/21/arts/artsspecial/museums-look-for-ways-to-groom-repeat-visitors.html. (Acceded, July, 2015).

http://www.nytimes.com/2015/03/14/arts/international/arts-funding-treads-a-delicate-line.html?_r=0 Acceded, July, 2015).

Inkpen, A.C. & Tsang, E.W. (2005). Social capital, networks, and knowledge transfer". *Academy of Management Journal*, 30(1), 146-165.

Kliksberg, B. (1999). Capital social y cultura, claves esenciales del desarrollo. *Revista de la CEPAL*, 69, 85-102.

Knack, S. & Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation. *The Quarterly Journal of Economics*, 112 (4), 1251-1288.

Koka, B. & Prescott, J. (2002). Strategic alliances as social capital: A multidimensional view, *Strategic Management Review,* 23 (9), 794-816.

Landry, R., Amara, N. & Lamari, M. (2001). "Social capital: Innovation and public policy". *Canadian Journal of Public Research,* 2 (2), 73-79.

Leana, C.R. & Van Buren III, H.J. (1999). Organizational Social Capital and Employment Practices. *Academy of Management Review*, 24 (3), 538-555.

Lee, G.K. (2007). The significance of network resources in the race to enter emerging product markets: the convergence of telephony communications and computer networking, 1989-2001, *Strategic Management Journal,* 28 (1), 149-170.

Lin, N. (1999). Building a network theory of social capital". *Connections*, 22 (1), 28-51.

Lu, X. (2014). The impact of social capital on the propensity and properties of management earnings forecasts. *Journal of Applied Business Research*, 30 (6), 1793-1808.

Ministerio de Cultura (2011b). Conociendo a nuestros visitantes. Estudio de públicos en museos del Ministerio de Cultura. Secretaría General Técnica de la Subdirección General de Publicaciones, Información y Documentación (Ministerio de Cultura). http://www.mcu.es/museos/MC/Laboratorio/Informes.html (Acceded, Mars, 2015)

Morgan, K. (1997). The learning region: Institutions, innovation and regional renewal". *Regional Studies*, 31 (5), 491-503.

Nahapiet, J. & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242-266.

Narayan, D. & Cassidy, M.F. (2001). A dimensional approach to measuring social capital: Development and validation of a social capital inventory". *Current Sociology*, 49 (2), 59-102.

Park, S. & Luo, Y (2001). Uangxi and organizational dynamics: Organizational networking in Chinese firms. *Strategic Management Journal,* 22 (5), 455-477.

Payne G.T., Moore C.B., Griffis S.E. & Autry C.W. (2011). Multilevel challenges and opportunities in social capital research. *Journal of Management*, 37 (2), 491-520.

Podolny, J.M. & Baron, J.N. (1997). Resources and relationships: social networks and mobility in the workplace. *American Sociology Review*, 62 (5), 673-693.

Portes, A. (1998). Social capital: Its origins and applications in modern Sociology*". Annual Review of Sociology*, 24, 1-24.

Sarstedt, M. & Schloderer, M.P. (2010). Developing a measurement approach for reputation of non-profit organizations. *International Journal of Nonprofit and Voluntary Sector Marketing*, 15, 276–299.

Sasi, V. & Arenius, P. (2008). International new ventures and social networks: Advantage or liability? *European Management Journal,* 26 (6), 400-411.

Stone, W. & Hughes, J. (2002). Social capital: Empirical meaning and measurement validity" Research Paper 27, *Australian Institute of Family Studies*, Melbourne.

The New York Times (2010). The New Guard of Curators Steps Up.

The New York Times (2013). Looking for Ways to Groom Repeat Visitors.

The New York Times (2015). Arts Funding Treads a Delicate Line.

Tsai, W. & Ghoshal, S. (1998). Social capital and value creation: The role of intrafirm networks". *The Academy of Management Journal*, 41 (4), 464-476.

Vargas, G. (2002). Hacia una teoría del capital social". *Revista de Economía Institucional*, 4 (6), 71-108.

Voss, G., Montoya-Weiss, M. & Voss, Z. (2006). Aligning innovation with market characteristics in the nonprofit professional theatre industry, *Journal of Marketing Research*, 43, 296–302

Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework". *Theory and Society*, 27 (2), 151-208.

Woolcock, M. (2001).The place of social capital in understanding social and economic outcomes. *ISUMA: The Canadian Journal of Policy Research*, 2 (1), 11-17.

Xiao, Z. & Tsui, A.S. (2007). When brokers may not work: The cultural contingency of social capital in Chinese high-tech firms". *Administrative Science Quarterly*, 52 (1), 1-31.

Yli-Renko, H. K., Autio, E., & Sapienza, H.J. (2001). Social capital, knowledge acquisition, and knowledge exploitation in young technology-based firms. *Strategic Management Journal*, 22, 529-613.

Yli-Renko, H., Autio, E., & Tontti, V. (2002). Social capital, knowledge, and the international growth of young technology-based firms. *International Business Review*, 11, 279-304.

Zaheer, A. & Bell, G.G. (2005). Benefiting from network position: Firm capabilities, structural holes, and performance. *Strategic Management Journal*, 26, 809-825.

Figure 1: Proposed model

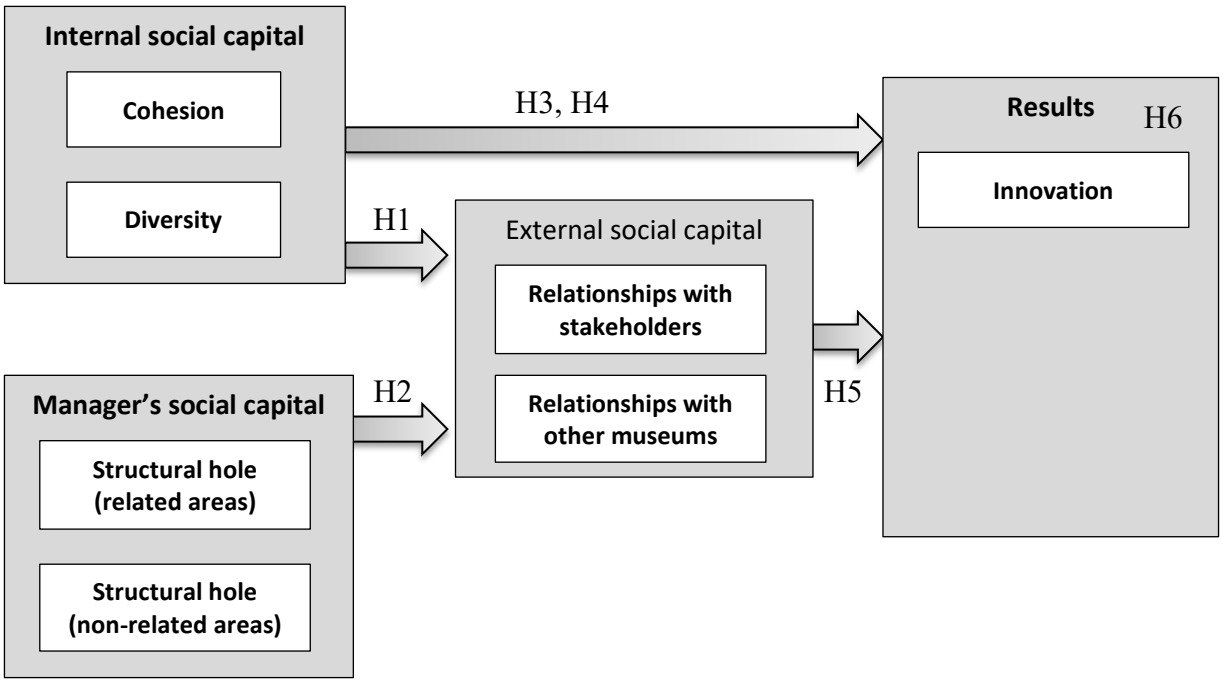

Table 1. Sample description

	Total	Spain	France	UK	USA	Germany
Type of museum (*)						
Archaeological	32.1%	38.8%	38.2%	34.8%	12.8%	18.6%
Contemporary Art	11.9%	10.0%	7.6%	24.2%	17.9%	11.0%
Decorative Art	11.4%	8.0%	17.6%	19.7%	5.1%	7.6%
Fine arts	23.8%	16.4%	40.5%	30.3%	33.3%	11.0%
House-Centre	11.0%	8.5%	9.9%	10.6%	12.8%	16.1%
Science and technology	14.2%	7.5%	13.0%	21.2%	23.1%	20.3%
Natural sciences	14.1%	7.0%	19.1%	25.8%	12.8%	14.4%
Place	8.1%	4.5%	6.1%	21.2%	5.1%	10.2%
Specialized	12.4%	10.9%	8.4%	10.6%	17.9%	18.6%
Ethnography & anthropology	19.8%	24.4%	26.7%	19.7%	7.7%	8.5%
History	35.1%	15.9%	39.7%	53.0%	38.5%	51.7%
Other	11.4%	10.0%	4.6%	16.7%	15.4%	16.9%
***Public funding* (**)**						
Up to 25%	21.2%	14.3%	8.8%	33.3%	63.2%	24.5%
26-50%	7.6%	7.1%	3.5%	10.0%	18.4%	7.5%
51-75%	8.2%	6.6%	7.0%	11.7%	7.9%	10.4%
More than 75%	63.0%	72.0%	80.7%	45.0%	10.5%	57.5%
Number of visitors						
Up to 1000	7.5%	11.0%	7.1%	4.8%	0%	6.2%
Between 1001 and 5000	18.0%	18.1%	21.3%	15.9%	10.8%	17.7%
Between 5001 and 10.000	14.6%	18.7%	16.5%	6.3%	2.7%	14.2%
Between 10.001 and 50.000	34.5%	34.6%	37.8%	22.2%	29.7%	38.9%
Between 50001 and 100.000	12.5%	8.2%	10.2%	25.4%	16.2%	13.3%
Between 100.001 and 500.000	10.5%	7.1%	7.1%	17.5%	35.1%	8.0%
More than 500.000	2.5%	2.2%	0%	7.9%	5.4%	1.8%

(*) These categories are not exclusive. Several museums are included in more than one category.

(**) Information provided by 380 museums of the sample.

Table 2. Descriptive statistics

Variables and items	Mean	S.D.	Outer Weights[a]	Outer loadings[a]	VIF
Internal social capital					
Cohesion (α = 0.907; C.R. = 0.896; AVE = 0.637)					
Those of us who work in the museum have work groups and commissions organized that facilitate close cooperation	3.07	1.30		0.964***	
Those of us who work in the museum share a group feeling	3.77	1.20		0.770***	
Those of us who work in the museum share values and codes in our work	3.80	1.11		0.740***	
Those of us who work in the museum maintain a work atmosphere characterized by mutual trust	3.88	1.11		0.760***	
Those of us who work in the museum usually cooperate and help one another	4.05	1.08		0.726***	
Diversity					
Those of us who work in the museum have differing professional profiles	4.04	1.22	0.284	0.708***	3.097
Those of us who work in the museum differ with regard to academic background and training	3.98	1.25	0.099	0.675***	3.234
Those of us who work in the museum differ enormously with regard to country of origin, first language, ideology, and so on	2.06	1.18	0.198*	0.531***	1.158
Those of us who work in the museum have work patterns in place that encourage different ideas and opinions to be put forward	3.23	1.22	0.702***	0.922***	1.386
External social capital					
Relationships with stakeholders					
Visitors and current audience	3.64	0.95	0.313***	0.705***	1.368
Friends of the museum	3.50	1.42	0.103	0.554***	1.567
Volunteers	3.28	1.48	0.127	0.608***	1.668
Artists	2.82	1.38	0.168**	0.554***	1.273
Individuals donors and beneficiaries	3.09	1.34	0.155*	0.734***	1.875
Corporate donors/sponsors	2.63	1.38	0.339***	0.782***	1.816
Political leaders	2.94	1.33	0.312***	0.700***	1.326
Relationships with other museums					
Other national museums	3.18	1.20	0.367***	0.798***	1.592
Other international museums	2.10	1.25	0.548***	0.870***	1.402
Museums with other specialities	2.60	1.22	0.324***	0.754***	1.487
Manager's social capital					
Structural hole-related areas					
Other museums of the same kind	9.74	4.39	0.474***	0.796***	1.483
Public and private foundations supporting the museum's activities	6.48	4.49	0.558***	0.914***	1.502
National, regional, and local authorities linked to the museum's particular field (Culture, Science)	8.62	4.38	0.097	0.693***	1.992
Associations linked to the field of the museum	8.51	4.43	0.038	0.632***	1.732
Teaching and research centers linked to the field of the museum	8.16	4.43	0.240*	0.737***	1.769
Structural hole-non related areas					
Other museums of another kind	8.15	4.18	0.625***	0.865***	1.325
Public and private foundations in other areas	5.18	3.95	0.392*	0.851***	1.853
National, regional, and local authorities in other fields not directly linked to the museum's activities	6.61	4.27	0.196	0.697***	1.824
Associations not directly linked to the museum's activity	6.09	3.94	0.181	0.648***	1.709
Teaching and research centers not directly linked to the museum's activity	5.78	4.14	0.010	0.612***	1.777
Innovation					
We plan new activities (not often … very often)	3.56	1.20	0.463***	0.845***	1.498
Number of exhibitions organized independently (own production)	5.40	7.02	0.216**	0.474***	1.159
Number of own exhibitions that have travelled to other national or international museums	1.15	2.69	0.283***	0.495***	1.106
We combine the traditional museum visit experience with other cultural experiences	3.21	1.21	0.199**	0.697***	1.706
We offer a range of activities that complement and accompany the visit	3.44	1.14	0.428***	0.807***	1.849
Reputation					
The museum's image within the museum community has improved	3.55	1.11	0.295***	0.824***	2.491
The museum's reputation in the specialized press has improved	3.36	1.13	0.183	0.821***	2.603

The museum's reputation amongst tourist agencies has improved	3.34	1.14	0.321***	0.848***	2.182
The museum has become a cultural reference in the area	3.60	1.11	0.373***	0.856***	2.397
The museum has boosted its reputation and prestige	3.72	1.09	0.031	0.843***	3.432
Incomes					
There has been an increase in the total amount of income through donations	2.36	1.35	0.335	0.827***	1.957
There has been an increase in the total amount of income through sponsorship and patronage	2.07	1.25	0.428***	0.866***	1.974
There has been an increase in commercial revenue (ticket sales, gift shop, etc.)	2.78	1.37	0.478***	0.812***	1.337
There has been a drastic reduction in public revenue (or public subsidies)[b]	2.83	1.49	-0.022	0.005	1.004

(*) $p < 0.05$; (**) $p < 0.01$; (***) $p < 0.01$

(a) Sample mean

(b) Recoded variable

Table 3. Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Cohesion	1.000								
(2). Diversity	0.609	1.000							
(3) External social capital - stakeholders	0.450	0.421	1.000						
(4) External social capital – other museums	0.236	0.340	0.527	1.000					
(5) Manager's social capital - related	0.254	0.300	0.405	0.484	1.000				
(6) Manager's social capital - non related	0.146	0.218	0.361	0.426	0.699	1.000			
(7) Innovation	0.362	0.417	0.480	0.446	0.408	0.332	1.000		
(8) Reputation	0.415	0.448	0.552	0.483	0.368	0.287	0.452	1.000	
(9) Incomes	0.330	0.324	0.465	0.349	0.272	0.196	0.341	0.477	1.000
(10) Size	0.175	0.277	0.307	0.398	0.323	0.197	0.431	0.390	0.427

Table 4. Estimated relationships

		Sample Mean	P Values
	Internal social capital → External social capital		
H1a	Cohesion → Relationships with stakeholders	0.279	0.000
	Cohesion → Relationships with other museums	0.009	0.861
H1b	Diversity → Relationships with stakeholders	0.170	0.001
	Diversity → Relationships with other museums	0.209	0.000
	Manager's social capital → External social capital		
H2a	Structural hole (related areas) → Relationships with stakeholders	0.174	0.003
	Structural hole (related areas) → Relationships with other museums	0.305	0.000
H2b	Structural hole (non-related areas) → Relationships with stakeholders	0.171	0.004
	Structural hole (non-related areas) → Relationships with other museums	0.175	0.011
	Internal social capital → Results		
H3a	Cohesion → Innovation	0.095	0.049
H3b	Diversity → Innovation	0.145	0.003
H4a	Cohesion → Reputation	0.124	0.022
H4b	Diversity → Reputation	0.124	0.021
	External social capital → Results		
H5a	Relationships with stakeholders → Innovation	0.215	0.000
	Relationships with other museums → Innovation	0.169	0.000
H5b	Relationships with stakeholders → Reputation	0.270	0.000
	Relationships with other museums → Reputation	0.171	0.000
H5c	Relationships with stakeholders → Incomes	0.260	0.001
	Relationships with other museums → Incomes	-0.004	0.965
	Interaction between results		
H6a	Innovation → Reputation	0.089	0.051
H6b	Innovation → Incomes	0.005	0.972
H6c	Reputation → Incomes	0.236	0.000
	Museum's size → Innovation	0.243	0.000
Control	Museum's size → Reputation	0.147	0.000
	Museum's size → Incomes	0.255	0.000

Table 5. Indirect and total effects

		Innovation		Reputation		Incomes	
		Indirect effect	*Total effect*	*Indirect effect*	*Total effect*	*Indirect effect*	*Total effect*
Internal social capital	Cohesion	0.061 (0.003)	0.153 (0.001)	0.092 (0.000)	0.211 (0.000)	0.127 (0.000)	0.121 (0.000)
	Diversity	0.071 (0.000)	0.219 (0.000)	0.101 (0.000)	0.229 (0.000)	0.098 (0.000)	0.098 (0.000)
Manager's social capital	Structural hole (related areas)	0.088 (0.000)	0.088 (0.000)	0.107 (0.000)	0.107 (0.000)	0.071 (0.009)	0.071 (0.009)
	Structural hole (non-related areas)	0.067 (0.003)	0.067 (0.003)	0.083 (0.001)	0.083 (0.001)	0.062 (0.008)	0.062 (0.008)
External social capital	Relationships with stakeholders		0.214 (0.000)	0.019 (0.080)	0.293 (0.000)	0.069 (0.001)	0.324 (0.000)
	Relationships with other museums		0.169 (0.000)	0.015 (0.082)	0.185 (0.000)	0.045 (0.004)	0.044 (0.459)
Results	Innovation				0.089 (0.045)	0.021 (0.074)	0.024 (0.655)
	Reputation						0.237 (0.000)