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Journal of Service Research 2012 15: 39 originally published online 23 September 2011
DOI: 10.1177/1094670511419648

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OnlineFirst Version of Record - Sep 23, 2011
What is This?
Fostering Innovation in Cultural Contexts: Market Orientation, Service Orientation, and Innovations in Museums

Carmen Camarero¹ and Ma José Garrido¹

Abstract
Many museums are committed to market orientation as the underlying philosophy for their strategies. This orientation has to be coordinated with a service orientation focused on quality and custody in order to fulfill the museum’s mission. In the current work, the authors analyze the different impact of market orientation and service orientation on organizational and technological innovations implemented by museums. The hypotheses posited are examined for a sample of 491 British, French, Italian, and Spanish museums. Findings suggest that visitor and donor orientation are two key market orientation dimensions for technological and organizational innovation in museums, whereas interfunctional coordination and collaboration with competitors do not act directly, although they do boost the effect of visitor orientation. Further, quality orientation is also central to innovation. The present work thus concludes the existence of two interrelated routes that lead to technological and organizational innovation in museums, a business approach based on market orientation and a cultural approach based on service orientation.

Keywords
market orientation, service orientation, innovation, museums

Introduction
In 1954, Drucker declared the two most critical aspects of a business to be marketing and innovation. Over 50 years on, the same still holds true as is evidenced by the importance of market orientation and innovativeness in marketing literature. One recent line of research affirms that organizations that merge a propensity to innovate—innovativeness—with market orientation are better prepared to achieve sustainable competitive advantage (Han, Kim, and Srivastava 1998; Agarwal, Erramilli, and Dev 2003; Leskiewicz and Sandvik 2003; Menguc and Auh 2006; among others). According to the resource-based theory, firms gain competitive advantage by channeling resources toward the development of new products and processes. These innovations represent firms’ proactive response to changes in the environment. The organization is thus able to obtain some kind of advantage that translates into superior outcomes.

The present research focuses on a study of innovation in museums, which constitute a type of organization endowed with their own particular characteristics. First, they are framed within the field of cultural organizations, a group that by no means forms a homogeneous sector, since it encompasses organizations that differ not only in terms of the cultural field in which they specialize but also with regard to their goals. Whereas some, such as a publishing company or a cinema company, pursue purely commercial goals, others such as museums may easily be likened to other nonprofit organizations. In addition, museums may be perceived as nonprofit organizations, wherein social objectives prevail (education, conservation, custody, etc.). Yet, once more we are faced with a particular case, since museums are also organizations that pursue commercial goals, in the sense that they offer visitors an alternative leisure activity, also pursuing financial objectives (increased visitor numbers and their own revenue).

The commitment to innovation in museums is clear, no doubt reflecting the need to boost their own revenue (ticket sales and fees for complementary services) in the light of ever dwindling public funding. Although European museums continue to depend mainly on central or local government funding, many are now striving to secure greater independence and autonomy in how they are run. The downside is that these institutions are being forced to assume greater responsibility in their finances, in addition to having to deal with shifting and increasingly competitive environments in which consumer preferences are even more dynamic and complex. In this context, innovation emerges as one of museums’ main goals in the...
effort to enhance the museum experience and attract greater visitor numbers. One clear example is the Tate Gallery in London, whose director, Will Gompertz has highlighted that the use of new technologies has led to a major improvement in the quality of visitor experience to the gallery. The Tate is also seeking innovation in its managerial approach. Linking innovation to financial and operational innovation is considered essential and reflects a more general conviction that a sustainable arts organization without a viable business model is impossible. This embraces finding new means of marketing and new ways of relating to sponsors, donors, corporate partners, and individual benefactors (Bakhshi and Throsby 2009).

As a result, museums are organizing an increasing number of large-scale events and investing in technological innovations to improve their exhibitions and scenography, as well as investing in technological resources to make the museum more accessible to a wide audience and in an effort to attract funds from donors and sponsors. Moreover, significant changes have been introduced into some museums’ organizational structure in order to have a staff from a range of backgrounds (art, history, marketing, business management, etc.). Museums are thus adopting technological and organizational innovations in response to the need to attract new audiences who demand more accessible, original, or varied products; in short—innovativeness.

This is where market orientation—the organizational philosophy focusing on the profitable creation and maintenance of superior customer value—provides an appropriate analysis framework for exploring innovation. Nevertheless, the link between market orientation and innovation in museums remains unexplored, maybe due to the peculiarities the two concepts entail in this context. Indeed, market orientation and innovativeness might prove complex and controversial because of the role played by a necessary service orientation—museums’ strategic preference for service excellence, focusing on achieving the organization’s social mission. The application of innovation to museums must be interpreted in the context of a museum’s mission: to preserve culture and heritage by custodianship and research as well as fostering an interest in culture and education. Museums must remain mission-driven, while borrowing marketing strategies from for-profit businesses (Griffin 2003). In fact, service orientation has dominated in arts organizations management, where supply has responded to the artist’s wishes, inspiration, or creativity, whereas market orientation has been viewed as a perversion or adulteration of the true cultural product which becomes a mere “commercial” product. Indeed, in many museums there is scarcely any dialogue with the visitor and product orientation prevails: the museum simply offers a single product, even a single interpretation thereof, putting itself forward as an authority exhibiting fixed content, which is considered impossible to change.

The aim of the present study is thus to provide evidence of the effect of both a market orientation and a service orientation on the technological and organizational innovation in museums. We analyze how certain aspects of market orientation and service orientation converge in a search for change and innovation. Although various authors have concurred in pointing out the necessary relation between market orientation and innovativeness in for-profit organizations, this relation is yet to be evidenced in the case of museums. Previous research into the arts organizations has focused on exploring the connection between market orientation and performance (Balabanis, Stables, and Hugh 1997; Gainer and Padanyi 2005; Voss and Voss 2000; among others) and exploring the link between innovation and performance (Voss, Montoya-Weiss, and Voss 2006).

This study provides several substantial contributions to museums. First, we propose an adaptation of the market orientation concept, specifically that posited by Narver and Slater (1990), to the case of museums, distinguishing four key dimensions: visitor orientation, donor orientation, collaborative orientation, and interfunctional coordination. Second, the research offers the first attempt to study the independent and interrelated effects of the components of market orientation on innovation. Third, this study also provides evidence of the impact of the components of service orientation (custodial orientation and quality orientation) on innovation. Finally, our work offers an analysis of the effect of market orientation on two kinds of innovation: technological innovations and organizational innovations.

From a managerial standpoint, committing to a market approach or to a custodial and protective approach to collections continues to pose a dilemma to museum managers, and striking a trade-off between the two approaches proves no easy task. While no manager would openly admit that the market (tourists, visitors, donors, etc.) takes precedence over any demands in terms of the conservation and research required by a museum, it is nonetheless true that many managers are driven by market forces and it is indeed this very activity that is enabling them to innovate, evolve, and cease to be obsolete institutions, both in terms of management as well as in the kind of service they provide. The present research aims to show that, while this trade-off is no doubt necessary, only a market vision (embracing visitors, donors, and competitiveness) will enable museums to progress toward change and innovation.

The work is organized as follows: We first review the literature addressing the main concepts of this research: market orientation, service orientation and innovation, and specify the hypotheses of the model reflected by the interrelations between the proposed constructs. We then empirically compare the hypotheses for a sample of British, French, Italian, and Spanish museums. The final sections of the work offer the conclusions and implications for managers in museums and other arts organizations.

**Conceptual Development**

**Market Orientation in Museums**

The two definitions of market orientation to achieve widest acceptance in the literature are those proposed by Narver and Slater (1990), who stress the cultural perspective of market orientations management, where supply has responded to the artist’s wishes, inspiration, or creativity, whereas market orientation has been viewed as a perversion or adulteration of the true cultural product which becomes a mere “commercial” product. Indeed, in many museums there is scarcely any dialogue with the visitor and product orientation prevails: the museum simply offers a single product, even a single interpretation thereof, putting itself forward as an authority exhibiting fixed content, which is considered impossible to change.

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orientation, and Kohli and Jaworski (1990) who focus on the behavioral perspective. According to Narver and Slater (1990), market orientation is the organizational philosophy according to which organization places the highest priority on the profitable creation and maintenance of superior customer value. For their part, Kohli and Jaworski (1990) define market orientation as the organization-wide generation of market intelligence pertaining to current and future customers, dissemination of the intelligence across departments, and organization-wide responsiveness thereto.

These definitions lead to two different proposals of market orientation dimensions. Narver and Slater (1990) indicate that market orientation is founded on three constructs: consumer orientation, competitor orientation, and interfunctional coordination. Kohli and Jaworski (1990) base market orientation on three elements: the organization’s creation of a market intelligence, dissemination of that intelligence through all departments, and organizational response selecting markets and designing products and services to meet present as well as future needs. Cadogan and Diamantopoulos (1995) point out that the three components of market orientation proposed by Narver and Slater (1990) overlap with those proposed by Kohli and Jaworski (1990) in various conceptual and operative aspects. Indeed, as Varadarajan and Jayachandran (1999) state, both approaches prove equally useful and reconcilable.

In order to select the adequate dimensions of market orientation in the case of museums, it should be borne in mind for nonprofit organizations, and more specifically museums, the concept of market orientation entails certain limitations and particular aspects. First, it has been argued that, more than a concern for satisfying short-term consumer needs, these organizations’ focus is on achieving long-term benefit for society (Liao, Foreman, and Sargeant 2001). Such is the case of museums and heritage goods, where heritage conservation prevails over the desires of the general visitor (e.g., controlling visitor numbers to the Carnac stones in France or creating reproductions of the Altamira cave paintings in Spain to prevent their deterioration). Second, the dimensions of the market orientation construct take a narrow perspective of stakeholders.

In museums, it would be necessary to examine the organization’s orientation toward donors, volunteers, trusts/foundations, employees, recipients, government, umbrella bodies, and society in general. Finally, in the museum sector, relations with competitors are very often based on cooperation, with loans or joint programs being commonplace.

On this basis, we consider that Narver and Slater’s (1990) proposal of market orientation is appropriate in the context of museum management. However, taking into account the previous specific and particular aspects, we propose four basic dimensions: visitor orientation, donor orientation, collaborative orientation, and interfunctional coordination. Clearly, a wider number of stakeholders could have been covered. However, in the present work, we have focused on the two most relevant target audiences for generating private revenue: visitors and donors.

**Visitor orientation.** Customer orientations emphasize information use and learning in order to uncover latent customer needs (Grinstein 2007). In museums, the main target public obviously continues to be the visitors. As a result, understanding visitor needs and wishes and aiming to satisfy them is at the heart of the financial and social goals. This visitor orientation is more than just a desire to take culture to the public but rather an attempt to gain an insight into what visitors want and thereby adapt to their expectations. This philosophy provides the basis for the policy behind major exhibitions or blockbusters, a policy being followed by numerous museums, on many occasions based on their own collections.

**Donor orientation.** Although museums have to deal with several stakeholders (government, society, artists, etc.), we have restricted stakeholder orientation to donors. Together with visitors, they are the other cornerstone on which to base achieving the financial goals (Stokburger-Sauer and Wetzels 2007). Donors are vital in that they constitute a source of income enabling financing of the museum’s day to day activities (restoration, administration, etc.) and the exhibitions it plans and organizes. Decisions taken by a museum are thus not only based on what the public wants but also on the need to satisfy donor demands.

**Collaborative orientation.** In the cultural context there is a strange competition-cooperation relation. While competition among institutions remains intense (competitors are not always other museums or similar arts organizations, but any culture or leisure alternative), it would be impossible for them to conduct their work were they not to cooperate and coordinate with one another. The clearest example is loaning works for exhibitions, joint sale of tickets for admission to several museums or even taking advantage of the proximity of certain museums, thereby generating a focus of interest and cultural attraction. In this sense, collaborative orientation involves considering the possibility of organizations cooperating with other similar organizations as well as with the public and private sector (Liao, Foreman, and Sargeant 2001). Competitors should not be perceived as a threat but rather as a source of collaboration, with a view to generating a joint competitive response to satisfy both beneficiaries and resource providers (Alvarez, Vijande, and Casielles 2002).

**Interfunctional coordination.** Through interfunctional coordination, information is shared among all members of the organization, thus creating synergies enabling objectives to be accomplished. Interfunctional coordination describes the ability of different functional areas to accommodate disparate views and foster greater communication, collaboration, and cohesiveness, thereby enhancing the relationships between groups that have different functional knowledge, experience, and education (Auh and Menguc 2005). As functions are integrated across departments, problem-solving capabilities are potentially enhanced by employees working toward the common goal (Han, Kim, and Srivastava 1998). Coordination
among units, internal or external, is indeed a relevant issue in service research literature, particularly as an antecedent of innovativeness (Damanpour 1991). Lievens and Moenart (2000) posit the relevance of intraproject and extraproject communication as antecedents of uncertainty reduction in service innovation processes. Raju and Subhasch (2001) also recommend that top managers in service organizations should improve coordination between the quality and marketing functions in order to improve organizational performance. Wooldridge and Minsky (2002) suggest that climate and socialization processes facilitate interfunctional coordination, and thus its impact on firm performance. For the case of Customer Relationship Management (CRM) strategy, Kumar, Lemon, and Parasuraman (2006) and Bohling et al. (2006), indicate that firms face significant potential difficulties at the implementation stage, therefore calling for interdepartmental or interfunctional cooperation and coordination. In the case of museums, the existence of functional areas which do not always share common goals (art department, restoration museums, the existence of functional areas which do not interfunctional cooperation and coordination. In the case of museums, the existence of functional areas which do not always share common goals (art department, restoration department, administration, public relations . . .) highlights the importance of coordination when attempting to achieve the institution’s objective. As Narver and Slater (1990) point out, interfunctional coordination is important as it contributes toward making the remaining aspects of market orientation possible. Any individual or function within the organization may contribute toward creating customer value—visitor and donor in our case—which suggests the need for coordinated integration of resources. Moreover, in order to achieve cooperation with competitors, different areas of the museum, such as public relations and art departments, must play a role, coordination thus proving essential if efficient collaboration is to be ensured.

**Service Orientation in Museums**

In addition to market orientation, another orientation in museums focuses on service. Service orientation is related to the extent to which services are an important element of the firm’s marketing strategy (Homburg, Hoyer, and Fassnacht 2002). Lytle and Timmerman (2006) point out that service orientation is a strategic organizational affinity or preference for service excellence.

From a theoretical perspective, service orientation is related to a new marketing paradigm that places service rather than goods at the center of exchange (Lovelock and Gummesson 2004; Lusch, Vargo, and O’Brien 2007; Vargo and Lusch 2004). According to the service-dominant (S-D) logic of marketing proposed by Vargo and Lusch (2004), services are more prevalent than goods, and goods should be viewed as a medium for the firm’s service, which can be provided directly or indirectly, through tangible goods.

In our context, a service-oriented museum assumes that visitors will value the exhibition for its high artistic quality and that society will value the museum’s effort into conservation, research, and new acquisitions (Tobelem 1997). Even if we assume that curators do worry about visitors’ demands and needs, they should not forget the relevance of preservation and the quality and value of their collections. Therefore, we propose that service orientation in museums consists of both a quality orientation and a custodial orientation, both of which we discuss in more detail below.

**Quality orientation.** Quality orientation refers to the organizationwide commitment to continuous improvement for delivery of customer-perceived quality and customer satisfaction (Mohr-Jackson 1998). Service quality is a key concept in service research literature. Grönroos (1990) identified two service quality dimensions, the outcome or technical dimension (“what” service is provided), and the process or functional dimension (“how” the service is provided). This notion can be extrapolated to museums. Visitors perceive what they receive (the visit) as the outcome of the process in which the resources are used (collection, displays, shops, courses, etc.). Lovelock (1996) classifies these resources as core components (collection, displays, in the case of museums) and supplementary services (educational programs, cultural activities, and other services offered by the museum). The third component of quality in museums is the experience, that is, the inherently personal way in which visitors engage in the museum’s activities. Pine and Gilmore (1998) introduced the concept of “experience economy” referring to providing customers with excellent experiences and memories. Hudson (1997) indicates that the quality of the museum experience is determined by the qualities of the exhibition environment (attention to the physical comfort of visitors or the general atmosphere) and by the quality of the exhibits.

Grönroos (2001) emphasizes the relevance of service quality because of the notion of the missing product. There are no physical products to manage in service marketing, only resources together with a system governing the process that produces a result for the consumer. For customers to use goods, the latter must be accompanied by other resources, the goods being only one resource among a number of others involved in supporting the customer value-generating process. Service quality is thus the only way to provide customer satisfaction. S-D logic advocates viewing customers as an operant resource, as collaborative partners who cocreate value with the firm (Lusch, Vargo, and O’Brien 2007; Vargo and Lusch 2004), creating for themselves and cocreating with others. This logic is noticeable in museums, wherein visitors do not merely wish to see an exceptional collection, but also seek meaningful experiences. Going to a museum involves taking part in a show in which experiences are cocreated through the interaction between museum and visitor (Pine and Gilmore 1998). Vidarte (2009), Director General of the Guggenheim Museum in Bilbao, states that the main assumption presiding over their museum management model is that no two visitors are alike, and that each, no matter their language, culture, disability, training, and so on, can access the museum and its services differently and to a different extent.

**Custodial orientation.** The other aspect of service orientation in the case of museums and culture is custodial orientation.
This refers to museums focusing on their mission over and above market demands, on the service delivered to society. Museums have an artistic, historical, and scientific mission to accomplish, and must work toward preserving cultural heritage. Even though not everybody is in agreement with this philosophy, it remains a mission statement for many museums. This service orientation means that rather than what the market demands, it is more what the organization knows how to do or must do. Many museum curators state that their main task is not just to exhibit works and take them to the public but to preserve works and house them.

**Innovation in Museums**

Innovativeness in business refers to the degree to which a firm creates new products and services using accumulated knowledge from consumers, competitors, and technology (Deshpande, Farley, and Webster 1993). The most common innovations in museums are continuous or incremental through the incorporation of new services. Most firms offer customers a package of benefits: core products (a good or a service) and supplementary services (information, consultation, order-taking, hospitality, caretaking, exceptions, billing, and payment). Supplementary services help differentiate core products and create competitive advantage by facilitating use of the core service and enhancing the value and appeal of the core (Lovelock 1996). Innovations in museums are both related to innovation in the core service (temporary exhibitions, educational programs, friends programs, etc.) and to innovations in the supplementary services provided, such as advances in the technology employed to improve visitor experience (displays and screens, virtual visits, or publication through the web). These technologies help museums to reach new markets or create new expectations, interests, and experiences for the visitor. Thus, we define technological innovations such as those linked to the adoption of new technology applied to products, services, or production processes for such products or services.

Recently, some works have also dealt with the importance of management innovation (Barczak, Kahn, and Moss 2006). This line embraces organizational and management innovation, evidenced in the application of new management styles that adopt a business rather than a custodial approach. Therefore, we define organizational innovations such as those linked to the adoption of new organizational structure or administrative processes. In the case of museums, we refer to the changes in the profile of the general managers and museum staff, specifically to art-expert curators being replaced by art and business-expert curators, as well as the introduction of a multidisciplinary managerial team balancing business and cultural skills. This would also span all innovations related to the marketing or dissemination of the museum.

According to Han, Kim, and Srivastava (1998), this technical-administrative dichotomy assumes a complementary view of innovations, which also may be more consistent with a market orientation philosophy.

**Hypotheses**

**Market Orientation and Innovation**

As regards the impact of market orientation on innovation in for-profits, the bulk of the theoretical and empirical literature concludes that market orientation entails a constant effort in innovation (Agarwal, Erramilli, and Dev 2003; Han, Kim, and Srivastava 1998; Leskiewicz and Sandvik 2003; Lukas and Ferrell 2000; Menguc and Auh 2006). It is specifically in the work of Zaltman, Duncan, and Holbeck (1973) that the idea of innovativeness as the key to business success takes shape and that it is based on accurate gathering of market information. Jaworsky and Kohli (1993) also state that “market orientation basically implies doing something new or different as a response to market conditions and this may be perceived as a kind of innovative behavior.” Slater and Narver (1994) suggest that firms that are market oriented boost the level of innovation and therefore enjoy greater success when marketing new products. In for-profit organizations, several authors have provided empirical evidence to the effect that firms that are more business oriented market a greater number of innovations than their competitors (Leskiewicz and Sandvik 2003) and also innovate to a higher degree (Atuahene-Gima, Slater, and Olson 2005; Grinstein 2007; Lukas and Ferrell 2000). Atuahene-Gima, Slater, and Olson (2005) examine the effects of responsive and proactive dimensions of market orientation on new product program performance. They find that responsive market orientation is only positively related to new product program performance under specific conditions such as when the strategic consensus among managers is high. It seems that market orientation will impact innovation through a prior change in managerial philosophy.

Therefore, we address the need to explore the market orientation—innovation relationship in more detail in museums. Specifically, we propose that in museums innovation is driven by two dimensions of market orientation (visitor and donor orientation), but that this effect will be reinforced under situations of collaborative orientation and interfunctional coordination.

**Visitor Orientation**

Even though the specific definition of customer orientation differs according to the context in which it is used, it refers to the emphasis that organizations should place on satisfying their customers. In the for-profit context, Ruekert (1992) defines customer orientation as the degree to which the organization obtains and uses information from customers, develops a strategy that will meet customer needs, and implements that strategy by being responsive to customers’ needs and wants. Some researchers consider customer orientation the most fundamental aspect of a corporate culture (Deshpande, Farley, and Webster 1993; Han, Kim, and Srivastava 1998). Han, Kim, and Srivastava (1998) posit that customer orientation priority is to provide superior customer value, in other words, advocating a continuous, proactive disposition toward meeting customer...
demands. Customer satisfaction therefore involves continuous innovation. In this vein, Deshpande, Farley, and Webster (1993) demonstrate a positive correlation between customer orientation and innovation and Lukas and Ferrell (2000) have established that consumer orientation increases the launching of new products.

In the context of museums, visitor orientation—the museum’s emphasis on satisfying its visitors’ needs—is also reflected in innovation. A greater awareness and understanding of consumers requires fresh management styles that enable effective use to be made of information gleaned from consumers. In the case of museums, these new management styles increasingly involve marketing, communication, public relations or visitor attention among other aspects. Further, the desire to meet audiences’ expectations makes visiting a museum akin to forming part of a show. In order to make museums more accessible to a wider audience and particularly to visitors who do not tend to visit traditional museums, the latter are incorporating new technologies and employing new ways of displaying works that are able to enthuse visitors and enhance their experience. In this way, visitor orientation leads to technological innovation. Therefore, we posit that:

**Hypothesis 1**: Visitor orientation has a positive influence on organizational innovation (Hypothesis 1a) and on technological innovation (Hypothesis 1b).

**Donor Orientation**

One key challenge facing museums is to attract money as well as the other material resources they require to conduct their activities. This entails putting into practice donor marketing which creates certain benefits to entice potential donors (private individuals, foundations, firms, and public administration). Donor or resource acquisition orientation—the museum’s emphasis on satisfying donor expectations—is necessary if museums are to achieve their mission. As Vázquez et al. (2002) posit, this implies monitoring retention of current donors. In order to attract and retain these donors, the latter need to be assured that their contribution is being put to good use. This requires an effort in terms of innovation on the part of the organization.

First, donor orientation requires organizational innovation. Greenley, Hooley, and Rudd (2005) indicate that stakeholder orientation is related to learning and innovative management. These authors find that stakeholder-orientated organizations carry out public relations and appoint managers who are responsible for satisfying stakeholder interests. As pointed out, museums involved in attracting donors devote part of their staff to dealing with donors and show a willingness to engage in activities that help recruit donors attracted by the new services the organization offers.

Second, donor orientations influence technological innovations. When firms allocate resources to satisfy the needs and demands of its legitimate stakeholders, they are more likely to reveal sensitive or private information regarding their utility functions because of a belief that it will not be used in a manner contrary to their best interests. According to Harrison, Bosse, and Phillips (2010), understanding stakeholder utility functions can lead to higher levels of innovation. Also, Barczak, Kahn, and Moss (2006) stated that the development process for new programs/products by large nonprofit organizations is characterized, among other factors, by the weight of external sponsors. Wagner (2002) states that the profile of the “new” donor is that of someone who values innovation, wants to be involved in the organization’s decision making, and demands accountability and results. Thus, in the case of museums, understanding donor needs means taking into account the purpose of their investments. In other words, museums must cater to donors’ desires and implement programs and activities that prove valuable to them. Donations are given for a particular purpose, usually related to fostering improvements in the museum. Therefore, greater interest in donors will lead to greater investments in museums’ progress through the acquisition of a masterpiece, renovation of a specific gallery, or innovation in technology. Thus,

**Hypothesis 2**: Donor orientation has a positive influence on organizational innovation (Hypothesis 2a) and on technological innovation (Hypothesis 2b).

**Interaction Between Market Orientation Dimensions**

Some studies in market orientation literature have already suggested the possible interaction among the various aspects of market orientation (Kirca, Jayachandran, and Bearden 2005) and some have even attempted to validate such an interaction empirically (Im, Hussain, and Sengupta 2008). Despite this paucity of empirical evidence, our research posits that collaborative orientation and interfunctional coordination are conditions under which visitor orientation and donor orientation easily encourage innovation in museums.

**Collaborative orientation.** Collaborative orientation is the extent to which the organization focuses on exploiting the potential for cooperation with other organizations (Liao, Foreman, and Sargeant 2001). Museums’ collaborators might be government, firms, nonprofits, corporations, and so on.

The positive interaction between consumer orientation and competitor orientation on innovation firms’ market programs has been put forward in for-profit contexts (Im, Hussain, and Sengupta 2008). For museums, we feel that it is the combination between visitor orientation and collaboration with competitors that enables an understanding of visitor needs as well as competitive strategies and activities and, therefore, generates new technologies and processes based on this knowledge. Collaboration with other institutions provides adequate support for customer orientation when delivering museum services. Partnerships can ensure continuity of operations, increase organization’s ability to solve problems, and contribute to improving the efficiency of service delivery. Museums that seek to satisfy visitors are able to offer a better range of services in
terms of innovation in the presentation of works and resources employed if they collaborate with their competitors. Learning from others clearly helps to improve market response. In this sense, collaboration may involve how service delivery can be improved through technological innovation. For instance, producing joint video tours, collaboration when applying new technologies to the restoration of works, or digitization of works and documents facilitating exchange of information are just a few examples of how cooperation can impact technological innovation. Therefore,

**Hypothesis 3a:** The lower the level of collaborative orientation, the lower the effect of visitor orientation on technological innovation, while the higher the level of collaborative orientation, the greater the effect of visitor orientation on technological innovation.

In the same vein, the combination between donor orientation and collaboration with other cultural and leisure institutions can prove relevant for innovation. While donors value innovation as the result of their involvement in the museum’s funding (Wagner 2002), collaboration with other institutions may prove one way of satisfying donor interests by implementing a combination of new technologies. According to S-D logic, Lusch, Vargo, and O'Brien (2007) indicate that collaborative competence aids an organization’s ability to comprehend trends and know-how and to adjust to changing circumstances. Moreover, if donors are associated with more than one museum or are members of the board of different museums or arts institutions, the collaboration with other museums would foster improvements in a group of related museums. In such cases, collaboration among said museums to boost innovation is essential or may even be forced upon museums due to the situation. Therefore,

**Hypothesis 3b:** The lower the level of collaborative orientation, the lower the effect of donor orientation on technological innovation, while the higher the level of collaborative orientation, the greater the effect of donor orientation on technological innovation.

**Interfunctional coordination.** Interfunctional coordination reflects the level of interaction and communication in the organization. As Grinstein (2007) posits, interfunctional coordination should comprise coherence and alignment between strategy and mission, planning of campaigns and activities, as well as synergy between departments, employees, and volunteers. Therefore, we posit that interfunctional coordination enhances the influence of visitor orientation and donor orientation on organizational innovation in museums.

The interaction between customer orientation and interfunctional coordination underlies the concept of market orientation. Kohli and Jaworski (1990) stated that coordinated effort among various functions is instrumental in a firm’s responsiveness to customer needs. A consumer-oriented firm with a high level of cross-functional integration tends to be able to innovate by providing coordinated efforts across functional teams that combine forces to acquire, disseminate, and react to diverse market information about customers (Im, Hussain, and Sengupta 2008). As Argyris (1982) affirms, when organizational participants face the absence of preestablished rules or procedures to follow, interfunctional coordination provides the bridgework in mitigating distrust and conflicts among the separate functional units. This, in turn, provides an environment that is more conducive to change in organizational structure.

In the case of museum management, we feel that interfunctional coordination is necessary to such an extent that without it visitor or donor orientation would prove ineffective when innovating. Understanding visitors and donors and aiming to adapt available services to their tastes, preferences, or requisites (in the case of donors) requires such disperse departments as Communication and External Relations, Conservation and Restoration, Administration and Finance, Educational Outreach, or Human Resources (to cite just a few examples of the functional areas operating in museums) to work together, since overall service delivery depends on all of them. In our case, we contend that internal innovation, in other words, organizational innovation, springs from a need to respond to the market (visitor and donor orientation) but that its success depends on people with differing perspectives (more culture-oriented for those working in conservation, restoration, or education, and more business-oriented for those involved in marketing, administration, or communication) being able to combine to offer coherent management.

**Hypothesis 4a:** The lower the level of interfunctional coordination, the lower the effect of visitor orientation on organizational innovation, while the higher the level of interfunctional coordination, the greater the effect of visitor orientation on organizational innovation.

**Hypothesis 4b:** The lower the level of interfunctional coordination, the lower the effect of donor orientation on organizational innovation, while the higher the level of interfunctional coordination, the greater the effect of donor orientation on organizational innovation.

**Service Orientation and Innovation: Quality and Custodial Orientation**

We focus on two aspects of service orientation: quality orientation and custodial orientation. In the case of museums, quality orientation should be interpreted as an attempt to achieve the best from a cultural, artistic, or historical point of view, to offer visitors the best possible cultural experience and to offer maximum quality in complementary leisure and entertainment facilities. It likely leads to greater investment in new resources and technologies to assist the visiting public. In line with quality orientation, some museums might organize more temporary exhibitions, create new programs and offer new services. In this sense, Voss and Voss (2000) refer to product orientation in artistic environments as an emphasis on intensive and ongoing new product development. They argue that organizations must
adopt a product-oriented creativity to develop new high-quality products that, in turn, renew and invigorate customer markets. Moreover, greater concentration on quality will not prove successful without a new managerial approach developed by staff trained not only in art, history, or other cultural specialities but also in business management. Therefore,

**Hypothesis 5:** Quality orientation has a positive influence on organizational innovation (Hypothesis 5a) and on technological innovation (Hypothesis 5b).

Quality orientation is a concept that evidences clear connections with customer orientation. In both cases, the desire to satisfy clients’ needs shapes the structure of the whole organization (Longbottom, Mayer, and Casey 2000). Forging links with clients to ensure the latter’s satisfaction and loyalty should go hand in hand with the highest possible standard of product and service. Visitor orientation focused on creating sustainable superior value for customers will also have a positive effect on the organization’s desire to improve product and service quality as well as visitor experience. The customer orientation perspective in a service-related organization improves the organization’s ability to effectively deliver quality services that enhance overall customer satisfaction and organization’s performance (Wang and Wei 2005). Therefore, meeting future visitor expectations will involve improving the quality of what is offered, mainly temporary exhibitions, educational programs, and supplementary services. Thus,

**Hypothesis 6:** Visitor orientation has a positive influence on quality orientation.

The museums’ adoption of a custodial orientation involves considering custody of cultural heritage as their starting point and principal objective, and entails devoting most of their resources to conservation, restoration, research as well as to improving the items collected. The museum’s content is the core management focus, and the visitor, that is, the consumer, is secondary or, merely overlooked. This approach is based on the idea that museums are obliged to preserve their objects for future generations to enjoy and learn from and, ultimately, to understand their own origins. In sum, they are delivering a service to society. In their desire to conserve, even if museums do not create services aimed specifically at visitors, they do devote their resources to activities that enhance product quality: restoration of works, adapting their buildings and facilities for conservation, inventory of works, digitizing archives, and so on. They will thus be contributing to improving “product” quality. Contrastingly, this type of museum will be less concerned with other investments related to the commercial management of the museum and with managerial practices related to attracting new audiences, preferring rather to manage the museum on the basis of cultural objectives in an effort to preserve and maintain the museum’s cultural mission. This defense of the conventional model of a museum was reflected, for instance, in the change of management at the London Science Museum in 2005, whose curator was accused of “Disneyfying an august institution with razzle-dazzle interactive displays and showbiz exhibitions” (The Times online 2005). Hence,

**Hypothesis 7:** Custodial orientation has a positive influence on quality orientation (Hypothesis 7a) and a negative influence on organizational innovation (Hypothesis 7b).

**Relationship Between Organizational and Technological Innovation**

Finally, we propose a relationship between organizational and technological innovation (Figure 1). Damanpour and Evan (1984) illustrate this point with a bank that offers a new service requiring a new set of administrative mechanisms to evaluate its performance. They conclude that administrative innovations favor technical innovations. Using banking industry data, Han, Kim, and Srivastava (1998) reveal a synergistic relationship between technical and administrative innovations. Therefore,
firms can coordinate future innovation plans by considering the two types of innovations in tandem to arrive at a combination that will yield optimal levels of performance. A recent work by McDonald (2007) supports this statement demonstrating that innovative organizations tend to adopt innovations sooner and more frequently than less innovative organizations. In the case of museums, those that have adopted a business approach and whose staff come from a range of backgrounds (art, history, business management, etc.) will be more involved in the task of improving the offer and the services through technological innovations. On the other hand, the presence of new technologies makes the introduction of new management styles feasible. The introduction of new technologies, and its connection with workforce changes, has resulted in the concept known as “skill-biased technical change,” that is, the introduction of new technologies generates a bias toward more skilled workers in order to use the new technologies correctly (Xue, Liang, and Boulton 2008). Thus,

Hypothesis 8: There exists a positive correlation between organizational innovation and technological innovation.

Research Method

Sampling

The empirical work is based on the analysis of information provided by a sample of British, French, Italian, and Spanish museums. A questionnaire was sent to museum curators. Drawing up the questionnaire first required a thorough analysis of the particular features of this kind of organization as well as holding several meetings with five Spanish museum curators, who were asked for their view of market orientation, custodial orientation, and quality orientation, as well as the extent of innovation they perceive in museums in general and in theirs in particular. After the interviews, they were shown the draft questionnaire and asked whether they thought all the questions were apt and would be clearly understood by other museum managers.

This initial contact enabled us to draw up a pretest which after applying a series of filters yielded the final questionnaire. The domain consisted of 3,500 museums (800 British, 1,000 French, 800 Italian, and 900 Spanish) included in the respective Ministry of Culture websites. The questionnaire was translated into the different languages by professional translators in order to ensure equivalence of measures between languages. The total number or responses gathered throughout the process once the incomplete questionnaires had been removed was 491 (110 British, 142 French, 104 Italian, and 135 Spanish), representing a response rate of 14.0%.

The only incentive for the curator was the promise of a copy of the findings once the study had concluded. Although data are taken from a single source, museum curators have a global perspective toward the prevailing philosophy in museum management and the innovations implemented. Further, it is difficult to find another kind of staff member or employee common to all museums, particularly in the case of small museums.

Once the questionnaires had been correctly completed and collected, we performed a series of initial tests to analyze the validity of the responses obtained. Following Armstrong and Overton (1977) for a study conducted using the postal system, we analyzed the possibility of nonresponse bias, comparing the characteristics of museums that had answered in the first 2 weeks of the survey with those answering in the final weeks. This test was performed for each country, with no significant differences emerging.

The museums comprising the sample encompassed various thematic areas; archaeology, contemporary art, decorative art, fine arts, science and technology, natural science, ethnography, and anthropology or history, most of the museums being publicly funded (over 50% of their income comes from public funds) and the rest privately (Table 1). Finally, as regards the size of the museums, 25.2% receive fewer than 5,000 visitors a year, 16.8% between 5,000 and 10,000, 20.8% between...
10,000 and 25,000, 15.8% between 25,000 and 50,000, 9.4% between 50,000 and 100,000, and 12.0% over 100,000.

Measurement of Constructs and Validation
As for the measures of the various concepts, we adopted those existing scales previously validated by other authors, adapting the items to the area of museums.

Market orientation. To measure market orientation we followed the scale proposed by Narver and Slater (1990), added to which we also considered the works exploring the importance of donor orientation (Alvarez, Vijande, and Casielles 2002; Liao, Foreman, and Sargeant 2001). We therefore structured market orientation of museums and arts centers into four dimensions: visitor orientation (measured using five indicators), donor orientations (five indicators), collaborative orientation (two indicators), and interfunctional coordination (three indicators). To adapt the indicators to the museum setting, we had to take into account the work of Balabanis, Stables, and Hugh (1997) and Caruana, Ramaseshan, and Ewing (1998). Items were measured on a 5-point scale where 1 indicates Strongly disagree and 5 indicates Strongly agree.

Market orientation has been interpreted as an aggregate construct, that is, the dimensions combine to produce the construct. The dimensions of an aggregate construct are analogous to formative measures. However, whereas formative measures are observed variables, the dimensions of an aggregate construct are themselves constructs, specific components of the general construct they collectively constitute (Edwards and Bagozzi 2000). Therefore, we consider market orientation scale as a Type II second-order factor, namely, reflective first-order and formative second-order (Jarvis, Mackenzie, and Podsakoff 2003). The direction of the causality (from the dimensions to the construct) is justified as follows: (a) the presence of each dimension reinforces the market orientation and adding or removing any of the components would change the conceptual interpretation of the construct; (b) each dimension of market orientation is independent from others (for instance, a museum can be visitor-oriented while neglecting the role of donors or suffering from a lack of internal coordination), (c) covariance is possible but not necessary between market orientation dimensions, and (d) each dimension might have different consequences (in this case on innovation in museums as we propose). To validate this kind of scale (Type II second-order factor) Diamantopoulos and Winklhofer (2001) advocate estimating a MIMIC model. Since we do not have reflective indicators of market orientation, and bearing in mind that our aim is not to create a single construct, but to explore each of the dimensions, we opt to validate each of these dimensions within a global confirmatory factor analysis (CFA) measurement model following other similar works (Haugland, Myrtveit, and Nygaard 2007). The results are shown in Table 2. The factor loadings are between 0.65 and 0.93, convergent validity of the market orientation dimensions thus being supported.

Service orientation. We have also considered service orientation as an aggregate construct, although in this case as a Type IV second-order factor, namely, formative first-order and formative second-order (Jarvis, Mackenzie, and Podsakoff 2003). In this case, custodial orientation and quality orientation were measured using formative scales. Each indicator is independent from the other as they are defining characteristics of the constructs. Custodial orientation includes 3 items that measure museums’ main goal of maintaining and preserving the collections and the effort to project to society a positive image of the work they do to preserve our cultural heritage, on the basis of the societal orientation proposed by Liao, Foreman, and Sargeant (2001). There is extensive research into service quality measurement (Grönroos 1990; Parasuraman, Zeithaml, and Berry 1988), which measures perceived service quality from the consumer’s point of view. In contrast, we measure quality orientation from the organization’s point of view and on the basis of Mohr-Jackson’s (1998) definition of total quality orientation as the organizationwide commitment to continuous improvement for delivery of customer-perceived quality and ultimately customer satisfaction. Following the criteria of some works—such as Ginn and Moseley (2004) for hospitals—which propose measurement scales of quality orientation that merge several activities related to quality improvement, our quality orientation measurement scale comprises five indicators that measure the attempt to offer the best quality in artistic or cultural terms, to offer visitors the best possible cultural experience, maximum quality in complementary leisure and entertainment facilities, as well as better quality products and services than competitors.

As regards the validation of formative constructs, the scale needs to be internally consistent, meaning that traditional reliability and validity assessments for reflective scales may not be applied. High collinearity is an undesirable property in formative models, as it leads to estimation difficulties. Diamantopoulos and Winklhofer (2001) thus suggest using normal regression diagnostics to assess formative index validity. Table 3 shows the tolerance values and variance inflation factor (VIF) for the custodial and quality orientation indicators. These values evidence that multicollinearity is not a problem in the construction of the formative indexes. Assuming that multicollinearity is not an issue, Diamantopoulos, Riefler, and Roth (2008) suggest assessing indicator validity by estimating indicator correlations with an external variable (valid criterion). The relationship between the formative indicators and the overall measure denotes indicator validity. We therefore use two general indicators as valid criteria; “our main goal is the conservation and preservation of the historical and cultural heritage housed at our center” (for the custodial orientation scale) and “the museum has become a cultural reference in the area in recent years” (for the quality orientation scale). Table 3 shows the correlations between each indicator and the valid criterion, all of which are significant, allowing us to confirm individual indicator validity.

Innovativeness. Although the works of Damanpour (1991), Han, Kim, and Srivastava (1998), and Agarwal, Erramilli, and
Dev (2003) were taken into account when creating the innovation scales, it proved necessary to use ad hoc scales reflecting the particular features of a museum context. To measure technological innovation, we took account of information concerning more recent technologies introduced in modern museums, and we enquired as to the use of technologies for improving management and enhancing visitor experience. We measured the number of technologies used in each domain and created a weighted index of the sum of innovations, subsequently codified on a scale of 1 to 5, as with the other variables. Organizational innovation is reflected on a formative scale of three indicators that refer to organizational changes, particularly the existence of a multidisciplinary management approach with a greater presence in areas of business management (Agarwal, Erramilli, and Dev 2003; Damanpour 1991; Han, Kim, and Srivastava 1998). To validate these scales, we carried out CFA together with the other reflective scales, the outcomes of which are shown in Table 2. The factor loadings are between 0.65 and 0.86, except for 1 item of organizational innovation (0.51). Since all the factor

<table>
<thead>
<tr>
<th>Latent Variables and Measurement Variables</th>
<th>M (SD)</th>
<th>Loadings a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitor orientation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Museum strategy is based on those aspects which we feel may create value for the visitor</td>
<td>4.18 (0.882)</td>
<td>0.649</td>
</tr>
<tr>
<td>The museum’s goals are geared towards visitor satisfaction</td>
<td>4.30 (0.883)</td>
<td>0.716</td>
</tr>
<tr>
<td>We endeavor to keep abreast of changes so as to assess their impact on visitors’ needs</td>
<td>4.01 (0.970)</td>
<td>0.835</td>
</tr>
<tr>
<td>Seeking to pinpoint visitors’ needs and expectations is a constant process</td>
<td>3.91 (1.016)</td>
<td>0.831</td>
</tr>
<tr>
<td>Strategies aimed at gaining an advantage over other museums when seeking resources is based on an understanding of visitors’ needs</td>
<td>3.58 (1.080)</td>
<td>0.686</td>
</tr>
<tr>
<td>Donor orientation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Museum strategy is designed taking into account those aspects which we feel may create value for donors of resources</td>
<td>3.31 (1.139)</td>
<td>0.804</td>
</tr>
<tr>
<td>The museum’s goals are geared towards donor satisfaction</td>
<td>3.05 (1.171)</td>
<td>0.828</td>
</tr>
<tr>
<td>We endeavor to keep abreast of changes so as to assess their impact on the expectations of those who provide resources</td>
<td>3.29 (1.103)</td>
<td>0.828</td>
</tr>
<tr>
<td>Seeking to pinpoint donors’ needs and expectations is a constant process</td>
<td>3.08 (1.157)</td>
<td>0.839</td>
</tr>
<tr>
<td>Strategies aimed at gaining an advantage over other museums when obtaining resources is based on an understanding of donors’ expectations</td>
<td>2.94 (1.148)</td>
<td>0.743</td>
</tr>
<tr>
<td>Collaborative orientation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>We make an effort to cooperate with other forms of tourism or leisure which complement what we have to offer</td>
<td>3.93 (1.102)</td>
<td>0.802</td>
</tr>
<tr>
<td>We cooperate with other cultural or leisure institutions to provide alternatives for visitors or to offer joint initiatives</td>
<td>3.94 (1.133)</td>
<td>0.862</td>
</tr>
<tr>
<td>Interfunctional coordination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff in the various departments work closely together</td>
<td>3.86 (1.116)</td>
<td>0.845</td>
</tr>
<tr>
<td>The museum is concerned with ensuring that the activities of all the departments are well coordinated</td>
<td>3.99 (1.067)</td>
<td>0.932</td>
</tr>
<tr>
<td>All departments are involved in drawing up the museum’s plans</td>
<td>3.75 (1.164)</td>
<td>0.782</td>
</tr>
<tr>
<td>Technological innovation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At the museum we are deeply committed to adopting new technologies and resources aimed at improving management and administration</td>
<td>3.71 (1.118)</td>
<td>0.654</td>
</tr>
<tr>
<td>At the museum we are deeply committed to using new resources and technologies to assist the visiting public</td>
<td>3.66 (1.117)</td>
<td>0.707</td>
</tr>
<tr>
<td>In general, we have incorporated numerous technical innovations at the museum in recent years</td>
<td>3.24 (1.209)</td>
<td>0.859</td>
</tr>
<tr>
<td>We are one of the leading museums in the use of technical resources</td>
<td>2.77 (1.219)</td>
<td>0.813</td>
</tr>
<tr>
<td>We cooperate with other institutions or firms to improve the technology and innovations implemented at this museum</td>
<td>3.08 (1.265)</td>
<td>0.739</td>
</tr>
<tr>
<td>Organizational innovation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In general, in recent years significant changes have been introduced into the museum’s organizational structure</td>
<td>3.31 (1.421)</td>
<td>0.501</td>
</tr>
<tr>
<td>The museum management has a background and training in business management</td>
<td>2.86 (1.368)</td>
<td>0.648</td>
</tr>
<tr>
<td>The museum management strives to take on staff from a range of training backgrounds</td>
<td>3.11 (1.391)</td>
<td>0.618</td>
</tr>
</tbody>
</table>

Note. RMSEA = root mean square error of approximation; AGFI = adjusted goodness of fit index; CFI = comparative fit index; NFI = normed fit index. Goodness of fit: \( \chi^2(211) = 573.361 \) (p = .000); RMSEA = 0.058; Goodness of fit index (GFI) = 0.909; AGFI = 0.881; CFI = 0.974; NFI = 0.959.

aStandardized loadings.
Table 3. Service Orientation: Descriptive Statistics and VIF

<table>
<thead>
<tr>
<th>Latent Variables and Measurement Variables</th>
<th>M (SD)</th>
<th>Tolerance</th>
<th>VIF</th>
<th>Item-Criterion Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In this museum our main concern is the artistic quality of the works on display</td>
<td>3.52 (1.219)</td>
<td>0.897</td>
<td>1.115</td>
<td>0.183***</td>
</tr>
<tr>
<td>We make every effort to offer visitors the best possible cultural experience during their trip around the museum</td>
<td>4.31 (0.909)</td>
<td>0.833</td>
<td>1.200</td>
<td>0.261***</td>
</tr>
<tr>
<td>We strive to offer maximum quality in complementary leisure and entertainment facilities (gift shop, restaurant, workshops, . . .)</td>
<td>3.56 (1.257)</td>
<td>0.683</td>
<td>1.465</td>
<td>0.249***</td>
</tr>
<tr>
<td>In comparison to other similar museums, the quality of the exhibits on display is poorer . . . better</td>
<td>3.84 (0.872)</td>
<td>0.888</td>
<td>1.126</td>
<td>0.302***</td>
</tr>
<tr>
<td>In comparison to other similar museums, the quality of the complementary services available to the visitor is poorer . . . better</td>
<td>3.29 (1.107)</td>
<td>0.718</td>
<td>1.393</td>
<td>0.226***</td>
</tr>
<tr>
<td>Custodial orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valid criterion: Our centre has become a cultural reference point for the area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We are interested in developing projects which enable us to maintain the perennial nature of our assets</td>
<td>4.44 (0.838)</td>
<td>0.584</td>
<td>1.713</td>
<td>0.689***</td>
</tr>
<tr>
<td>The center’s main goal is to maintain and preserve the collections it houses</td>
<td>4.00 (1.109)</td>
<td>0.808</td>
<td>1.238</td>
<td>0.499***</td>
</tr>
<tr>
<td>We are concerned with projecting to society a positive image of the work we do to preserve our cultural heritage</td>
<td>4.47 (0.805)</td>
<td>0.560</td>
<td>1.785</td>
<td>0.554***</td>
</tr>
<tr>
<td>Valid criterion: Our main goal is to conserve and preserve the historical and cultural heritage held by our centre</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* ***p < .01 (two-tailed test).

loadings are above the suggested value 0.5, the convergent validity of technological and organizational innovation is supported.

Control variables. The effect of a company’s size on its ability to innovate has been widely explored in the literature. While it is clear that larger firms have more resources available to innovate, they may also encounter bureaucratic problems that hinder innovation (Laforet 2008). Whereas some authors maintain that small and large firms innovate more than medium-sized ones (Bertschek and Horts 1996), other authors contend that medium-sized firms innovate more than small ones (Laforet 2008). Grinstein (2007) suggests that the relationship between the consequences of market orientation and innovation are stronger in large firms.

Since our sample comprised of museums of quite differing sizes, we attempted to evaluate this aspect, using size as a control variable when measuring variables and estimating the proposed model. To do this, the sample was divided into two groups depending on the median, large museums, receiving over 15,000 visitors a year (51.4% of the sample), and small museums, receiving fewer than 15,000 visitors (48.6% of the sample).

Likewise, as a control variable we also assessed the effect of the kind of funding predominant in the museum, whether private or public, assuming that for publicly funded museums there is less incentive to innovate and seek market differentiation than for privately funded ones.

Reliability, Convergent and Discriminant Validity

We used Lisrel to analyze the data. We first specified a baseline CFA model for the reflective variable, the fit indices proving acceptable, $\chi^2(211) = 573.361, p = .000$; RMSEA = 0.058; Goodness of fit index (GFI) = 0.909; Adjusted Goodness of Fit Index (AGFI) = 0.881; Comparative Fit Index (CFI) = 0.974; Normed Fit Index (NFI) = 0.959. We evaluated the reliability of our constructs through composite scale reliability and average variance extracted (e., Fornell and Larcker 1981; see Table 4). Composite scale reliability ranged between .78 and .92, all values thus exceeding the .7 cut-off point suggested by Nunnally and Bernstein (1994). Average variance extracted ranged from .55 to .83, all constructs thus exceeding the .5 cut-off value proposed by Fornell and Larcker (1981). Anderson and Gerbing (1988) noted that convergent validity is demonstrated by statistically significant path coefficients. Analysis of the measurement model for reflective scales reveals that all loadings are high and significant at the $p < .05$ level for all scales and provides support for convergent validity. As for discriminant validity, we can observe in Table 4 that all squared correlations between the variables are below the average variance extracted from the respective constructs, thus supporting the measures’ discriminant validity (Fornell and Larcker 1981).

Measurement Model Invariance Test

Given that we collected data from four different countries, ensuring the invariance of the measurement models of each group is recommendable (Steenkamp and Baumgartner 1998). We therefore analyzed measurement variances across the four countries using multigroup CFA (only for reflective indicators). As regards configural variance, the four groups share the same indicator structure. For its part, metric invariance refers to equality of the factorial loads among groups. In this case, we constrained factor loadings to be equal across the four groups and compared to the nonconstrained model. We used standard indices derived from measurement invariance
literature (e.g., Vandenberg and Lance 2000): the difference in chi-square values ($\chi^2$), the difference in CFI values, and the difference in Non-normed Fit Index (NNFI) values. A significant difference in model fit should be represented by a statistically significant $\Delta \chi^2$ value, a $\Delta$CFI value greater than .01 (Cheung and Rensvold 2002), and a $\Delta$NNFI value greater than .02 (Vandenberg and Lance 2000). The indices obtained were $\chi^2$(970) = 1708.28, CFI = .95, and NNFI = .95 for the non-constrained model and $\chi^2$(1039) = 1778.76, CFI = .94, and NNFI = .95 for the constrained model, resulting in $\Delta \chi^2$(60) = 70.48, $p > .05$, $\Delta$CFI = .01, and $\Delta$NNFI = .00, the structure of the measurement model thus remaining constant among countries.

**Common Method Variance**

Variance problems in the common method arise when the correlation among the indicators or constructs is really due to the existence of a common measuring source. In such cases, bias in the common measuring method (in our case the questionnaire) may artificially increase the relations empirically identified among the variables, and be due to the measuring method rather than to the constructs that the measures represent (Podsakoff et al. 2003). To control possible biases arising from variance in the common method, we conducted two tests. We first tested one of the statistical remedies proposed by Podsakoff et al. (2003) controlling for the effects of an unmeasured latent methods factor. Podsakoff et al. state that this method proves useful when a valid measure of the biasing factor is not required and when the source of method bias is known (in our case we assume there to be only one—the questionnaire). For this, we posited a measuring model for the series of variables proposed in which items were allowed to load on their theoretical constructs, as well as on a latent common methods variance factor. In this model, the formative variables were included as a single measure (index) and the correlation between the variable latent method and the remaining latent variables was set at 0. The structural parameters were examined both with and without the latent common methods variance factor in the model and we confirmed that the inclusion of this method factor did not alter the pattern of results, suggesting that results are not influenced by common method variance bias.

Second, we examined the marker variable technique proposed by Malhotra, Kim, and Patil (2006). This involves comparing the correlations between measures before and after a correction, and involves correcting all the correlations after the second-lowest item-to-item correlation ($r_M$) applying the formula $r_A = (r_O - r_M)/(1 - r_M)$, where $r_A$ represents the adjusted correlation and $r_O$ the original correlation (in our case the value of $r_M$ taken was .083). The differences found between the observed and the discounted correlations were relatively low (ranging between 0.02 and 0.08), as a result of which we again ruled out common method variance bias.

**Results**

To estimate the proposed hypotheses, we conducted a covariance-based path analysis. We employed composite scores as indicators of all constructs. These scores were calculated as the latent scores in the case of reflective scales and the mean of the indicators in the case of formative scales. The advantages of separating the measurement model from the structural model for analysis have been described by Anderson and Gerbing (1988). The estimation of interaction effects is another reason for using covariance-based path analysis. Path analysis allows composite score product terms to be used as indicators of interaction terms and dealing with multicollinearity centering these indicators. Therefore, we use mean-centering to minimize multicollinearity (Aiken and West 1991). The estimation was carried out over two stages. We first estimated the model with the linear effects and the control variables (Model 1 in Table 5) and then entered the interaction and quadratic effects (Model 2 in Table 5).

**Effect of Market Orientation on Innovation**

In line with Model 1, and with regard to the proposed linear effects, Hypothesis 1 is seen to be partially supported. Visitor orientation has a positive impact on organizational innovation (Hypothesis 1a) but does not affect technological innovation (Hypothesis 1b). We confirm the positive effect of donor orientation on both organizational (Hypothesis 2a) and technological innovation (Hypothesis 2b).

Results from Model 2 enable us to evaluate the hypothesis regarding the effects of interaction and quadratics. With regard to the effects of interaction, both Hypotheses 3a and 4a are confirmed. Visitor orientation only has an impact on technological innovation when the museum cooperates with and engages in

<table>
<thead>
<tr>
<th>Table 4. Correlation Matrix and Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>1. Visitor orientation</td>
</tr>
<tr>
<td>2. Donor orientation</td>
</tr>
<tr>
<td>3. Interfunctional coordination</td>
</tr>
<tr>
<td>4. Collaborative orientation</td>
</tr>
<tr>
<td>5. Custodial orientation</td>
</tr>
<tr>
<td>6. Quality orientation</td>
</tr>
<tr>
<td>7. Technological innovation</td>
</tr>
<tr>
<td>8. Organizational innovation</td>
</tr>
</tbody>
</table>

Note. The square root of the extracted variance is shown on the main diagonal for the reflective scales.
Table 5. Estimation of Models 1 and 2

<table>
<thead>
<tr>
<th>Control variables</th>
<th>Quality Orientation</th>
<th>Technological Innovation</th>
<th>Organizational Innovation</th>
<th>Quality Orientation</th>
<th>Technological Innovation</th>
<th>Organizational Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (0 = small; 1 = large)</td>
<td>0.205*** (5.674)</td>
<td>0.042 (1.013)</td>
<td>0.081* (1.834)</td>
<td>0.205*** (5.651)</td>
<td>0.031 (0.765)</td>
<td>0.069 (1.547)</td>
</tr>
<tr>
<td>Type of museum (0 = private; 1 = public)</td>
<td>-0.095*** (-2.675)</td>
<td>0.002 (0.040)</td>
<td>-0.061 (-1.420)</td>
<td>-0.095*** (-2.664)</td>
<td>-0.004 (-0.106)</td>
<td>-0.061 (-1.429)</td>
</tr>
<tr>
<td>Linear effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visitor orientation</td>
<td>0.464*** (11.962)</td>
<td>0.018 (0.329)</td>
<td>0.162*** (2.774)</td>
<td>0.464*** (11.913)</td>
<td>0.083 (1.399)</td>
<td>0.210*** (3.281)</td>
</tr>
<tr>
<td>Donor orientation</td>
<td>—</td>
<td>0.141*** (3.062)</td>
<td>0.108** (2.209)</td>
<td>—</td>
<td>0.104** (2.187)</td>
<td>0.085* (1.694)</td>
</tr>
<tr>
<td>Custodial orientation</td>
<td>0.220*** (5.675)</td>
<td>—</td>
<td>-0.063 (-1.456)</td>
<td>0.220*** (5.652)</td>
<td>—</td>
<td>-0.065 (-1.462)</td>
</tr>
<tr>
<td>Quality orientation</td>
<td>—</td>
<td>0.398*** (8.036)</td>
<td>0.177*** (3.286)</td>
<td>—</td>
<td>0.411*** (8.301)</td>
<td>0.186*** (3.453)</td>
</tr>
<tr>
<td>Visitor orientation × Collaborative orientation</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>0.128** (2.692)</td>
<td>—</td>
</tr>
<tr>
<td>Interaction effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donor orientation × Collaborative orientation</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>0.081** (-1.992)</td>
<td>—</td>
</tr>
<tr>
<td>Visitor orientation × Interfunctional coordination</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Donor orientation × Interfunctional coordination</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>0.092* (1.775)</td>
<td>—</td>
</tr>
<tr>
<td>Correlation</td>
<td>Organizational innovation</td>
<td>—</td>
<td>0.360*** (8.891)</td>
<td>—</td>
<td>—</td>
<td>0.363*** (8.997)</td>
</tr>
<tr>
<td>R²</td>
<td>.391</td>
<td>.227</td>
<td>.133</td>
<td>.391</td>
<td>.239</td>
<td>.140</td>
</tr>
<tr>
<td>Goodness of fit</td>
<td>$\chi^2(2) = 5.489$ (p = .0643); RMSEA = 0.0597; NFI = 0.994; CFI = 0.996; GFI = 0.997 AGFI = 0.950; PGFI = 0.055</td>
<td>$\chi^2(10) = 13.134$ (p = .216); RMSEA = 0.0251; NFI = 0.994; CFI = 0.999; GFI = 0.995 AGFI = 0.966; PGFI = 0.128</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. GFI = Goodness of fit index; RMSEA = root mean square error of approximation; AGFI = adjusted goodness of fit index; CFI = comparative fit index; PGFI = parsimony goodness of fit index; NFI = normed fit index. Standardized coefficients (t value in parentheses).

* p < .05.
** p < .025.
*** p < .005 (one-tailed test).
joint leisure and cultural activities with other museums (Hypothesis 3a). Also, the effect of visitor orientation on organizational innovation is enhanced if there is interfunctional coordination (Hypothesis 4a). However, the positive effect of the interaction between donor orientation and collaborative orientation on technological innovation (Hypothesis 3b) is refuted, the effect being negative, contrary to expectation. As the results do not support the greater influence of donor orientation on innovation when museums collaborate with different cultural and leisure institutions, we consider that further research should analyze the effect of donor orientation on innovation when museums collaborate with other museums sharing the same donors or board members. Hypothesis 4b is also rejected. Interfunctional coordination does not enhance the effect of donor orientation on organizational innovation.

To sum up, organizational innovation is explained by two dimensions of market orientation: visitor orientation and donor orientation. Further, visitor orientation has a greater impact on organizational innovation when museums pursue objectives through coordination between different members and involve a range of departments. However, we do not demonstrate an interaction effect between donor orientation and interfunctional coordination on organizational innovation. A feasible explanation is that some museums externalize the relationship with donors (members, supporters, etc.). As for technological innovations, donor orientation is an antecedent, although collaborative orientation does not help to boost the effect of donor orientation on technological innovation. We also find that visitor orientation does not explain technological innovations by itself, the effect proving only indirectly significant. When coupled with collaboration with other museums or leisure alternatives, visitor orientation also has a certain impact on technological improvements if it impacts quality orientation.

**Effect of Service Orientation on Innovation**

Quality orientation emerges as the variable having the greatest impact on organizational (Hypothesis 5a) and technological innovation (Hypothesis 5b), and is clearly seen to be determined by visitor orientation (Hypothesis 6) and custodial orientation (Hypothesis 7a). We do not find any support for the proposed negative effect of custodial orientation on technological innovation (Hypothesis 7b). These results demonstrate the relative superiority of quality orientation over market orientation as an antecedent of innovation. Our findings echo to a certain extent those reported by Voss and Voss (2000) and Voss, Montoya-Weiss, and Voss (2006). There is no empirical evidence indicating that visitors want the museum to innovate, but to offer quality. Visitor orientation has a direct and positive influence on innovation only if visitors want the museum to innovate.

**Effect of Organizational Innovation on Technological Innovation**

As proposed in Hypothesis 9, technological innovation and organizational innovation are positively correlated. We find that administrative innovations favor technical innovations and vice versa. We may assume that adopting a fresh organizational approach that is more open to new ideas is a prerequisite to the adoption of technical innovations: the greater the presence of business management skills among museum managers, the greater the use of innovative technologies. Moreover, when a museum wishes to acquire and use new technologies unrelated to its ongoing activity, it must develop absorptive capacity and investment in human capital becomes critical.

**Effect of Control Variables on Innovation**

Finally, with regard to the control variables, the results of Model 1 indicate that larger museums are more oriented toward quality and offer maximum quality in the exhibits displayed and in services. This orientation toward quality is also greater in the case of private museums. Size is also linked to organizational innovation, larger museums having organizational structures that are more business-like in nature.

The proposed hypotheses and the results are summarized in the Table 6.

**Discussion**

In the present study, we find evidence to support the relationship between market orientation, service orientation, and innovativeness in the case of museums. These results support certain aspects of findings reported in previous research in the for-profit context (Han, Kim, and Srivastava 1998) and extend these findings to museums. Market orientation has been considered a starting point for innovation (Lukas and Ferrell 2000; Menguc and Auh 2006), the results of the study suggesting that a market orientation is also important for technological and organizational innovation in museums. Nevertheless, together with market orientation, service quality orientation is essential in this kind of organization. In this vein, our study posits two routes that lead to technological and organizational innovation in museums, a business approach based on market orientation and a cultural approach based on service orientation.

Organizational innovation, that is, the trend toward a multi-disciplinary managerial team balancing business management skills and cultural skills, is explained by a business philosophy that fosters visitor orientation, donor orientation, and quality orientation, whereas custodial orientation has no influence. Moreover, the impact of visitor orientation on organizational innovation is higher if there is interfunctional coordination among museum departments. When museums aim to satisfy both visitors and donors and to adapt to visitors and donors’ wishes and objectives, and when service quality is another primary objective, a change in management style seems to be needed. As regards the direct impact of donors on innovation, similar results were found by Barczak, Kahn, and Moss (2006). However, we add that internal coordination is not so essential in order to manage the relationship with them.

As for technological innovations, quality orientation and donor orientation are the main determinants, although visitor
Hypothesis 1a: Visitor orientation → Organizational innovation

Hypothesis 2b: Donor orientation → Organizational innovation

Hypothesis 3a: Visitor orientation × Collaborative orientation → Technological innovation

Hypothesis 3b: Donor orientation × Collaborative orientation → Technological innovation

Hypothesis 4a: Visitor orientation × Interfunctional coordination → Organizational innovation

Hypothesis 4b: Donor orientation × Interfunctional coordination → Organizational innovation

Hypothesis 5a: Quality orientation → Organizational innovation

Hypothesis 5b: Quality orientation → Technological innovation

Hypothesis 6: Visitor orientation → Quality orientation

Hypothesis 7a: Custodial orientation → Quality orientation

Hypothesis 7b: Custodial orientation → Organizational innovation

Hypothesis 8: Organizational innovation → Technological innovation

Table 6. Summary of Results

<table>
<thead>
<tr>
<th>Proposed Hypotheses</th>
<th>Proposal</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis 1a: Visitor orientation → Organizational innovation</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 1b: Visitor orientation → Technological innovation</td>
<td>+</td>
<td>Refuted</td>
</tr>
<tr>
<td>Hypothesis 2a: Donor orientation → Organizational innovation</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 2b: Donor orientation → Technological innovation</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 3a: Visitor orientation × Collaborative orientation → Technological innovation</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 3b: Donor orientation × Collaborative orientation → Technological innovation</td>
<td>+</td>
<td>Refuted</td>
</tr>
<tr>
<td>Hypothesis 4a: Visitor orientation × Interfunctional coordination → Organizational innovation</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 4b: Donor orientation × Interfunctional coordination → Organizational innovation</td>
<td>+</td>
<td>Refuted</td>
</tr>
<tr>
<td>Hypothesis 5a: Quality orientation → Organizational innovation</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 5b: Quality orientation → Technological innovation</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 6: Visitor orientation → Quality orientation</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 7a: Custodial orientation → Quality orientation</td>
<td>+</td>
<td>Supported</td>
</tr>
<tr>
<td>Hypothesis 7b: Custodial orientation → Organizational innovation</td>
<td>-</td>
<td>Refuted</td>
</tr>
<tr>
<td>Hypothesis 8: Organizational innovation → Technological innovation</td>
<td>+</td>
<td>Supported</td>
</tr>
</tbody>
</table>

orientation only impacts technological innovations when coupled with cooperation with other museums or leisure alternatives. In this regard, Grinstein (2007) finds that the effect of competitor orientation (collaborative orientation in our case) depends on a minimum level of customer orientation. The relevance of collaborative orientation and interfunctional coordination as mechanisms fostering the impact of visitor orientation on innovation also supports S-D logic, which points toward collaboration and coordination as essential approaches to innovation and competition (Lusch, Vargo, and O’Brien 2007). Although some authors contend that consumer orientation is the driving factor behind market orientation (Deshpandé and Farley 1998; Theoharakis and Hooley 2008), consumer orientation has no influence on innovation if the remaining market orientation dimensions (collaborative orientation and interfunctional coordination) are not present.

Findings also evidence the complementarities between quality orientation and market orientation. We confirm that museums with high visitor orientation are quality-driven museums. Visitor orientation entails the need to provide service quality. These findings concur with the service marketing literature and S-D logic (Vargo and Lusch 2004), suggesting that service and customer orientation are connected. According to S-D logic, a service-centered view is customer oriented and relational. Understanding how the customer uniquely integrates and experiences service-related resources is a source of competitive advantage through innovation (Lusch, Vargo, and O’Brien 2007). It should not, however, be forgotten that although customer orientation provides a deeper insight into customer needs, thus enabling services to be adapted to offer greater satisfaction, it may also restrict a firm’s flexibility when seeking wider opportunities. One such example is museums that aim to secure collections or exhibitions which have already succeeded at other sites. This policy of blockbuster exhibitions and major loans has been criticized by some museum curators (such as the curator of the Metropolitan in New York) and evidences the dangers that over orientation to visitors may lead to in terms of creativity and innovation.

Our results also reveal differences with other contexts. First, results might be different if we compared for-profit and nonprofit organizations. In the literature addressing for-profit organizations, not all authors report a significant relationship between consumer orientation and innovation (Laforet 2008), although said studies focus on product rather than service innovation. For the case of museums, our findings indicate that visitor orientation fosters technological innovations, aimed more specifically at customer needs, although we are not in a position to extrapolate this to highly competitive situations in which customer preferences change rapidly, and where firms tend to lead rather than to follow the market.

In a nonprofit context, we would also likely find differences in the type of innovation derived from a market orientation if we compared cultural and noncultural organizations. Clearly, the mission of the nonprofit conditions what kind of innovation they emphasize. Although in the current article we have not considered different kinds of technological innovations separately, it would be interesting to know when market orientation is related to technology toward customers or to technology toward managers. Whereas in cultural organizations, visitor orientation can foster technological innovations aimed at educational and leisure purposes, in noncultural organizations, market orientation will likely foster technological innovations related to managerial and administrative purposes.

We are also unable to extrapolate findings to the cultural sector as a whole when comparing museums with other cultural organizations. Even if we have found that in museums the effect of service quality orientation on technological innovation is more relevant than the effect of visitor orientation, in certain areas, such as the cinema, consumer orientation is likely to prevail over quality orientation. This is true of commercial cinema, where a commitment to new technologies is based on consumer orientation and where there is a strong desire to attract wide audiences, over and above any commitment to quality orientation, particularly if we consider quality from the cultural standpoint. Actually, comparing different types of museums (for instance, science vs. arts museums) might...
evidence a different impact of market orientation on the use of new technologies.

Managerial Implications

As pointed out at the beginning, museums are complex organizations as is the management thereof. The market-culture debate remains unresolved, particularly in public museums, and achieving the right balance is by no means an easy task. While all agree that some self-financing is necessary and that museums must be financially viable, many remain skeptical about applying a managerial approach in which the needs of the public take precedence. Conservation and preservation seem to be above other considerations and any proposal regarding a much more business-like managerial approach (including even bolder ideas such as the sale of artworks as a source of revenue) are met with indignation and are condemned as an attempt to “sell off museums” and turn culture into a saleable good.

Yet, the economic and social dimension of these institutions is no doubt key. Both public and private museums seek to ensure that public and private investment in research, custody, or restoration has an impact on society or the donors who fund them. Yet, evidence has shown that it is the museums that venture into the market who are able to evolve, innovate, and ultimately prove financially viable. This commitment to the market entails viewing visitors and donors as two cornerstones on which the activity of the museum is based, keeping ever present the desired position in terms of quality. With regard to visitors, museum policy and planning should try to be more accessible to a wider audience and particularly to visitors who do not tend to visit traditional museums. Collaborating with competitors (loans among museums, joint offers with hotels and restaurants, etc.) as well as internal coordination are two key aspects to be borne in mind if such policies are to prove effective. Donors are the other target for which museums are fighting and it is essential to understand what donors’ goals are in order to find the common ground between their needs and those of the museums.

This study highlights a new approach that should prevail among museum managers keen to expand and enhance the social diffusion of their activities and the works in their custody. Opening out to embrace new formulas and technologies applied to visitor interaction is the way to make culture available while ensuring that this is not at odds with the idea of entertainment.

Museum managers are encouraged to allocate human and financial resources to innovation. This innovation might be reflected in the use of both new technologies and new forms of management. Museums that aim to provide an offer creating greater value for their donors and visitors, which seek coordination among members and which focus their efforts on service quality are in a better position to develop an innovation strategy. Donors also have an important influence on organizational and technological innovations. To maintain or increase external funding, museums must to some extent cater to the requirements and passions of these donors.

Limitations and Further Research

Although our findings are useful, there are several limitations to the study, which necessitates further examination and additional research. First, the methodology should be improved by selecting more accurate scales for certain variables (organizational innovation), adopting a more rigorous process to validate formative scales. Another limitation of this research is that the data are taken from a single source: the museum curator. As Gainer and Padanyi (2005) point out, it would be advisable to draw on different sources of information such as employees or visitors in order to gain a clearer insight into the link between strategy and innovation. The study was also conducted at one particular moment in time, whereas a longitudinal study might provide us with a better sequential analysis of the two approaches. Whether the results can be generalized to nonprofit or cultural organizations will also entail additional research. Our results were obtained from European museums, and we believe that it would be helpful to broaden the study to other cultural sectors and countries (in emerging or transitional economies in which market orientation is a novel concept) in order to improve generalization of the findings. Moreover, the sample comprises museums from different thematic areas (art, science, or ethnography) and it remains unclear whether our findings could be generalized to all types of museums. An individual analysis for each type of museum might provide additional information about how innovation takes place and its real antecedents.

In spite of our findings, managers should not ignore certain factors not addressed in the present study. External variables (the behavior of potential and current collaborators, intermediaries, and service providers, as well as legislation, to name but a few) might moderate the market orientation-innovation relationship. We might also consider risk-taking as a mediator variable. Museums tend to be significantly more risk-averse than other organizations, due to such factors as their more complex accountability structure. Future research also should distinguish between responsive and proactive market orientation in museums, namely, where market orientation is a response to a context that has already changed (e.g., cultural organizations that have had to face stringent cutbacks in subsidies and public funding) and in which market orientation is a proactive philosophy wherein the organization is faced with situations, trends, and realities that might pose a threat or an opportunity in future.

Acknowledgment

The authors gratefully acknowledge the financial support for this study by the Ministry of Science and Innovation (Spain), ref. SEJ2007-67095/ECON.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The authors
received financial support for this study from the Ministry of Science and Innovation (Spain), ref: SEJ2007-67095/ECON.

Note
1. We draw attention to the fact that our concept of organizational innovation differs from the concept of organizational innovativeness, used in marketing literature as a general term to refer to firms’ tendency toward innovation.

References


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