



From the Social Museum to the Digital Social Museum

Del museo social al museo social digital

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ABSTRACT

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Key words:

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Main topic / subject: The goal of the article is to organize the conceptual evolution between the social museum and the digital social museum, a fundamental conceptual change that will imply a different form of management and that considers the latest technologies applied to the museum experience.

Logical development of the subject: For the development of this conceptual proposal, the paper starts from a series of fundamental texts that describe the current situation of experience management in museums; it carries out a critical review of the concepts of the traditional museum and the social museum and with data and examples the paper proposes the use of the concept of the digital social museum.

Author's point of view and contributions: The article contributes to the definition of the digital social museum. It expands the concept of the social museum and gives a fundamental value to the impact of new technologies and social networks as an integral part of the museum experience and management.

Implications and conclusions: Museum institutions should work in a much more inclusive and participatory manner, thus giving way to an evolution that begins in the early twentieth century and is called the social museum. New technologies offer great potential for the achievement of these goals of participation and dialogue, leading to a new concept of the digital social museum. Through this paper we reflect on how new technologies contribute to understand museum management under the principles of the digital social museum.

RESUMEN

Clasificación JEL:
M31

Palabras clave:

Museo social,
museo social digital,
tecnología,
innovación,
museo,
comunicación
institucional

Tema principal: El objetivo del artículo es organizar la evolución conceptual entre el museo social y el museo social digital como un cambio fundamental que implica diferentes formas de gestión y considera las últimas tecnologías aplicadas a la experiencia museística.

Desarrollo lógico del tema: Para el desarrollo de la propuesta conceptual, el artículo empieza con una serie de textos seminales que describen la situación de la gestión experiencial en museos. Desarrolla una revisión crítica de los conceptos vinculados al museo tradicional y el museo social y, con datos y ejemplos, se propone el uso del concepto museo social digital.

Punto de vista y aportaciones del autor: El artículo contribuye a la definición de museo social digital. Expande el concepto de museo social y aporta un valor fundamental al impacto de las nuevas tecnologías y las redes sociales como una parte integral de la experiencia y gestión museística.

Repercusiones y conclusiones: Los museos son instituciones que deberían trabajar de una manera más inclusiva y participativa para dar paso a una evolución que comienza a principios del siglo veinte y es acuñada como museo social. Las nuevas tecnologías ofrecen un gran potencial para lograr estos objetivos vinculados a la participación y el diálogo, dando lugar a lo que se propone como museo social digital. Este artículo refleja cómo las nuevas tecnologías contribuyen a entender la gestión museística bajo los principios del museo social digital.

1. Introduction

Cultural institutions offer a service that includes education, accessibility and communication (Belenioti & Vassiliadis, 2017). To achieve this, museums have been undergoing a process of change in management models that has been progressive, moving from a traditional vision, to a social museum model and, as this critical review suggests, to a digital social model.

Museums are institutions that offer their visitors (customers) memorable experiences (Antón et al., 2018). As users seek novelty and variety in their leisure activities, so museums are forced to create engaging experiences (Minkiewicz et al., 2014) as do other institutions in the cultural sector. However, cultural institutions face a constant challenge based on budgetary constraints and rising visitor expectations, which has forced their directors to pay great attention to user needs (Komarac et al., 2017) and to understand that museums have to communicate and continuously provide an enjoyable experience (Sundar et al., 2015).

During the 20th century there was a change in the concept of the museum as compared to the vision of the museum in the previous century. Following Viñarás (Viñarás-Abad, 2005, p. 48), this new concept of the museum not only gathers and presents its collections, but also demands an advance in the exploitation of the museum institution, and also conceptual, didactic and technological updating. But there is also a decisive and influential factor: tourism. The countries of Mediterranean Europe created new typologies of museums according to the rise of this public, while the northern countries were guided by more didactic and pedagogical rules. All these changes mean that cultural institutions and museums are called upon to adopt new media technologies to stimulate and maintain en-

gagement with the visitor, whether at the level of the exhibition space or with the collection itself (Drotner, 2014). These trends call for a change in the management model, from the social museum to the digital social museum.

According to Rivière (1993, p. 53) there are two strong factors driving the changes from the traditional model of the museum during the 20th century: on the one hand, the creation of a series of international organizations that support the development of museums, establishing a supporting infrastructure and developing a group of professionals around historical heritage and museums; on the other hand, the deep cultural changes (social, political and economic) taking place worldwide. The 1st International Workshop on Ecomuseums and New Museology, held in Quebec City on October 13, 1984, set the basis for the concept of the social museum. Against the dogma of conservation, it proclaims the priority of participation. Thus the so-called Declaration of Quebec advocated cultural democracy, social dynamism, openness and interactivity in the face of the authoritarian institution, closed and not very prone to change. In this way, it sought an enriching dialogue and recognized the social body as an active protagonist, moving away from the categorization of the public as a passive subject (Díaz-Balardi, 2002, p. 504).

The new role of the museum was to focus on the public that visited them, on their expectations, preferences and needs (Vergo, 1989). This new vision of the museum was taken by the museum institutions as an opportunity to redefine their mission in society. The new concept of the social role of the museum, where the experience of the visitor takes prominence, also increases the importance of the analysis of its visitors, in favor of a more integrative museum (Cordón, 2013).

In fact, the literature on museum management includes the need for formative evaluation during the development of the project, understanding visitor motivations and expectations through segmentation studies, and even analyzing visitor feedback to understand their experience and subsequent programming (Chaney et al., 2018; vom Lehn & Heath, 2016).

Recent studies have shown that museums have emerged as laboratories of future culture, including all sorts of high-tech experiments with the aim of providing unparalleled entertainment and educational experiences that compete with platforms such as Netflix (Recuero-Virto & Blasco-López, 2019). New technologies (ICTs) have revolutionized the way users visit and enjoy and share their experiences (Yoo & Gretzel, 2016). Other studies have shown that achieving engagement with potential visitors requires a content-based strategy as well as dialogue between the museum and its audience (Camarero et al., 2018). In other words, the museum has to maintain a dialogical approach both inside and outside the building. In this context, the use of social networks can favor two-way communication and the marketing department should regularly check the feedback from users on social networks with the aim of detecting new topics and possible problems (Waller & Waller, 2019).

Digital media and devices have the opportunity to change socio-cultural practices that are linked to collective memories and oral traditions. That is, to our cultural heritage (Giaccardi, 2012). Consequently, the possibilities of social media are capable of changing this perception and even go one step beyond what are known as social museums. These tools facilitate more active experiences, which encourage visitors to continue participating in the relationship with

museums even after the visit, seeking information and revisiting the museum through the contents of social networks and pages where opinions are expressed (Antón et al., 2018). In the process of dialogue and work with visitors, a relationship of co-creation of experiences between museum and users is produced (Antón et al., 2018) and it should be managed. In addition, museums are faced with the challenge of how to integrate new technologies such as Robots, Artificial Intelligence, Service Automation to provoke memorable experiences (Recuero-Virto & Blasco-López, 2019).

Therefore, this critical review poses a brief review of the evolution of museum management to define what we propose as a digital social museum. Research on the concept of the digital social museum has also been the subject of previous studies. In fact, the concept has been defined as a way of management that takes advantage of the opportunities offered by digital technologies, achieves a truly close, open and social approach to the visitors, enriching their experience by personalizing the interaction, favouring accessibility and expanding the target audience of the exhibition (Mas, 2018, 2020). However, there has not been an article that justifies the natural progress between the traditional, social and, at present, the digital social museum. On the other hand, the concept of dialogue with stakeholders has been addressed from multiple perspectives (e.g. Monfort et al., 2019; Villagra et al., 2015) and deserves our attention to link it to communication and marketing management by museum institutions.

The article is structured as follows. The following section presents the current situation, in which the transition from the traditional museum to the social museum is highlighted. Then, a section is dedicated to the new technologies that

have been incorporated in the museums in their relationships with visitors. Finally, a development of the concept of the social museum to the digital social museum is proposed and it concludes with a definition of this critical proposal.

2. From the traditional museum to the social museum

Since the late 1980s, museums have included marketing departments in their management structure with the aim of influencing their programming and exhibition development strategy (Gilmore & Rentschler, 2002). Along with this

professionalization of the user experience, the development of international organizations that support the management of museums and the cultural changes (social, political and economic) that have taken place worldwide promoted a change in the way of understanding and living the museum experience (Rivière, 1993). In this context, several studies have proposed the change between the traditional museum and the social museum. Llerena (2015) conducts an interesting comparison between the traditional museum and the new social museum, which is summarized in the following table:

Table 1. Comparison between the traditional museum and the social museum

	Traditional Museum	Social Museum
Museums are places for:	Experts. They are exclusive	Everyone. A space where visitors contribute to the institution with ideas and suggestions, and where dialogue and socialization are encouraged. They are given the opportunity to create and connect with people who share the same interests.
The exhibition is based on:	The expertise of curators and scientists on an exclusive basis	A collaborative process with visitors through studies of the public.
The focus of the exhibition is on:	The display of the objects. The welcome is barely taken into account	The commitment and experience of the public, which is fundamental.
The focus of the activity is on this:	Exhibition and research	Visitors.
The perception of communication is:	Communicative. The objects transmit information that the visitor must acquire.	Cultural. There is a constant interaction between object and subject.
Knowledge is:	Single and closed. The museum re-elaborates and presents it without the possibility of interpretation.	Multiple, open and presented in a way that allows for many interpretations.
Knowledge is acquired from:	From outside the individual.	The individual, who interacts in an active and participative way.
The public is conceived as:	Recipient of a knowledge previously elaborated by the museum.	Developer of learning, experiences, knowledge and experiences.
The teacher is seen as:	A simple conveyor and reproducer of the knowledge that the museum possesses.	A facilitator and mediator who participates in the construction of the knowledge presented by the museum.

Table 1. Comparison between the traditional museum and the social museum (cont.)

	Traditional Museum	Social Museum
The learning approach is:	Positivist and behaviorist. Learning is accumulated and absorbed through the sum of information transmitted by an external agent. The public is just a passive consumer.	Constructivist. Learning is active, it implies a restructuring of the mental schemes of those who learn. The learning is participative and dialogical. The public is an active part of a space of social encounter and exchange of knowledge.
The evaluation is done through:	There is no such space for reflection.	It identifies and develops potential audiences, communicates with communities and learns how audiences experience the museum and their perception of it. It focuses on participants' behavior and the impact of actions, i.e., what they do and what happens as a result of that experience.
Communication/ conversation is:	Provide one-way information for the mere dissemination and self-promotion of your work.	Two-way: understanding these spaces as places of interaction.
Communication and museum interpretation services:	Restricted to the inside of the museum space.	It can be found everywhere.

Source: Llerena (2015)

As shown in the table above, this new concept of the social museum enhances the “new museology” as a new way of conceiving museums as spaces at the service of citizens, whose aim has to be dialogue, promoting communication and inventing new exhibition techniques (Montañes, 2001, p. 2). Thus, the social museum completely changes the idea of the traditional museum by focusing on establishing a dialogue of peers with its public, understanding that it needs to work not only for its visitors, but also with its visitors (Gómez-Vilchez, 2012).

This concept of the social museum as an institution that dialogues with society, that strives to generate complete, enriching experiences through the active participation of the visitor is the starting point for this article. In the following pages we will analyze the relationship between the social museum and technology to understand how digital technological advances can help the museum to deepen its social character.

3. The social museum and new technologies

3.1. Background and motivations

Following Castilla (2012), new technologies help museums both to disseminate their activity and to interact with the user: “new technologies applied to museology allow to improve and expand the possibilities of public dissemination of knowledge and artistic and historical resources, while they can significantly improve the relationship between the museum and the user”. Thus, the development of the Internet and, specifically, that experienced in the last ten years, has allowed museums to establish a very beneficial relationship with Information and Communication Technologies (ICT), which in turn has served them to consider new ways to develop their programs as new modes of exhibition, sales and communication with the public (Fontán, 2013, p. 153).

While the renewed museology emerged as a new way of understanding museums, of break-

ing with that tradition of the nineteenth-century temple that was so far apart from society, and of bringing it closer to everyone who felt interested in visiting it (Cordón & González, 2016, p. 149), ICTs offer new opportunities to establish different environments in which to relate to the visitor: "ICTs become a true bridge between the public and the art collections [...] they are a common cultural element between those collections and the generations of the present, they are the vehicle for storing, exhibiting and transmitting contemporary art and, finally, they are a means used for communication and education" (Fontán, 2013, p. 5).

Castilla (2012) considers that museums should not only benefit from new technologies to improve the way they show their exhibitions to the new user, but if they do not take advantage of them, they run the risk of becoming obsolete and not connecting with new audiences. This connection must be made in a modern, accessible way that invites interaction and participation, attracting both the current audience and especially the new younger audiences, thus ensuring the future of museums in a connected world. In fact, research has concluded that museums are an exceptional space to be used as laboratories of future culture, since they allow experiments with high technology that offer experiences at the level of large entertainment platforms (Recuero-Virto & Blasco-López, 2019).

Saldaña and Celaya (2012) carried out a survey in which 136 museums from all over Europe participated. The study, entitled "Museums in the Digital Age", was published in *Museum Next* the same year and sought to deepen the main motivations and objectives of museums when incorporating technology. Some of the conclusions reached were: a) 65.6 % of museums seek to attract new audiences and to enrich the experience

of the visit, b) 62.5 % are interested in improving their online communication and positioning strategy, c) 56.3 % use digital technologies to make it easier for people with different types of disabilities to access the entity, d) 40.6 % seek to improve the processes of conservation of works of art, collection management as well as its dissemination and digitization, and e) 34.4 % seek to personalize the attention to the public in the physical space and to promote its interactivity.

Along with these conclusions, other studies have shown that digital media and devices are called upon to change the way we understand our cultural heritage (Giaccardi, 2012). They are also likely to provide experiences that encourage visitors to continue participating in the relationship with museums even after the visit (Antón et al., 2018), favoring co-creation (Antón et al., 2018) and integrating the latest technologies (e.g. Robots or Artificial Intelligence) to provoke impactful experiences (Recuero-Virto & Blasco-López, 2019). New technologies (ICTs) have also transformed the way users visit, enjoy and share their experiences (Yoo & Gretzel, 2016).

To achieve these results, studies have shown that engaging with potential visitors requires a content-based strategy as well as dialogue between the museum and its audience (Camarero et al., 2018). The use of social networks can favor this two-way communication and the marketing and communication department should regularly check user feedback on these platforms in order to detect new issues and possible problems (Waller & Waller, 2019).

3.2. Advantages of using technology in the museum

In addition to these data, there are many authors who agree in highlighting the advantages and benefits that new technologies offer to museums.

The International Council of Museums (ICOM) (1999), for example, in its VII Latin American Conference on Cultural Heritage “Museums and Cultural Diversity. Old cultures, new worlds”, reflected on the main benefits that ICTs bring to museums and pointed out, among other things, the possibility of: i) communicating with different segments of the public in a differentiated way, ii) presenting updated information on activities, databases of their library, online catalogs, announcing new books on the central theme of the museum or temporary exhibitions, iii) generating didactic materials that can be used both by schools and users, before and after the visits, differentiating levels, iv) presenting in advance what is going to be exhibited in the museum through the publication of images and news to inform about what is going to happen, v) presenting evaluation tools, intended for visitors to the site or visitors to the museum, vi) presenting updated reading material related to the museum’s theme, differentiating between material for experts and material for non-experts, vii) generating conversation in forums or chats, viii) providing materials that can be accessed by professionals or researchers interested in the central theme of the museum, even if they are located in different parts of the world, ix) demonstrating that the museum is alive and active.

Castillo (2011) shows that the integration of technology in the museum allows the visitor to move to the time and space in which a work was created in order to understand it and value it as such. Otherwise, the only thing that is achieved is “to strengthen their cognitive barriers and exclude them from cultural knowledge”. Saldaña and Celaya (2012) provide an additional advantage: the possibility of improving access to the museum for audiences with some kind of visual or auditory deficiency. Thus, all these

technologies should work not as ends in themselves, but as additional tools when it comes to improving the visitor’s experience and supporting and reinforcing the museum and educational approach of each center in a customized way. It is therefore necessary to design their integration with criteria and common sense and after a deep reflection adapted to what should be shown, with what purpose and how, along with a selection of appropriate content and quality. Otherwise, the use of technology would involve risks (Castilla, 2012).

Thus, the literature insists on the need for formative evaluation during project development, understanding visitor motivations and expectations through segmentation studies, and even analyzing visitor feedback to understand their experience and subsequent programming (Chaney et al., 2018; vom Lehn & Heath, 2016); all this without forgetting a series of barriers for these institutions: the lack of budget, and the lack of qualified personnel (Saldaña & Celaya, 2012).

3.3. Current possibilities offered by the latest technologies to the social museum

In this context, we now offer a list of different technologies that can help museums in their innovation process, trying to explain the experiences by type of technology; we also show illustrative examples that help to understand this potential. This organization does not pretend to be taxonomic but merely illustrative. In other words, the objective is not to describe each and every technological option in the museum field but to show those that can help museums to fulfill their functions in a clearer way. To select the five technologies we have followed the proposal developed by Castilla (2012) in their work ‘Entornos museísticos, nuevas tecnologías expositivas’:

3.3.1. Mobile devices and smartphones

The potential offered by mobile devices to museums has been studied since the early 2000s (Proctor & Tellis, 2003). Today, it remains a major pillar in technological innovation applied to museums, which increases the possibilities of enjoyment of the heritage exhibited in the museum: “One of the clearest options that mobile technology has offered since the beginning has been the possibility of expanding the museum spaces, and in that idea, linked to the broad concept of heritage, to use the entire context where the museum building and collections are integrated, as a more complete cultural whole, included under the idea of spaces for presenting heritage” (Ibañez-Etxebarria, 2011, p. 71).

Indeed, one of the great potentials for museums is to take advantage of the mobile devices

that each visitor brings during the visit. This trend greatly reduces the investment in hardware that the museum must make, as it is carried out by each visitor who brings a technologically advanced device, his or her smartphone: “Mobile systems favor the ubiquity and accessibility of collections, the production of high quality interactive content, interaction with and between visitors and the optimization of the institution’s own resources” (Solano, 2012).

In addition, the proposal to use each visitor’s mobile phone favors acceptance and user experience, since the personal mobile is a friendly device that everyone knows and is familiar with. In the following example, we can see an interesting proposal of an x-ray simulator that, once downloaded as an application, allows a simulation of the interior of the artworks to be seen through the camera:

Figure 1. Example of using a smartphone *interactivity* through an X-ray simulator



Figure 2. Example of interaction through a QR code



Source: National Museum of Fine Arts of Argentina (MNBA)

Another interesting option that exploits the potential of mobile phones is to offer the visitor the possibility of further information about the artwork or even create their own gallery on their mobile phone, by including a QR code (Figure 2).

The visitor can scan this code, access enriched information about the artwork and download it to generate their own online gallery to share with their acquaintances.

3.3.2. Virtual Reality and Augmented Reality

We define Virtual Reality (VR) as the generation of a virtual environment, closed and 100 % digital, which the user can experience as if he/she were in a real and natural setting. We found a remarkable example of the use of virtual reality in museums in the experience carried out in 2017

by the National Archaeological Museum in Madrid. This museum generated five stories that allow the user to travel in time to recreate how their ancestors lived. The five scenarios that were recreated were Prehistory, Prohistory, Roman Hispania, the Middle Ages and the Modern Age. Thus, the organization seeks to reinvent the concept of museum visits and exploit this technology to bring the visitor closer to the history of Spain.

Augmented Reality (AR) refers to the ability to project virtual objects onto real images, generating a mixed experience, enriched with virtual and fictional images, overlapping in a real physical environment. As with Virtual Reality, Augmented Reality has also proven to have a pedagogical application for museums and interpretation centers, where it is one of the most advanced

Figure 3. Example of the use of Virtual Reality in the National Archaeological Museum



Source: Antena 3 Televisión (Spain)

resources because it promotes interaction between visitors and the cultural object in an attractive and educational way (Ruiz-Torres, 2011).

In his work “Augmented Reality, education and museums”, Ruiz-Torres has already detailed, in 2011, more than ten examples of the use of this technology by institutions such as the Virtual Museum of Computer Science, University of Castilla La Mancha, the Interpretation Center of the Order of Calatrava of the Castle of Alcaudete de Jaén, the Museum of the Autonomy of Andalusia in Seville, the Center for the Interpretation of Technology Zamudio, the Museum of the Jurassic in Asturias, etc. (Ruiz-Torres, 2011). According to Castilla (2012), the use of Virtual Reality (VR) and Augmented Reality (AR) can be used in museums to perform reconstructions and to create multimedia smart guides.

In the first case, the use of these technologies allows the observation of a painting to be en-

hanced through the superimposition of virtual images that the user can appreciate through the camera of his/her own mobile phone. The virtual images could have the aim of explaining the work, contextualizing it in a fictitious environment, presenting relevant information, etc. It is relevant to comment on the experience developed by the company Smartify, which has generated a mobile application that can be downloaded to any device and that recognizes the artwork displayed and shows relevant information about it. This real-time image processing system can be used to view paintings, sculptures or other objects. The most remarkable thing is that this initiative is not linked to any specific museum, but rather that a private company has developed this application. It can be used in any museum in the world. Whether the works can be recognized will depend on the speed with which museums manage to digitize the works they exhibit:

In addition to carrying out reconstructions, museums can also use virtual and augmented reality to update traditional audio guides, favouring new and personalized experiences such as having the virtual presence of the artist describing his work process or having representations of period characters explaining the use or manufacture of the elements on display (Castilla, 2012).

3.3.3. Touch tools

Museums now allow touch. Traditionally, artworks had to remain behind a display case or a string marking a distance from which to observe. The proliferation of touch screens allows visitors to interact with the exhibits in a simple, intuitive and innovative way, making it possible to navigate maps and images with the hands, see multimedia content, zoom in, rotate, etc.

The Espacio Visual Europa (EVE) (2017) states that touch screens allow the development of parallel discourses according to the type of public and their information needs, helping to understand the exhibition message and making the tour in the museum much more versatile, so that the public can be addressed according to their interest and/or level of curiosity. One of the best examples of the use of touch screens is found

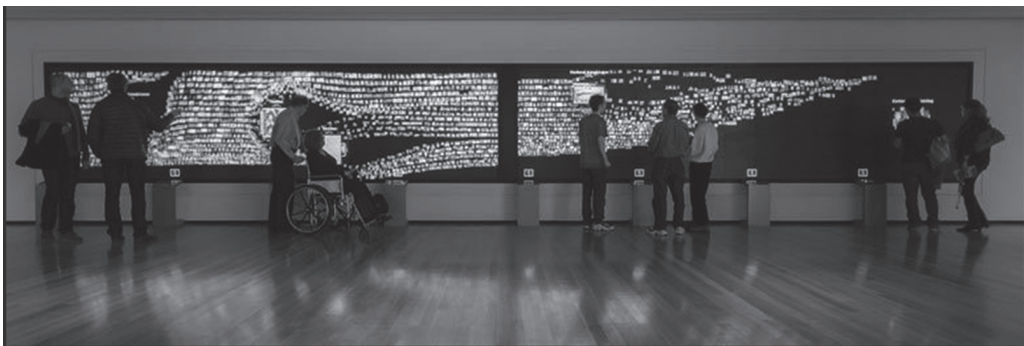
in The Cleveland Museum of Art, which invites viewers of all ages to actively participate through exploration (Saldaña & Celaya, 2012) (Figure 4).

3.3.4. Audiovisual scenographic elements

Another of the possibilities offered by new technologies is to create scenographic spaces to generate a highly immersive digital environment. Immersive techniques seek to make the visitor feel part of the recreation or viewing. This sensation can be achieved, for example, through a panoramic visual sensation or through spatial and surround sound. It can be improved with realistic environmental effects or those that appeal to the rest of the senses (synchronized ambient lighting, wind, mechanical vibrations of the floor or seats, replication of scents).

Unlike virtual or augmented reality, these spaces work with the panoramic sensation of immersion, making it ideal for recreating historical, archaeological or natural reconstructions with maximum spectacular effects. Once the sensation of reality is achieved, the system can be provided with forms of interaction with the environment as natural and intuitive as possible to avoid breaking the feeling of immersion (Castilla, 2012).

Figure 4. Example of the use of a large touch screen



Source: The Cleveland Museum of Art

This technique has great potential to bring complex problems closer to a general public, as is the case, for example, with the issue of biological diversity (Marandino, 2011). We found another remarkable example of the use of these immersive digital techniques in the Foresta Luminia project, in the Parc Decouverte Natura, in Quebec. At nightfall, visitors explore the trails and areas of the park at their own pace, experiencing a set with lighting effects and videomapping accompanied by an original soundtrack created for this project. Along the two kilometers of the path, which has been called “the garden of wishes”, visitors, children and adults interact with the space by taking a “magic stone”, making a wish and then throwing it into the water of the “enchanted lake”, activating audiovisual effects of great impact. The tour also allows visitors to meet fascinating virtual beings that accompany them on their extraordinary adventure.

Figure 5. Example of the use of immersive techniques with audiovisual scenographic elements



Source: forestalumina.com

3.3.5. 3D screens, fog screens and spherical projection

The 3D technology that offers the greatest potential for museums is specular holography. This technique consists of obtaining 3D objects or animations “in the air” by controlling specular images generated by screens or 2D projection surfaces, commonly called holograms (Castilla, 2012). Holographic techniques can be mixed with other systems that enhance the interactivity of the hologram, allowing users to interact with these three-dimensional digital images in real time.

The Illinois Museum and Holocaust Education Center makes significant use of this technology by allowing its users to interact with the holographic image of various survivors. The exhibition uses speech recognition and automatic learning technology to make it easier for visitors to ask questions of World War II survivors and also to hear their answers. To this end, the museum recorded thirteen of these survivors who, for nearly a week, answered thousands of questions in high-definition video. Most of them live in the United States, although others reside in Canada, Israel and the United Kingdom. The idea is to preserve their testimonies after they die.

Figure 6. Example of the use of interactive holograms



SSource: ilholocaustmuseum.org

4. Conclusion and implications

It is clear how new technologies offer an opportunity in the construction of a truly social museum, more inclusive and participatory, giving way to what we can call a digital social museum. The examples cited, as well as the theoretical framework, show how there are numerous initiatives, somewhat dispersed and atomized, to take advantage of the potential offered by these new technologies to bring the works on display closer and to generate a dialogue with the visitor that will improve his or her experience.

Considering the previous contributions, which define the digital social museum as a way of management that takes advantage of the opportunities offered by digital technologies, achieves a

truly close, open and social approach to the visitors, enriching the visitor's experience by personalizing the interaction, favoring accessibility and expanding the target audience of the exhibition (Mas, 2018, 2020), we can argue that the concept of the social museum has been overcome by a more current vision that we call the digital social museum.

The digital social museum favors the image of the museum as a connecting platform of audiences, contents and experiences through digital technologies. In the following table, we complete Llerena's proposal (2015) with a new column related to the uniqueness of the digital social museum if we compare it with its more "analogical" version.

Table 2. Comparison between the social museum and the digital social museum

	Social Museum	Digital Social Museum
Museums are places for:	Everyone. A space where visitors contribute to the institution with ideas and suggestions, and where dialogue and socialization are encouraged. They are given the opportunity to create and connect with people who share the same interests.	Digital technologies enhance the interaction of the visitor with the museum, between the visitors, and the interaction in an autonomous way with their own mobile devices. These devices allow to customize the experience and thus improve the visit, adapting it to each one. Digital devices therefore encourage connectivity, creativity and visitor participation.
The exhibition is based on:	A collaborative process with visitors through studies of the public.	Digital technology allows for a mapping of the visitor's experience, providing, even in real time, data on preferences, interactions and questions, which can improve the exhibition in real time. The participation of the visitor in the generation of the exhibition becomes a reality.
The focus of the exhibition is on:	The commitment and experience of the public, which is fundamental.	The interaction of the visitor with the exhibited artwork, in an adapted and personalized way. It evolves the concept of the visitor as a global concept, to the interaction that each individual makes in each visit.
The focus of the activity is on:	Visitors.	Each visitor as a unique individual (customization and adaptation).
The perception of communication is:	Cultural: there is a constant interaction between object and subject.	Community: Interaction of individuals around a cultural theme. The museum provides the content on which the interrelationship of individuals is based. The community manager as curator.

Table 2. Comparison between the social museum and the digital social museum (cont.)

	Social Museum	Digital Social Museum
Knowledge is:	Multiple, open and presented in a way that allows for many interpretations.	Knowledge is adapted to the experience that each individual wants to have.
Knowledge is acquired from:	The individual, who interacts in an active and participative way.	The community in general and the individual in particular.
The public is conceived as:	Developer of learning, experiences, knowledge and experiences.	Consumer of customized experiences, protagonist of his own visit.
The teacher is seen as:	A facilitator and mediator who participates in the construction of the knowledge presented by the museum.	Community enabler that brings the experience closer to the newcomer.
The learning approach is:	Constructivist. Learning is active, it implies a restructuring of the mental schemes of those who learn. The learning is participative and dialogical. The public is an active part of a space of social encounter and exchange of knowledge.	Customized through the unique experience that each visitor has, based on multiple stimuli, generated by both the museum and the rest of the community.
The evaluation is done through:	It identifies and develops potential audiences, communicates with communities and learns how audiences experience the museum and their perception of it. It focuses on participants' behavior and the impact of actions, i.e., what they do and what happens as a result of that experience.	Customized and in real time.
Communication/conversation is:	Two-way: understanding these spaces as places of interaction.	Multidirectional: Museum and Community.
Communication and museum interpretation services:	It can be found everywhere.	No spatial-temporal location. Can be accessed from anywhere at any time.

Source: Own elaboration based on the proposal of Llerena (2015)

Therefore, future research will have to rethink the contributions given to the management of social museums and face an approach fully integrated into a digital framework, which requires marketing and communication profes-

sionals to implement new technologies and social networks in the management of communication and positioning of museums – all this under the framework of the evolution between the merely social and the digital social.

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