

# An Overview of the Challenges and Educational Initiatives Developed by Museums to Combat COVID-19

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## Abstract

The global pandemic of the COVID-19 has caused numerous challenges and obstacles in the museum sector. Due to social and mobility restrictions, museums have had to adapt their services to virtual scenarios in record time. In this article we explore the different initiatives developed in various geographical locations around the world and investigate the various barriers and limitations that museums have experienced in dealing with this pandemic. In addition, we explore the different lines of current research that address this issue and analyze the educational and professional implications that can be drawn from this health and social crisis. Some of our main findings reveal the importance of digital education and training of the museum's professional staff. They also highlight the big role played by social networks as a resource to bring the museum closer to the audience in times of coronavirus. Finally, we argue for a greater political effort to guarantee the digitization of museums that do not have sufficient resources in times when access to culture is mainly online.

**Keywords:** COVID-19, museums, challenges, education, training, social media, initiatives

## 1. Introduction

In the early part of 2020, a new virus, the so-called coronavirus or COVID-19, began to spread all over the world, causing an enormous number of deaths and the collapse of health services in different countries. As a result, an unprecedented health emergency was unleashed, bringing enormous challenges in all areas of society. In view of this health emergency, the different governments of the world decided to act in order to safeguard public health. To this end, they developed a series of measures aimed at minimising transmissions on the basis of two fundamental principles: social isolation and social distancing (Benzell, Collis & Nicolaidis, 2020). These measures generated two different settings throughout the fight against the virus: first, the total closure of any non-essential activity and, later, the reopening, but with large restrictive measures in relation to capacity and social distancing. As a result, all sectors of society were forced to adapt to the new situations in order to survive. In this sense, museums were not exempted from these measures, having to face, like the rest of sectors, both scenarios (International Council of Museums, 2020b).

Regarding the first scenario, the International Council of Museums (2020d) estimates that around 90% of world's museums have closed their doors. With this closure, these cultural centres were forced to postpone or even cancel their activities, projects, shows, exhibitions, etc. This had a significant economic impact (Oyelude, 2020; Samoroudi, Rodríguez & Perry, 2020), as despite closing their doors and consequently eliminating their main source of funding, they continued developing their internal, management and even protection and restoration's work (Ou, 2020; International Council of Museums, 2020d).

Given this situation, museums were forced to redefine themselves (Rivero, Navarro-Neri & García-Ceballos, 2020) in order to face two fundamental challenges: (1) maintaining cultural dissemination and commitment to the public sector and (2) protecting the labour rights of their employees (Kilmer, 2020; Samoroudi, Rodríguez & Perry, 2020). To this end, the only plausible alternative that respected the new isolation and closure measures was the use of digital media (Samoroudi, Rodríguez & Perry, 2020; Agostino, Arnaboldi & Lampis, 2020). In this way, museums began to use digital tools not only as instruments of promotion, communication or advertising (Ou, 2020), but also as creative and innovative means to continue providing their service to society without going against the new legislation nor putting public health at risk (Agostino, Arnaboldi & Diaz, 2020).

As a result, the different museums of the world adapted their activities in very different ways, such as: virtual visits, development of online collections and exhibitions; creation of podcasts or blog entries about the collections; development of social network campaigns to raise awareness about the alternatives of the on-site museum; development of live transmissions; development of educational resources, etc. (Ciecko 2020; International Council of Museums, 2020a; Ou, 2020; Samoroudi, Rodríguez & Perry, 2020). Such has been the use of digital media during this period of closure that both the museums' activity in these media and the number of virtual visits have doubled (Agostino, Arnaboldi & Lampis, 2020; Rivero, Navarro-Neri & García-Ceballos, 2020; International Council of Museums, 2020d).

However, we must highlight that many museums, due to their lack of resources, have been unable to digitalize themselves. In fact, the International Council of Museums (2020d) estimates that 13% of the centres which were forced to close their doors will hardly be able to reopen them after the pandemic ends, due to the large debts they will have to face (Oyelude, 2020; Kilmer, 2020).

As time passed, this situation of closure changed as the number of people infected and the health pressure began to decrease. In this way, the different governments of the world decided to restart all the activities that they had been previously forced to cancel, but with significant measures based on social distancing. In this new scenario, museums opened their doors again, although this time with a unique challenge: to preserve the health of visitors and employees (Kilmer, 2020).

To this end, museums had to develop health safety protocols that included measures such as: reducing seating capacity; checking the body temperature of visitors; providing hydro-alcoholic gels; ensuring the correct use of masks and the respect of the social distance of 1.5 metres between visitors; disinfecting and ventilating buildings; or medical examinations of employees, among other aspects. (Ou, 2020; International Council of Museums, 2020c). All these measures had again a significant economic impact due to the large amount of investment required, together with the decrease in income (International Council of Museums, 2020d). In fact, not all museums were able to reopen their doors because of their inability to cope with the financial cost of these health measures (International Council of Museums, 2020c).

As we can see, museums, like other sectors of society, have had to face two different settings during the pandemic caused by the COVID-19. However, there is still a long way to go, given that the fight against the virus is expected to be long. Moreover, it is difficult to establish a forecast of how the pandemic will evolve or when it will end. It is therefore impossible to determine the possible scenarios that the different sectors, including the world of museums, will have to face. However, it is clear that whatever the future scenarios may be, museums will have to adjust quickly and dynamically to the new situations that will arise if they want to survive and therefore keep providing their service to society (Ou, 2020).

Thus, the following sections include a series of initiatives carried out in different parts of the planet, as well as presents current and future lines of research. All these should be used as examples and guide for the scenarios to which the pandemic may predispose us and also for the new reality that may arise after it (Agostino, Arnaboldi & Dias, 2020; Rivero, Navarro-Neri & García-Ceballos, 2020).

## 2. Method

The study consists of an exploratory literature review (Gough, 2007). Thus, through this approach we aimed to make a synthesis of the main educational initiatives carried out through museums in COVID times. Exploratory literature reviews allow us to gather priority elements of information on a specific topic. According to Hammersley (2020), "the systematic review movement has served a useful general function in giving emphasis to the importance of active searching for relevant literature, rather than relying primarily upon existing knowledge in a field" (p. 29).

It was carried out through two research phases. In the first, an overview of the "informative elements" that characterize current research was obtained (Hallinger, 2007). This was of great help in getting an idea of our object of study. For the selection of the studies, in a first stage, the inclusion and exclusion criteria of the databases themselves were established. The literature included were studies published in digital spaces that (1) dealt with our object of study, (2) had as a central theme the research field of "Education, Museums". After that, we proceeded to read the documents. In this second phase, the inclusion/exclusion criteria were mainly pragmatic criteria, i.e., the level of adequacy to the objectives of the present research (Booth, Panpinnou & Sutton, 2012). In this sense, therefore, the papers had to deal with initiatives developed by museums in times of coronavirus.

In the second phase, a qualitative thematic analysis was carried out to obtain the foci of interest detected in the

literature analyzed. For this purpose, we used the qualitative analysis program Nvivo, in order to be able to establish a systematized and rigorous data analysis (Braun & Clarke, 2006). The emerging themes identified by the researchers were put into consensus on the basis of similarity and organised hierarchically to finally obtain some final categories that give rise to the thematic analysis presented in our results (Glaser & Strauss, 1967).

### 3. Results

This section will present the data collected and the analysis carried out on the topic in question. These data have been key to the conclusions drawn at the end of this document, and have provided a clear and broad perspective on how museums have responded to the pandemic situation through a number of interesting initiatives.

#### 3.1 Initiatives Implemented by Museums in Different Points of the Planet

As already mentioned in the previous section, mobility restrictions are leading to a reduction in access to the population's cultural, living and material heritage (UNESCO, 2020). Faced with this situation, museums have had to adapt and reinvent themselves in order to survive the "new normality" or even the possibility of entering new partial or total confinement. From different points of the planet, initiatives have begun to be carried out to enhance the museum field. Therefore, in this section, we will show the different measures and initiatives adopted by museums in different countries that have been collected in research articles and scientific documents. To this purpose, an exhaustive search has been carried out through an exploration of the international literature of studies dealing with the issue.

The museums represented in the various studies analysed took as their main measure to continue to fulfil their responsibility to serve society through digital means, virtualisation and in general by taking advantage of intangible heritage. In this sense, the study by Jiancheng (2020) analysed how the Chinese Science and Technology Museum (CSTM) promoted the fight against COVID-19. This paper described the creative approaches that were adopted to continue its function. In this sense, the museum digitised some of its exhibitions so that they could be visited virtually. At the same time, this museum also organised online classes for educational establishments and opened what they called the 'CSTM Cloud Lecture Hall' for confined audiences. Other initiatives included the broadcasting of live science experiments. In this event, live videos were created by making scientific speaker programs for the social networks and numerous prizes were raffled off to the contestants. In addition, they offered virtual thematic exhibitions to raise awareness and fight against COVID-19, which received millions of virtual visits. In general, the museum was converted to an online format and its visitors became cloud surfers. As the author states, the changes are here to stay and with the opening of the museum, and assuming all the efforts to comply with the security measures established by Chinese health, the crowds have been reduced by betting on the permanence of online services.

In the United States and the United Kingdom, similarly, new ways of experiencing cultural collections digitally have been developed during the pandemic (Samaroudi, Echavarría & Perry, 2020). In their research, they take on board all the suggestions and practical examples proposed by ICOM or the Network of European Museum Organisations. Among these, several stand out, such as facilitating people's access to online collections through works of art or digital copies, the creation of online tours through social networks such as Facebook, Instagram Live...or experiences and exploration of 3D objects. In addition, the paper presents the analysis of the types and sub-types of digital offerings analysed in 83 heritage institutions in the UK and the USA, along with the formats of content involved, the audiences to which these offerings were directed, and issues such as funding and efforts to address the needs of society. Finally, the research identified how in both countries, there is a large amount of resources aimed at providing digital access to information from museum and memory collections such as live streaming and other social networking platforms. However, the new digital offerings are not always used to their full potential in the global museum environment. For this reason, another key point refers to how the offers were mainly directed to audiences that were already interested in the related activities, with the possibility of improving the usability of the digital platforms to pay more attention to vulnerable audiences, investing more effort, for example, in producing virtual tours.

In the same vein, Agostino, Arnaboldi & Lampis (2020) investigate the reaction of 100 Italian state museums to the closure of their physical sites caused by the COVID-19 pandemic. They explain that cultural initiatives did not stop, rather there were strong increases in online cultural initiatives and materials through social networks (Facebook, Twitter and Instagram) and museums doubled their online activity and digital format. Similarly, there was an increase in audience participation fostered by the opportunity for engagement. There are changes that are points of reflection for a return to normality. For example, there are plans to restructure times, to use visiting time differently even when museums reopen or return to "normality", or to maintain the primary role of social networks to encourage and promote cultural events. In other countries such as France, the Louvre, which is the

most visited museum in the world (with 9.3 million visitors a year), received more than 400,000 visits a day to its website during the confinement (UNESCO, 2020), thus showing the increase in intangible cultural activity on digital platforms.

After having presented an exploration of the scientific literature on museum adaptations in the times of COVID-19, we will now consider other initiatives and examples of Social Media platforms of particular value and originality.

One of the main strategies practiced by museums has been the development of Contemporary Collecting Projects. These projects were a way of giving voice and power of artistic expression to the audience itself in the face of an event of such importance as the Covid-19 pandemic. In this sense, for example, we found numerous museums that organized collections that collected materials, experiences, photographs, news, etc., about the impact of the pandemic on their lives. An example of this original initiative would be the "Museum of Memories" project at the Tenby Museum and Art Gallery in Wales. In this project, people were encouraged to create a snapshot of the story/experience from their own home through different approaches and styles: collecting newspaper and magazine clippings, drawing pictures and writing letters and diaries...among others. Other museums, such as Alpinarium Galtür, proposed a very original project in which thousands of selfies with face-masks were collected from the public at home (Waterhouse, 2020).

Another strategy practiced during this period was the development of different initiatives through the use of social networks. The main objective was to enhance interaction with the public and thus facilitate their approach to the contents of the museum. However, this type of strategy was not used in the same way by all museums. Some used this interaction to collect information about the personal experiences of the public during the pandemic and thus contribute to the previous initiative (e.g. Aalborg City Archives in Denmark). Others used this tool to simply share the content of their museums (e.g., Bomann-Museum Celle in Germany). And others used it to disseminate other initiatives that were being developed in their museums (e.g. Civico di Castelbuono Museum in Italy). Although we must emphasize that the covid-19 intensified this type of practice, some of them, especially the last two mentioned, were already being practiced by many museums even before the pandemic (Grácio, 2020).

Streaming content has proved to be a very popular resource for disseminating works throughout the planet. This strategy consisted in broadcasting live events, most of them talks, through different digital media such as YouTube, Facebook, Instagram, etc. Some examples of this practice can be found in museums such as Picasso's in Malaga or the Thomas Cole National Historic Site in the USA.

The development of virtual tours in popular museums was also intensified. Thanks to the alliance of digital technologies and works chosen by the curators, museums such as Versailles in France offered the possibility of enjoying their paintings, sculptures and engravings in a new light. Some museums even wanted to make their most precious exhibitions available to the public, making online exhibitions, as is the case of the British museum in the United Kingdom. This is the case of the Girl Museum, which offered virtual exhibitions on stories of girls from all over the world, past and present.

In fact, these virtual tours sometimes went a step further by offering an innovative experience through 360-degree tours. This type of strategy consists of the simulation of the museum or site of interest through the use of images and videos together that allow you to visualize the environment as if you were immersed in it. In other words, it allows you to walk around the facilities with the simple use of a computer. This type of practice has been used by museums such as the Auswitch-birkenau museum in Poland; the Louvre in France; the American Museum of Natural History in the USA, among many others (Antara & Shuvro, 2020).

Other museums of high relevance sought alternatives to the pandemic of a didactic and recreational nature. This is the case of the Metropolitan Museum of Art in New York, which offered a wide range of learning at home resources for children and families. Thanks to this initiative, citizens from any part of the planet could explore the different corners of the museum in a fun and playful way, and consult curiosities from any period of time, jumping through the virtual "time machine" offered by the museum (Crooke, 2020). Following this approach, other museums in different geographical locations have developed gamma activities around their museums. For example, in Germany the Städle Museum created a learning and gaming app called "Imagoras" from which the visitor was invited to discover the world of the museum's works of art from a gamified experience.

UNESCO reports how intangible heritage can become a source of resilience in difficult circumstances as communities continue to gain inspiration, joy and solidarity through the practice of their cultures and traditions. Thus, in the UNESCO global survey on museums, museum professionals and COVID-19 have also shown that in times of crisis the transmission of traditional knowledge to younger generations contributes to short-term

psychological well-being. Also, this transmission benefits the recovery of communities in the long term. Similarly, this survey reveals how the commitment to and the increase in proposals for living heritage have been carried out all over the world through various online cultural activities. An example of this would be the traditional embroidery workshops (in China), the recovery of traditional recipes (Colombia, Costa Rica and Jamaica) or the telling of oral stories with elderly residents through the Zoom platform (British Isles). In addition, this initiative has been key to supporting and strengthening the resilience of museums in the face of the crisis.

### *3.2 Museums in COVID-19 Times: Future Lines of Research, Educational Implications and Lessons Learned*

In view of the vertiginous changes that are currently taking place, the functionality and characteristics of museums must be updated and adapted. The paradigms and principles behind traditional museum visits have been shaken by the intensification of social networks and media in our lives (Booth, Ogundipe & Røyseng, 2020). For this reason, the public no longer expects from these spaces the mere fact of access to culture, information and works of art. The audience expresses the need for a more elaborated experience that allows the visitor to engage in their learning process (Cunningham, 2009; Senge, 2006).

The health crisis caused by COVID-19 has led to a necessary effort to adapt to the new circumstances. This event could be conceived as another impulse to move towards a more digital and virtual scenario, but one that contemplates and values the museum as an educational and cultural resource (Kist, 2020). One of the main organisations that has developed many initiatives in this period of the pandemic has been UNESCO. In this way, UNESCO together with the International Council of Museums (ICOM) are carrying out different lines of research in order to determine the impact that the COVID-19 has caused in the field of museums (Akyol, 2020). One of its priority lines is aimed at finding museums that are developing actions and strategies to offer their services to the public in times of coronavirus crisis. To this end, these institutions propose greater and better public access to this type of space. At the same time, they consider that it could be very useful for the exchange of practices more adapted to the new scenarios, and to build new useful museum strategies in the near future (UNESCO, 2020).

Other lines of research addressed by UNESCO and ICOM are related to the situation of museum professionals, the economic impact that the pandemic will have on these spaces, technology and digital communication in relation to museums and their activities, the conservation of collections and their security, among others. Some of the preliminary results of these studies highlight the resilience of museums in the face of this crisis by COVID-19 and the new challenges they must face in order to continue guaranteeing and strengthening access to culture in society. On the other hand, the ibero-american territories are also developing research initiatives in the museum sector. In this case, it is a survey proposed by the Ibermuseum Programme (Delgado, 2020). The main objective of this survey is to evaluate the impact of the pandemic on the museums of this territorial area in order to coordinate specific actions and public policies that serve to boost and support these cultural and educational institutions.

Globally, this pandemic has led to a substantial conversion in the way museums operate and their dynamics. The following are some of the professional and educational implications of this temporary space:

- ✓ The digitisation of the museum and the digital literacy of its employees was key to this change. Therefore, many proposals are now aimed at greater training in digital skills for museum employees. According to reports from the ICOM (2020d), it is key to have a work team specialised in the development and creation of digital educational and cultural activities. For this reason, it would be of great importance to rethink new initiatives and strategies in museum institutions that facilitate greater contact with the public through cultural media.
- ✓ Big changes, great solutions. In the European context, museums have considered a significant solution to reformulate the tasks and functions of their employees and educators. In most cases, the institutions have developed a strategic plan in which their staff must face new professional and work challenges that are closely linked to the digital sector.
- ✓ Online platforms that present their collections virtually, newsletters, live content, podcasts, YouTube programmes, competitions proposed by the museums themselves, 360° recourse and even hashtags on social networks are some of the initiatives collected throughout this manuscript. All these resources have both human and digital costs. That is why, despite the fact that many countries have had this economic reinforcement, other countries have seen their action limited due to the budget deficit they were facing. This situation must be considered by the political spheres at a national and international level, considering the great value of the museum as a cultural and educational heritage.

- ✓ Deepening one of the previous points, social networks have taken a leading role in bringing the museum closer to the public. Hence, Facebook, Twitter or Instagram have been the spaces where several museums have shaped their digital activities and have invited the public to participate and enjoy them. However, despite the increase in the museum's visibility thanks to these social networks, and in more general terms the Internet, it is true that there are inequalities within the museum sector in terms of investment in new technologies.
- ✓ One of the most significant lessons we can draw in times of pandemic is the humanization of digital experiences within the museum sector. Many of the museum institutions have brought their space closer to the digital media and have made the public participate in their works. In different museums, a closer link has been created between the public and the institution and the audience has been encouraged to create their own works of art by the hand of the museum thanks to virtual workshops or live events.

#### 4. Conclusions

The above-mentioned considerations suggest that we are facing an era of change, which brings with it important decisions as to how to orient the future of the museum. In this scenario, we could conceive of the museum as a means of communication that presents its own message (museographic language). Within this communicative purpose, education could be one of its main goals. Dissemination and transfer have become key to a virtualized scenario. At the same time, the "forbidden to touch" could be replaced by the "forbidden not to interact" in front of a space where participation is for the most accessible audience.

There have been many adaptive actions followed by museums around the world to respond to the new world situation. However, and despite the great variety of strategies practiced, a common pattern can be observed, and that is the virtualization of the museum visit. This virtualization had already been gaining strength for years, however, the health crisis and its physical and mobility restrictions have led to the intensification of the use of networks and digital media to access and participate in cultural activities. Thanks to the potential of this type of resources, museums have achieved a double objective during the pandemic. On the one hand, maintaining their service to society, that is, promoting access to cultural heritage and maintaining contact with the public. And, on the other hand, to double their online activity, which has allowed them to increase public participation thanks to the greater opportunity for participation that these digital media offer (Agostino, Arnaboldia & Diaz, 2020).

Also, we suggest that we are facing a time of change, which entails important decisions on how to orient the future of the museum. We could conceive of the museum as a means of communication that presents its own message and body of knowledge. Within this communicative purpose, education could be one of its main objectives. For this reason, in a digitalized world (which already began to be so before COVID-19), the dissemination and transfer of knowledge has become the key to public engagement. With this new scenario, aspects of big value appear. An example would be the idea of making possible a paradigm shift, in which the "forbidden to touch" could be replaced by the "forbidden not to interact", in a space where participation is for the most accessible audience. In other words, to evolve towards a more participatory experience that seeks the protagonism of the users in their learning process in the museum. Finally, we consider that in difficult times, a basic aspect would be the increase of a better management and executive and strategic planning. In this scenario, it is even more necessary to develop actions that imply a greater connection and adaptation of the museum to the current circumstances (Vayanou et al., 2020). For this reason, it would be interesting to develop strategic adaptations based on diagnostic evaluations of the social and cultural impact that the programmed activities provoke in the museum's visitors. Their results could be very useful to continue innovating and focusing initiatives, resources and activities on the real interests and concerns of the public.

Finally, we consider that a basic aspect would be a better management and executive and strategic planning, establishing diagnostic evaluations of the social and cultural impact caused by the programmed activities on the museum's visitors.

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