

## Museums Between Presence and Digital as a Contribution to the 2030 Goals

**Elena QUERCI**

University of Insubria

Via Monte Generoso 71, 21100 Varese, Italy

[elena.querchi@uninsubria.it](mailto:elena.querchi@uninsubria.it)

**Patrizia GAZZOLA**

University of Insubria

Via Monte Generoso 71, 21100 Varese, Italy

[patrizia.gazzola@uninsubria.it](mailto:patrizia.gazzola@uninsubria.it)

### **Abstract**

*Rapid changes in contemporary society have shifted the centrality of things to the centrality of people in museums. The relationship with visitors has become a priority over their safety, access methods, and their cognitive development. The museums have long started their commitment to a revision of the installations and the renewal of the story, addressing above all to the new generations where the cataloging of knowledge in younger minds is certainly different from that, which is now consolidated, in other age groups. Therefore, for those born after 2000, there is a need to understand the chain of message organization and the reasons for the choices made by museum curators. The common language between museums and the new generations is certainly that of new technologies. The search for holistic approaches for museums has included environmental and sustainability factors in the assessment of culture. Culture, like the environment, represents a resource, both tangible and intangible, which must be guaranteed to future generations, from both an inter-generational and intra-generational perspective. Museums play a fundamental role in our societies. Not only do they preserve our heritage, but they also provide spaces in which to promote education, inspiration, and dialogue. Museums base their being on values of respect and cultural diversity. They are the stimulus for tourism and sustainable economic development. By giving their contribution to the achievement of some targets of the 2030 agenda. There are many objectives on which museums can work together and which can be achieved without altering the internal structure, others which require the collaboration of the civil society sector. In particular, museums are particularly committed to achieving objectives number 4 (Quality education), 8 (Decent work and economic growth), 11 (Sustainable cities and communities), despite being more than fifty targets overall on which museums can work effectively. The future of museums after the pandemic will move between physical and digital presence, in this work the various modalities and choices of economic and social sustainability will be investigated.*

### **Keywords**

*Museums; new technologies; digital presence; 2030 agenda; social sustainability.*

## **Introduction**

Among the main functions of museums is the task of opening up to citizens in a democratic way, operating in a way of eliminating any type of barrier that is an obstacle within the educational and cultural processes put in place for the dissemination of knowledge and culture, to make a fundamental contribution to the

growth and progress of contemporary society (Frunzaru, Vătămănescu, Gazzola, & Bolisani, 2018). Like any phenomenon linked to information, the relationship between museum and society, despite the rigid constraints dictated by the functions of conservation and protection, is subject to very rapid changes that the museum must know how to interpret and govern, under penalty of the risk that its communication language it is no longer understood by the contemporary world, (Tomea Gavizzoli, 2011). Therefore, museums have become living organizations, continuously linked to the changes and society and supporting their communities in various ways (Bira, Zbucnea, & Romanelli, 2020; Zbucnea, Romanelli, & Bira, 2021).

The visits to museums and exhibitions conceived and designed with computer languages and for the web have institutional importance and a diversified offer for the public. Strategic and marketing activities need to focus on virtual offerings, planning and supporting them to drive their long-term growth (Natale, 2012). The common language between museums and the new generations is certainly that of new technologies. The guideline for museums to follow is creativity and innovation to have a foundation for development in a post-pandemic world, (Zbucnea, Bira, & Romanelli, 2020). The search for holistic approaches for museums has included environmental and sustainability factors in the assessment of culture. Culture, like the environment, represents a resource, both tangible and intangible, which must be guaranteed to future generations, from both an inter-generational and intra-generational perspective (Throsby, 2001). Museums play a fundamental role in our societies. Not only do they preserve our heritage, they also provide spaces in which to promote education, inspiration, and dialogue. Many museums activities can help achieve the 2030 SDGs: education, protection of the natural environment, protection of workers, research and innovation, etc. In this work, the various targets that can benefit from museum activities will be investigated not only for participation in presence of visitors but also for opening up to all the possibilities offered by new technologies and the Internet of Things.

## Methodology

The purpose of this document is to provide information on the progress and current potential of digital museums and their coexistence with museum visitors and their contribution to sustainable development. After an analysis of the literature of reference to the museum sector both in the presence and virtual in the era of the Covid-19 virus pandemic, the structure of the article develops as follows: In the first section there is an introduction on museums, their function, the transition from presence to virtual (Bonacini, 2012); subsequently, we will have an analysis of the contribution of museums to society and the natural environment, and the Sustainable Development Goals. Finally, in the last section, there are the conclusions and future trends of the museum sector.

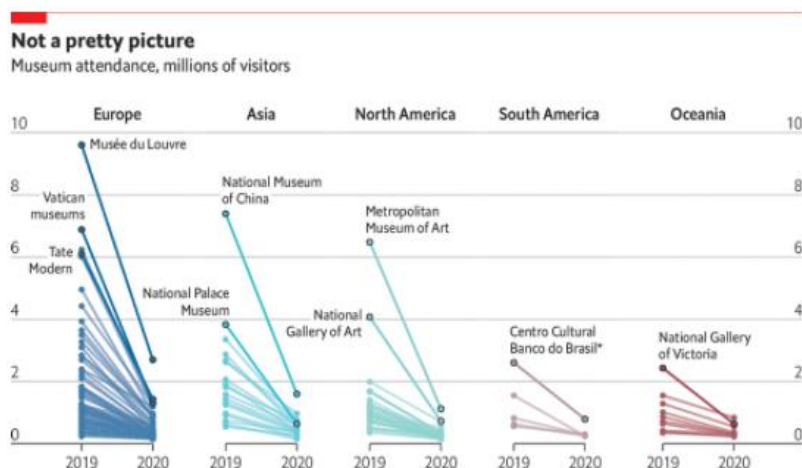
The authors started the investigation following these two research questions:

RQ1: How will Covid-19 change the way to visit the museums;

RQ2: How the digitalization of museums contributes to the SDGs.

### Physical museums versus digital museums

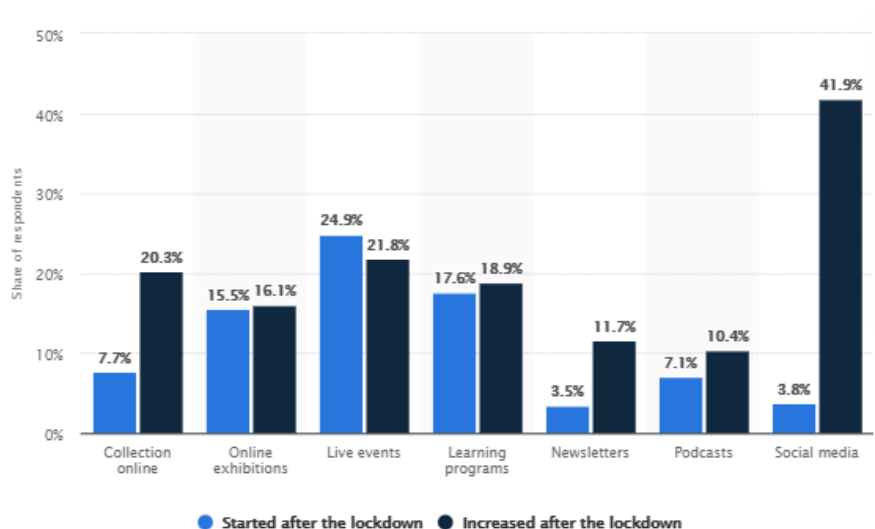
The pandemic caused by the Sars Covid-19 virus has had a devastating impact on museum openings around the world which have been closed due to various lockdowns but even when they were able to reopen the social distancing measures applied, they limited them to 20-30 % of the usual capacity. The Art Newspaper magazine in its annual survey highlights that museum visitors around the world fell by 77% in the world's 100 most visited art museums in 2020 and from 230 million in 2019 to just 54 million, due to the obligation closure for confinement (The Art Newspaper, 2021). Figure 1 compares the decrease in visitors between 2019 and 2020 in the main world museums.



**Figure 1. Museum attendance 2019-2020**  
(The Economist, 2021)

The loss of income in Europe was from 1,000 to 30,000 euros per week, even in the short periods in which they were open. The causes are attributable to the reduction in tickets sold and the lower income from funding from public institutions and private entities (NEMO, 2021). To maintain the relationship with their visitors, during the lockdown, had to work to promote their activities through new methods and techniques. the opportunities offered by the application of digital strategies by transforming the usability of their collections and events into the "new normal of cultural benefit" (Agostino et al., 2020).

The cultural offer of museums has opened up to a more flexible vision of "relationships and activities related to the evaluation, collection, and visualization of cultures and histories" (Clifford, 1997). In the face of closures and social distancing, in 2020, museum institutions have therefore increased digital activities from social media to live digital events. Figure 2 highlights the various increases in digital activity after the lockdown from November 2020 (Statista, 2021).



**Figure 2.** Share of museums starting or increasing digital activities after the lockdown as of November 2020  
(Statista 2021)

As shown in Figure 2, the increase in digital offerings highlights that «Museums are changing from static artifact warehouses into active learning environments for people. (..) In addition to looking inside their own collections, museums now look outside, towards their public; where in the past there was research on the collections, now the public is also sought. (..) It is no longer enough to collect an end in itself; collecting has become the means to an end, that of creating bonds with people, and connecting with their experience» (Hooper-Greenhill, 1994). To access an infinite audience and those who cannot attend, museums use social media via virtual messages tours, interviews with their directors, and descriptions of works of art, as well as quizzes and treasure hunts running. The adoption of new multimedia and augmented reality (AR) strategies exceeds the limit of use of social media, moving from communication channels to tools for the dissemination of cultural material that will continue even in the post-COVID-19 phase (Agostino, Arnaboldi, & Lampis, 2020).

The multitude of artifacts present in museums all over the world does not have the possibility of making them available in their entirety to the public both for the limited space and fragility of the works and for the choices to exhibit them in traveling exhibitions where the costs (transport, insurance, experienced museum planners, etc.) are often are very high. It's the latter are the ones that create the greatest revenue. Combining visits to real museums with visits using virtual reality (VR) and augmented reality (AR) technologies are choices that convey usability to different audiences, including the disabled and students of all ages (Walczak, Cellary, & White, 2006). The integration of digital technologies into the physical museum space can therefore offer new ways of viewing, engaging, interpreting, and creating meaning, (Falk and Dierking, 2008). However, the technological choices of museums are not the panacea, in fact, as emerges from the UNESCO report, (data collected and analyzed between April 16 and May 20, 2020) access to contents published online by a museum is not granted to

everyone, and their distribution in the world is unfair. This is found in the first place by looking at the data on access to internet connections in the world: as the digital-2020-global report shows (Kemp, 2020) (Figure 3), in fact, about half of the world population does not have this privilege with an important gender gap in the use of digital technologies, compared to men, about 50% fewer women have mobile internet access (International Telecommunication Union, 2020).



**Figure 3. Digital around in the world in 2020**  
(Kemp, 2020)

### Museums and their digitization as a contribution to Sustainable Development Goals

The digital culture is not a simple contrast to traditional reading and information with a technological and digital one, but access to the large number of resources and digital content available today and extremely useful for education, learning, and heritage evaluation cultural. To access digital resources, they must be stable and non-volatile, accessible through structured metadata aligned with international standards which, in perspective, make them easily reusable by different research communities and user groups. digital infrastructures must be able to interoperate with national, European, and international infrastructures (Buttò, 2019). Investing in digitization not only for protection, knowledge, and dissemination but also for the expansion of one's audience and the use of digital content will lead to a multiplier effect of a culture that will generate positive economic and social externalities.

Solima (2011) said: "The value of a museum is no longer measured by the collections it houses, but by the relationships it creates manages to establish within the company, with institutions and all stakeholders. In this transition, digital innovation provides the infrastructure that multiplies the opportunities for exchange, accessibility, and participation. For this reason, the question of the centrality of the public, with a view to sharing and co-creation, emerged predominantly even before the issue linked to digital skills ". With the evolution of Web 4.0, other tools useful for aggregation have also been encouraged and use of users and the free sharing of textual, graphic, audio, and video content thanks to digital innovation that provides the infrastructure and allows the multiplication of opportunities for exchange, accessibility, and participation in museum proposals. The offer of the museums is progressively modulated according to the preferences of their public, modifying the cultural proposals based on the needs

and requests of visitors who express their preferences through social networks by sharing content, writing comments and reviews, publication of photographs, or video recording. The museum staff has multiple communication and visitor loyalty tools such as podcasting, tagging, wikis, and RSS feed. With the new digital communication tools, it is possible to have the perception of the visitors' wishes and their new points of view and consequently adapt the museum proposals to their needs, both online and on-site.

The process that defines culture as the fourth pillar of sustainable development was introduced in 2002 when Agenda 21 UN for Culture was proposed; A new category has therefore emerged from the point of view of environmental sustainability, the role of the digitization of cultural heritage, to which museums are directly connected, is to preserve it and make it more accessible also with respect to the problems related to inequality for access to cultural information. Full cultural sustainability can be achieved if clear and reproducible organizational and management strategies are put in place with respect to digital content. The concept of sustainable cultural development is linked to the economic significance attributable to cultural heritage. Whose capital value is given by the tangible and intangible assets that compose it. Sustainable development is represented as an overlap of four pillars (figure 4), namely environment, society, culture, and economy (UNESCO, 2013).

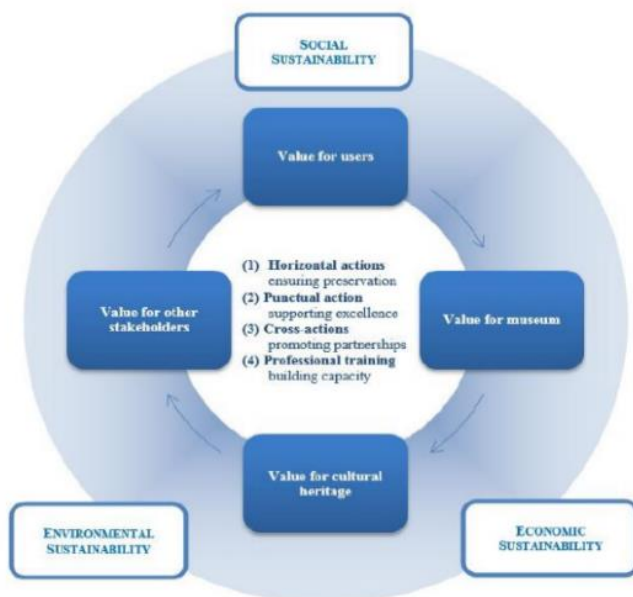


**Figure 4. The four pillars of sustainable development**  
(Makrakis, Gkatzos, & Larios, 2012)

Sustainability in a museum is considered one of the tools that help to transmit the local cultural heritage, maintain the emotional relationship with the community, to reach a new audience, and develop interactions with the subjects operating in the museums and investors. Furthermore, the choices of Sustainability in museums could offer a new vision new strategic vision to manage collections and relations with local stakeholders (Vătămănescu et al., 2017). Adopting the culture of sustainability also means better use of all resources from a social responsibility perspective (Pencarelli et al., 2016). As highlighted by the 4 pillars of sustainability, to become sustainable, museums must consider at the same time the economic, social, natural, and cultural environments like any other organization (Hunt & Kershaw, 2013) -see figure 5.

There are several reasons why museums find it difficult to incorporate sustainability strategies:

- The difficulties encountered by museums especially in the Covid era to guarantee their survival and development, Maslow, (decrease in entrance fees and public and private funding, difficulty in organizing events in presence)
- the lack of a "green policy";
- the inability of the museum management to take sustainable measures;
- the demotivation of museum staff due to low wages and the lack of resources needed to properly carry out the museum's activities, (Pop & Borza, 2016);
- lack of knowledge of the entire museum organization of sustainability.



**Figure 5. Museum as a Cultural Entity and the Sustainable Development Process**  
(Pencarelli et al., 2016)

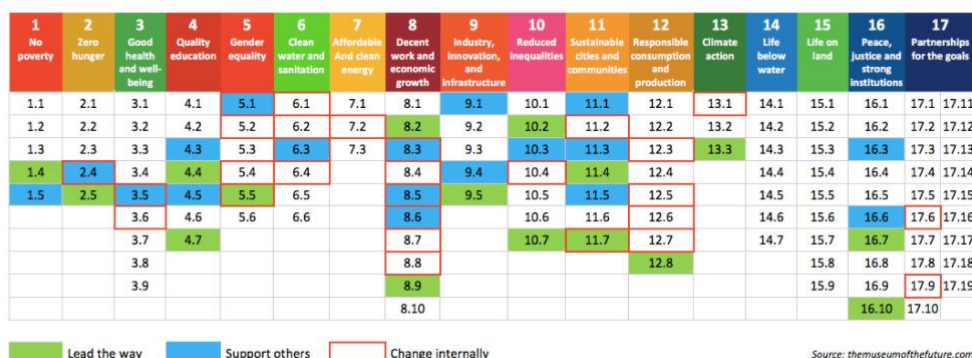
The start of the path towards a more sustainable museum can therefore only take place if the aforementioned obstacles are removed, encouraging the motivation of people to tackle the issues also in synergy with sector experts from a different discipline. The adoption of the social report (Querci, 2018) and a definition in the mission that includes sustainability are fundamental steps to have a guide for adopting sustainable strategies supported by resources and tools. Gradually the results achieved must be reported and told to all stakeholders, including visitors and communities (Rota, 2019). The technological supports to convey this information are essential for sharing what has been done.

The environmental, social, and economic impact of museums around the world can be compared to that of a small country. In the world the number of museums is about 55,000, if each of them limited their impact, the contribution to the SDGs would certainly be important. Being aware of how each museum can contribute to the SDGs is important not only for the museum institution but also for each worker, from custodians, curators, disseminators, and visitors. The contribution of museums to the



achievement of the 2030 objectives is possible. The Museums have a role in many objectives of the SDGs. In figure no. 6 it emerges that, overall, there are more than fifty targets on which museums can work effectively. As highlighted in the legend those colored in green represent the sectors in which the museums are already engaged in applying sustainable strategies, those with the blue color indicate the targets for which the collaboration of an external body is necessary to reach them, while those framed in red represent the target for which an internal change to the structure is required (Visser, 2017).

## Museums and the Sustainable Development Goals



**Figure 6. Museum and the Sustainable Development Goals**  
(Visser, 2017)

An approach to the digital transformation (Devine, 2021) of museums is functional for cultural heritage entered on people, inclusive, forward-looking, integrated, sustainable, and intersectoral, supporting cultural inclusion and participation and fostering the leadership of the local community, also by means of digital tools; improve information and knowledge transfer in the cultural sector, taking into account information and the digital shift; It is important that the recognition of Culture is not only intended as a defense of heritage but also as an active vector of economic and social development, innovation and citizenship and in line with some objectives of the 2030 Agenda such as 4 (4.7) -11 (11.7) - 12 (12.b) 4.7. Ensure by 2030 that all learners acquire the knowledge and skills necessary to promote sustainable development, including through education aimed at sustainable development and lifestyle, on human rights, gender equality, the promotion of a peaceful and nonviolent culture, global citizenship, and the enhancement of cultural diversity and the contribution of culture to sustainable development 11.7 The goal is to make cities, provinces, and municipalities sustainable, guaranteeing the " access to safe, inclusive and accessible public spaces, in particular for women and children, the elderly and people with disabilities. 12.b Develop and implement tools, including digital ones, to monitor the impacts of sustainable development for tourism. But being more than fifty targets overall on which museums can work effectively, important are too: SDG 11.4 concerns the protection and commitment to safeguarding the world cultural and natural heritage this objective is closely linked to the achievement of many other SDGs because the



existence of museums and their collections serve as the basis for a wide range of activities: learning and education (SDG 4) and research and innovation (SDG 9). SDGs 9 relating to research and innovation is closely linked to the protection and conservation of natural and cultural heritage together with SDGs 2 (sustainable agriculture), 13 (climate action), 14 (life in water), and 15 (life on earth). It is with the achievement of SDG 10 that we will be able to decrease inequalities by allowing people to express, experience, and participate in the expressions of their own culture and the culture of others (McGhie, 2019).

### Conclusions

Technological advances directly involve museums and other cultural institutions and the role they play. According to the part of the research of the RQ1, the digitization of cultural heritage for the European Union is considered one of the priorities for sustainable social and economic development. The European Commission through the Horizon 2020 program supports scientific research and innovation with a significant impact on citizens' lives. With funding from Horizon 2020, the Virtual Multimodal Museum project was launched in the general context of European policy and practice on digital cultural heritage. Museums by integrating digitization improve the visitor experience by using innovative technologies that provide new ways of interacting with the objects on display, currently we can have different ways of using museums: the intelligent physical museum, the remote accessible virtual museum, and the museum embedded in the smart environment (Ioannides, Marinos, & Davies, 2018). Currently, the involvement of ever larger and wider communities of museum visitors is now taking place with new forms of decentralized and digitally mediated creative production that allow not only the reception but also the co-production of contents. This trend could be more interesting for a wider audience because it can allow visitors to start their online journey by enjoying some preview content on the collections, then benefiting from a dedicated in-person path, in the museum, with further insights, it will no longer be about showing objects, but about sharing experiences and create wider connections (Bran, Bautu, & Popovici, 2020). UNESCO (2015) in its recommendation on the protection and promotion of museums and collections, their diversity, and their role in society says: "The protection and promotion of cultural and natural diversity are the main challenges of the 21st century. In this sense, museums and collections are primary means through which tangible and intangible evidence of nature and human cultures are safeguarded".

Following the results of the RQ2, the contemporary museum must operate according to the sustainable development of society and the well-being of communities, in line with the Unesco Sustainable Development Goals for Culture on the 2030 Agenda, and the OECD guidelines in Culture and local development: maximizing the impact. According to ICOM (2011), "sustainability is the dynamic process of recognition and conservation of tangible and intangible heritage, through which museums respond to the needs of the community. To be sustainable, through their mission museums must play an active role appealing to the community, adding value to heritage and memory social." Museums "can increase the level of awareness of sustainability and climate change, working with communities and empowering them the power to bring about change to ensure a habitable planet, the long-term social justice, and fair economic exchanges

”(OECD / ICOM 2019). The measurement of the value generated by museums and the effects of digitization choices both of typical activities and on the redevelopment of buildings and energy consumption is no longer strictly related to the economic sphere but embraces cultural welfare in a broader sense. The analysis of the impact of new innovative strategies must not only highlight the effects of these choices on the stakeholders but also the social effects (formal and informal education, access to the network, inclusion of vulnerable groups, social environment, etc.). The impact of culture is two-dimensional: a tangible impact both direct and indirect on the local economy, on the employment of workers, and the relative wages, the second is the immaterial impact given by the existence of a museum and by the return of the social benefit it entails, such as the individual learning and experience given by the encounter with art and the comparison with history and the past (Luigini, & Panciroli, 2018). By acting on their tangible and intangible impacts, museums can contribute to achieving the 2030 SDGs.

## Bibliography

- Agenda21 UN (1992).  
<https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>
- Agostino, D., Arnaboldi, M., & Lorenzini, E. (2020). Verso un «new normal» dei musei post-COVID 19: quale ruolo per il digitale? [Towards a "new normal" of post-COVID 19 museums: what role for digital?]. *Economia della Cultura*, 30(1), 79- 83.
- Agostino, D., Arnaboldi, M., & Lampis, A. (2020). Italian state museums during the COVID-19 crisis: from onsite closure to online openness. *Museum Management and Curatorship*, 35(4), 362-372.
- Bira, M., Zbucnea, A., & Romanelli, M. (2020). Romanian Museums under Scrutiny. *Management Dynamics in the Knowledge Economy*, 8(3), 297-320. <https://doi.org/10.2478/mdke-2020-0019>
- Bonacini, E. (2012). Il museo partecipativo sul web: forme di partecipazione dell'utente alla produzione culturale e alla creazione di valore culturale [The participatory museum on the web: forms of user participation in cultural production and the creation of cultural value]. *Il Capitale culturale*, 5, 93-125. <http://riviste.unimc.it/index.php/cap-cult/issue/view/19>
- Bran, E., Bautu, B., & Popovici, D. M. (2020). Towards a Sustainable Future: Ubiquitous Knowledge Mixed Reality Museum. *Procedia Computer Science*, 176, 2878-2885.
- Buttò, S., (2019). Patrimonio bibliografico e culturale: l'ICCU per una nuova cultura del digitale, (Bibliographic and cultural heritage: the ICCU for a new digital culture) AgendaDigitale.eu, May 2019. [www.agendadigitale.eu/cultura-digitale/patrimonio-bibliografico-e-culturale-liccu-per-una-nuova-cultura-del-digitale/](http://www.agendadigitale.eu/cultura-digitale/patrimonio-bibliografico-e-culturale-liccu-per-una-nuova-cultura-del-digitale/)
- Clifford, J. (1997). *Routes: Travel and translation in the late twentieth century*. Harvard University Press.
- Devine, C. (2021). Microsoft's Libraries & Museums Digital Transformation Framework. <https://blooloop.com/museum/in-depth/digital-transformation-museums-microsoft-catherine-devine/>
- Falk, J. H., & Dierking, L. D. (2008). Enhancing visitor interaction and learning with mobile technologies. In L. Tallon & K. Walker (Eds.), *Digital technologies and the museum experience: Handheld guides and other media* (pp. 19-34). Altamira Press.
- Frunzaru, V., Vătămănescu, E. M., Gazzola, P., & Bolisani, E. (2018). Challenges to higher education in the knowledge economy: anti-intellectualism, materialism and employability. *Knowledge Management Research & Practice*, 16(3), 388-401.
- Hooper-Greenhill, E (1994). *Museum and their Visitors*, Routledge.

- Hunt, A., & Kershaw A. (2013) *Sustainable Development through Heritage and Education*. The New Peterborough
- ICOM. (2019) *Culture and Local Development: maximizing the impact*. [https://icom.museum/wp-content/uploads/2019/08/ICOM-OECD-GUIDE\\_EN\\_FINAL.pdf](https://icom.museum/wp-content/uploads/2019/08/ICOM-OECD-GUIDE_EN_FINAL.pdf)
- International Telecommunication Union (2020). *Measuring digital development Facts and figures 2020*. <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2020.pdf>
- ICOM (2011) *Activity Report 2011*, <https://icom.museum/wp-content/uploads/2018/07/Activity-Report-2011.pdf>
- Ioannides, M., & Davies, R. (2018). ViMM-Virtual Multimodal Museum: a manifesto and roadmap for Europe's digital cultural heritage. In *2018 International Conference on Intelligent Systems (IS)* (pp. 343-350). IEEE.
- Kemp, S. (2020). *Digital 2020 Global Digital Overview*. <https://datareportal.com/reports/digital-2020-global-digital-overview>
- Luigini, A., & Panciroli, C. (2018). *Ambienti digitali per l'educazione all'arte e al patrimonio*. Franco Angeli.
- Makrakis, V., Gkatzos, D., & Larios, Ni. (2012). ICT-Enabled Climate Change Education and Children Rights. *Journal of Teacher Education for Sustainability*. 14. <https://doi.org/10.2478/v10099-012-0011-y>
- Marinos, I., & Davies, R. (2018). ViMM-Virtual Multimodal Museum: a manifesto and roadmap for Europe's digital cultural heritage. *International Conference on Intelligent Systems (IS)*, IEEE.
- McGhie, H. A. (2019). *Museums and the Sustainable Development Goals: a how-to guide for museums, galleries, the cultural sector and their partners*. Curating Tomorrow. [www.curatingtomorrow.co.uk](http://www.curatingtomorrow.co.uk)
- Natale, M. T. (2012). *Handbook on Virtual Exhibitions and Virtual Performances: Version 1.0. INDICATE Project*.
- NEMO – The Network of European Museum Organisation. (2021). *Follow-up Survey on the impact of the COVID-19 pandemic on museums in Europe - Final Report*. [https://www.nemo.org/fileadmin/Dateien/public/NEMO\\_documents/NEMO\\_COVID19\\_FollowUpReport\\_11.1.2021.pdf](https://www.nemo.org/fileadmin/Dateien/public/NEMO_documents/NEMO_COVID19_FollowUpReport_11.1.2021.pdf)
- OECD / ICOM. (2019) *Culture and local Development maximizing the impact*. <https://www.oecd.org/cfe/leed/OECD-ICOM-GUIDE-MUSEUMS-IT.pdf>
- Pencarelli, T., Cerquetti, M., & Splendiani, S. (2016). The Sustainable Management of Museums: an Italian Perspective. *Tourism and Hospitality Management*, 22(1), 29–46.
- Pop, I. L., & Borza, A. (2016). Factors influencing the sustainability of museums and indicators for measuring the sustainability of museums. *Sustainability*, 8 (1), 101.
- Querci, E. (2018) Sustainability Performance of SMS: the approach to non - financial reporting *Challenging the Status Quo in Management and Economics*, 1008.
- Rota M. (2019) *Musei per la sostenibilità integrata [Museums for integrated sustainability]*. Collana Geografie Culturali Editrice Bibliografia.
- Solima, L. (2011) *Social network: verso un nuovo paradigma per la valorizzazione della domanda museale*. In *Sinergie*, 82(10), 51-52.
- Statista. (2021) *Share of museums starting or increasing digital activities after the lockdown as of November 2020*. <https://www.statista.com/statistics/1203110/digital-museum-activities-during-coronavirus-worldwide/#~:text=According%20to%20a%20November%202020.live%20events>
- The Economist. (2021) *Attendance at the world's biggest art museums has plummeted*. <https://www.economist.com/graphic-detail/2021/04/01/attendance-at-the-worlds-biggest-art-museums- has-plummeted>

- The Art Newspaper. (2021). *Visitor Figures 2020: top 100 art museums revealed as attendance drops by 77% worldwide*. <https://www.theartnewspaper.com/analysis/visitor-figures-2020-top-100-art-museums>
- Tomea Gavizzoli, M. L. (2011). *Manuale di museologia [Handbook of museology]*. Rizzoli ETAS.
- Throsby, D. (2001). *Economics and culture*. Cambridge University Press.
- Clifford, J. (1997) *Routes: Travel and Translation in the Late Twentieth Century*. Harvard University Press.
- UNESCO. (2013). *Introducing Cultural Heritage into the Sustainable Development Agenda*. United Nations Educational, Scientific and Cultural Organisation.  
<http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CLT/images/HeritageENG.pdf>
- UNESCO. (2020). *Museums, museum professionals and COVID-19: ICOM and UNESCO release their full reports*. <https://icom.museum/en/news/museums-museum-professionals-and-covid-19-survey-results/>
- Vătămănescu, E. M., Gazzola, P., Dincă, V. M., & Pezzetti, R. (2017). Mapping entrepreneurs' orientation towards sustainability in interaction versus network marketing practices. *Sustainability*, 9(9), 1580.
- Visser, J. (2017) *Museums and the SDGs: Where to make a difference?*  
<https://themuseumofthefuture.com/2018/07/18/museums-and-the-sdgs-where-to-make-a-difference/>
- Walczak, K., Cellary, W., & White, M. (2006). Virtual museum exhibitions. *Computer*, 39(3), 93-95.
- Zbucea, A., Bira, M., & Romanelli, M. (2020). Museum in Times of the Covid-19 pandemic. Focus on Romania and Italy. In C. Bratianu et al. (Eds.), *Strategica* (pp. 680-692), Tritonic.
- Zbucea, A., Romanelli, M., & Bira, M. (2021). Through the public's Lens: Are museums active members of society? An investigation during the COVID-19 pandemic. In P. Demartini et al. (Eds.), *Cultural Initiatives for Sustainable Development: Management, Participation and Entrepreneurship in the Cultural and Creative Sector* (pp. 61-84), Springer.