



Perspectives on Museography 4.0 in Latin America: A new way of communicating heritage?

Perspectivas de la museografía 4.0 en Latinoamérica: ¿una nueva forma de comunicar el patrimonio??

✉ Adriam Camacho Domínguez^{1*} 

✉ Yulianela Pérez García² 

Abstract

This essay is framed within the challenges left by the COVID-19 pandemic on cultural consumption and the ways in which Latin American museums adapted to new virtual environments. Cultural institutions established the improvement of their communication and marketing strategies as a fundamental pillar of their work, viewing it as a process of construction and dialogue that remains changing and dynamic. The fundamental objective is to analyze the impact of digital technologies in the context of various Latin American museums to discuss their integration and transition processes toward Museography 4.0. From a methodological perspective, a critical documentary review and a synthetic-deductive analysis are used for the diagnosis of variables such as transmedia narratives, immersive experiences, digital strategies, and AI systems; this allows for a rethinking of the ongoing communication challenges we face.

Keywords: Museum, cultural user, marketing, cultural dissemination.

Abstract

Este ensayo se enmarca en los desafíos que dejó la pandemia del COVID-19 en el consumo cultural y en los modos en que los museos latinoamericanos se adaptaron a los nuevos escenarios virtuales. Las instituciones culturales tuvieron como eje fundamental de trabajo la mejora de sus estrategias de comunicación y marketing como un proceso de construcción y diálogo que sigue siendo cambiante y dinámico. Se persigue como objetivo fundamental analizar el impacto de las tecnologías digitales en el contexto de algunos museos latinoamericanos para debatir sobre sus procesos de inserción y transición hacia una museografía 4.0. Desde el punto de vista metodológico se utiliza la revisión crítica documental y un análisis sintético-deductivo para el diagnóstico de algunas variables como el de las narrativas transmedia, las experiencias inmersivas, estrategias digitales o los sistemas de IA; lo que permite repensar los continuos desafíos comunicacionales a los que hay que enfrentar.

Palabras clave: Museo, usuario cultural, marketing, difusión de la cultura.

¹Universidad Laica Vicente Rocafuerte de Guayaquil, Ecuador

²Universidad de las Artes, Ecuador

*Corresponding author.

Suggested citation: Camacho Domínguez, A.C. y Pérez García, Y. (2026). Perspectivas de la museografía 4.0 en Latinoamérica: ¿una nueva forma de comunicar el patrimonio?. *Re-HuSo*, 11(1), 92-101. <https://doi.org/10.33936/rehuso.v11i1.7421>

Received: March 30 2025

Accepted: December 29 2025

Published: January 1 2026

This work is licensed under a Creative Commons Attribution 4.0 International License.



Introduction

Since the outbreak and end of the COVID-19 pandemic, a rupture in communication paradigms has occurred, one that is still in the process of being shaped globally (NEMO, 2020). Creative, cultural, and leisure activities were redirected toward virtual environments, and in that process, one of the cultural institutions that underwent the greatest transformations was museums. In-person and virtual interactions began to show a complementary relationship, and the use of new digital technologies to improve the visitor experience began to become more common (Camacho y Pérez, 2021).

This reality has been assessed by Betanzos and Márquez (2022) and García-Martín et al. (2020), who consider that bidirectional communication between museums and audiences has been taking place thanks to the advantages of the implementation of digital technologies; however, this process highlights other problems and accelerates the changes that were already underway in the field of museography.

Since 2015, the debate on the transition toward Museography 4.0 has been open and has made it possible to address the progressive integration of digital technologies such as augmented reality (AR), virtual reality (VR), artificial intelligence (AI) systems, big data, the Internet of Things (IoT), and immersive and personalized experiences that go beyond the simple exhibition of objects (Walhimer, 2016; Caliarì et al., 2024). Museography 4.0 thus becomes the “field of practices and uses of technological resources aimed at the natural, immersive, and intuitive integration of digital data throughout museum management” (Testón, 2018, p. 240). Traditional museographic installations are evolving into dynamic and adaptable spaces, capable of offering multisensory narratives and unique experiences that transcend the limitations of physical space and are moving toward the cross-cutting incorporation of technology and broader social access to the management of cultural, artistic, and historical resources (Angarita et al., 2025).

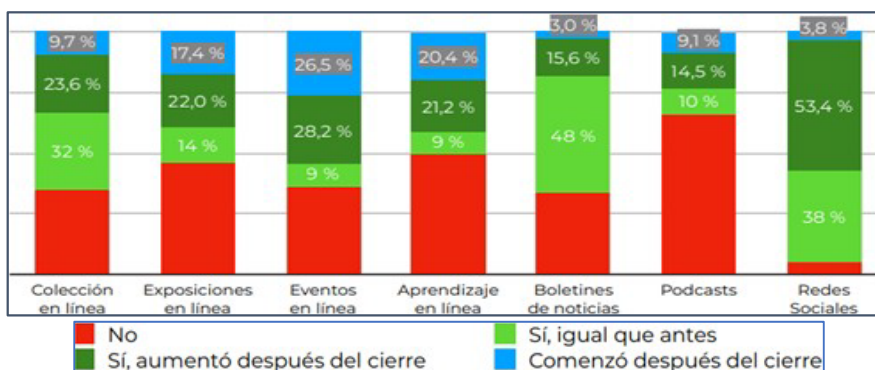
Several questions arise urgently in the debate: Are museums in Latin America prepared to transform their technological and communication strategies and adopt Museography 4.0? Is there support from governments and institutions through defined policies and clear strategies for these technological transformations? How do these transformations challenge society’s access to the construction of museographic narratives, as well as to their assets and management? These questions constitute the analytical *روح* of the present essay.

UNESCO and the International Council of Museums (ICOM) had been warning since 2021 that the transition process toward the use of new technologies in museum management was not homogeneous and that each continent could have its own conditions and expressions. For example, by the end of that year, a significant proportion of museums worldwide were allocating at least 6% of their budget to the use of virtual platforms for communication, while 21.9% of full-time staff were exclusively dedicated to digital activities.

In the same year, 2021, other indicators of accessibility to the use of new technologies continued to be deficient, as can be seen in Figure 1. Forty-seven percent of museums were still unable to present online exhibitions, only 21.2% had ventured into online learning activities, nearly 48% maintained the same flow of news through traditional channels such as newsletters, 66.4% had never used podcasts, and it was evident that only 53.4% had increased their presence on social media (ICOM, 2021, p. 15).

Figure 1.

Trends in Digital Communication in Museums Worldwide in Response to the Impact of COVID-19



Note. (ICOM, 2021)

This international context highlights the notable efforts made to promote a digital and technological transformation in the museum field. European and North American countries continue to lead in the holistic management of digital technologies, a process that has been supported by strategic investments and greater participation of the private sector in cultural economies (Dos-Santos et al., 2023).

According to UNESCO and the Registry of Ibero-American Museums, museums in Latin America are significant institutions that represent 8.4% of the 104,000 museums in the world. Countries such as Brazil, for example, have 3,906 museums, Mexico has 1,320, and Argentina has 1,183; while Colombia, Cuba, Chile, Peru, and Uruguay fall within the range of 201 to 500 (Registry of Ibero-American Museums, 2025). Although these institutions have found it necessary to adapt to the dynamics offered by technological innovation, they face a series of challenges such as disparities in technological infrastructure, funding limitations, and the digital divide, which make the full adoption of Museography 4.0 difficult, as well as equitable access for society as a whole.

At present, some of the problems that most affect museums in the Latin American region, in their efforts to incorporate new digital technologies to communicate their heritage, have to do with financial investment and technical infrastructure, digital divides, professional training, and communicational identity.

With regard to the costs of implementing and maintaining technological tools such as AR and VR, or properly managing AI systems according to museographic criteria, there must be significant investments or financial planning involving public-private partnerships. In the Latin American case, if we take into consideration the annual reports of the Registry of Ibero-American Museums, most museums receive public funding or depend on private donations; therefore, technological progress is slow and does not follow a strategic path.

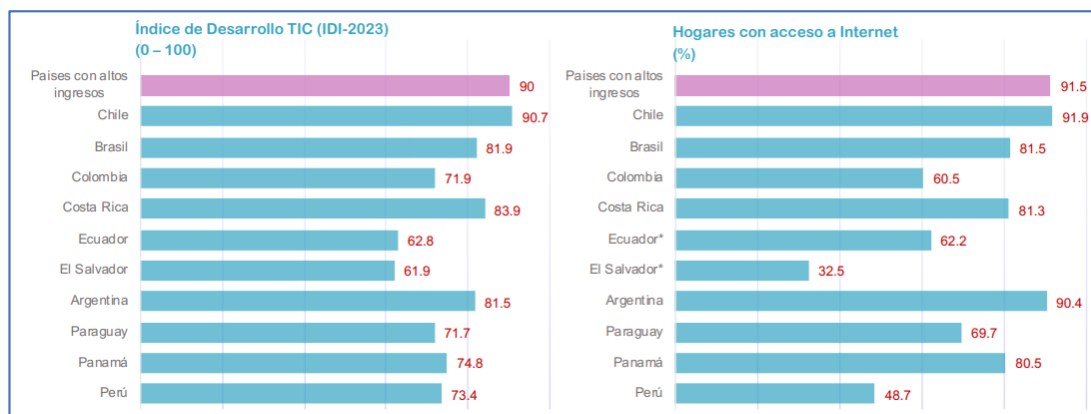
Some international organizations, such as UNESCO and the Inter-American Development Bank (IDB), have played an important role in financing museographic projects in Latin America; nevertheless, these institutions rely on grants and cultural development programs to compensate for the lack of local funding. However, competition for these resources is high, and not all museums are able to access these programs. As Vargas Santiago (2022) points out in his study on new trends within the museum sector:

The economic stability of museums must be achieved through new management and business models that combine not only public subsidies and donations, but also new areas of development and partnerships that enable them to ensure their basic functions, such as the conservation of their heritage collections, the maintenance of their facilities and infrastructure, and the expansion of the scope of their programs and educational work. (p. 31)

Given this scenario, it is evident that museums remain particularly vulnerable to fluctuations in funding and dependent on the socioeconomic and cultural policies of states. On the other hand, Latin America must confront obstacles such as the digital divide and limited access to technology, which generate major digital inequalities and notable differences between urban and rural areas, as well as among the different groups or classes that make up society as a whole. The fact that many communities do not have access to the internet or technological devices affects museums regardless of their location, causing visible limitations for users who do not have the tools needed to take advantage of digital experiences.

Figure 2.

Trends in Digital Communication in Museums Worldwide in Response to the Impact of COVID-19



Note. ICT Development Index - ITU (2023)

As shown in Figure 2, further progress is still needed in state policies to guarantee internet access in households and institutions and to reduce the technological inequality gap in the countries of the region. In this context, the repercussions for museums are detrimental in terms of technological and digital transformation. This situation limits strategies for digitization, preservation, dissemination, and connection with diverse audiences, especially those from rural sectors and the most affected groups, as well as their capacity to influence or provide feedback on museum management and the construction of their heritage narratives.

A third factor that hinders the transition toward Museography 4.0 in the Latin American context is centered on the training of human talent. The coordination among the various museum departments is still incipient for advanced technologies to be successfully implemented. Particularly in Latin America, specialized training strategies for museum staff do not prioritize topics related to innovation, technology, or AI systems with applicability to research, dissemination, or the curation of exhibitions.

Finally, it is necessary that identity-based perspectives be included in the process of creating digital content in order to bring museums closer to their local contexts. The diversity of the region poses an enormous challenge for assimilating and projecting advanced technological strategies into museography, in ways that respect and include the symbols, sensitive resources, and narratives of its inhabitants.

Another obstacle that slows the modernization and adaptation of museums to digital contexts is the judgments and lack of determination on the part of some directors and professionals in the sector. Mentalities within museum communities are diverse and complex, and an important part of them is resistant to structural changes. The perception that the traditional museum experience may be affected if collections move toward digital mediation, with AI systems or technological advances in this field, gives rise to views that seek to prevent the artistic or cultural depth inherent in the collections from being diluted (Briceño-Florez y Eccles, 2022).

Against this background, the present essay pursues as its main objective the analysis of the impact of digital technologies in the context of some Latin American museums in order to discuss their processes of incorporation and evolution within the framework of the transition toward Museography 4.0. From a methodological point of view, a critical documentary review and a synthetic-deductive analysis were used to discuss certain variables, such as transmedia narratives, immersive experiences, digital strategies, and AI systems; this makes it possible to rethink the ongoing communicational challenges we face.

Reference framework

Toward Museography 4.0: a complex and multifaceted symbiosis with transmedia narratives.

The complementarity between Museography 4.0 and transmedia narratives is revolutionizing the expansion of historical storytelling through new media and platforms, enhancing audience participation and their capacity to construct their own narratives, and transforming the management of cultural heritage by giving rise to exhibitions, objects, curatorial practices, and digital platforms that are increasingly immersive and participatory (Angarita et al., 2025).

This technological convergence has made it possible for museum institutions to progressively move beyond conventional formats and traditional architecture. Efforts aimed at shaping new immersive experiences and promoting a multiplicity of channels, both digital and analog, to intervene in museological discourses are articulated with the fundamental epistemological reconceptualization involved in the processes of construction, management, and socialization of collective heritage knowledge.

Audiences are increasingly participating in exhibition proposals enhanced through the incorporation of digital informational strategies, the mediation of interaction experiences, and the use of collaborative participation mechanisms. From this articulation, it is possible to observe the transformation toward a museum management model of a hybrid participatory nature, in which heritage objects would function as nuclei of multidimensional experiences integrating



reconstructions through virtual reality, documentation and interaction through social media platforms and digital discussion spaces, as well as processes of immersion and participatory content creation by users. Exhibition experiences in institutions such as the National Museum of Colombia in Bogotá, the Museum of Contemporary Art of Bogotá (MAC), the Museum of Modern Art of Medellín (MAMM), and the Gold Museum, also in Bogotá, demonstrate this symbiosis.

Audience participation became evident through different actions such as the active exploration of complementary digital content, their contribution to online discussions and debates, the creation and sharing of related content, and participation in collaborative documentation projects. In some experiences, audiences become more active, appropriate, and assign meaning to official historical-cultural narratives. These experiences involve movement through deeper levels of participation that flow from traditional observation to content co-creation, community curation, and the organization of virtual exhibitions.

Several Latin American museums are leading the implementation of these transmedia strategies. The already mentioned National Museum of Colombia, for example, has successfully developed multiplatform historical narratives that connect its physical exhibitions with digital experiences and community participation. The Museum of Latin American Art of Buenos Aires (MALBA), in Argentina, has implemented artistic creation platforms that allow visitors to interact with and intervene in the works in meaningful ways. Emerging trends in this field also include strategies such as the creation of digital curatorial communities; an example of this has taken place at the Museum of Pessoa, in Brazil, which is a pioneer in the creation of a “life narratives” platform based on people’s collaboration to tell their life trajectories and generate a broad testimonial archive.

The decentralization of narrative seeks to give individuals a voice in the exercise of constructing collective memory from personal experiences. The community takes part in the curation of these stories and contributes photographs, texts, and videos. Examples of two other institutions that have promoted collective strategies for knowledge construction are the Museum of Solidarity Salvador Allende (MSSA) in Chile and the Women’s Museum in Costa Rica, the first Central American virtual feminist museum, which is articulated through the narratives of its contributors.

In Chagas’s (2017) words, museums are good for thinking, feeling, intuiting, raising awareness, and acting as spaces for relationships, community building, and collaborative knowledge construction, as agents of change and not merely of accumulation. Considering people, and not only objects, enters into the discussion of the new ideas and narratives brought by social museography: “they are museums that, with memory and creativity, produce social transformations and make history; museums that exercise new political, poetic, and museological imaginations and collaborate in the innovation and invention of concepts and practices” (p. 112).

This theoretical debate and strategic commitment become essential when considering criteria such as those of Palencia Triana (2024), who argues that, in response to the challenge of low public attendance at museum spaces, transmedia narratives and the use of social media have become key tools for restoring the role of museums as spaces for learning, agents of change, and drivers of collective development. From this perspective, the creation of digital content and the expansion of user interaction across multiple platforms generate a decentralized narrative architecture that enables flexible and personalized reception experiences, in which each social actor contributes to the reconstruction of the official museum narrative (Angulo, 2020).

Another facet of the debate has been explored in greater depth by Latin American researchers such as Landa (2014) and Radicelli-García and Pomboza-Floril (2022), who have pointed out the upward trend in the implementation and development of the online museum, moving from the website as an advertising mechanism and a platform for interaction, participation, and learning to social media as tools that help generate and manage a more direct and personalized exchange of content between users and the museum institution (Carreras et al., 2003).

The theoretical position of authors such as Mendoza-Proañó and Jadán-Guerrero (2024), Guijarro Sánchez and Iglesias-García (2024), and Murphy and Villaespesa (2022) also reinforces the argument that the ongoing links between audiences and collections, through digital communication channels and social media such as discussion forums, chats, blogs, suggestion boxes, together with adequate support from AI systems and digital marketing, continue to reconfigure traditional physical museums with virtual elements through a museography based on digital technologies.



In the authors' view, the conceptualization and implementation of Museography 4.0 pose serious ethical and operational challenges. The incorporation of AI systems and digital tools can help democratize access and enhance museum interactivity, but it must go hand in hand with a strategic agenda that takes into account the region's socioeconomic disparities. Museum evolution will have to balance the efficiency of automation with the safeguarding of artistic and identity-related depth, preventing technological mediation from diluting the museum's social role as a space for community building and human dialogue.

Transmedia narratives, as part of the set of techniques associated with Museography 4.0, offer enormous potential for expanding stories across multiple platforms and tools that should be used by museum management and communication teams in Latin America. However, their implementation must be understood as a process of internal reflection that is adjusted to the contexts, discourses, and realities of diverse audiences.

1.2. Immersive proposals and enveloping experiences

The digital dimension, which runs across the entire organization of Museography 4.0, places museums before a strategic challenge. At the same time that they can optimize management and socialization processes, thereby contributing to the strengthening of the social role of museums, the multiplicity of channels, emerging platforms and technological tools, hyperconnectivity, and the social uses derived from all of this can be overwhelming and raise the need for strategic agendas that avoid scattered digital initiatives.

The latest trends in Museography 4.0, and their relationship with immersive experiences, have allowed Latin American museums to connect with part of their audiences by incorporating more dynamic, interactive, and personalized experiences; therefore, this constitutes a future path and a space for rethinking the social role of these institutions. Some of the most prominent aspects used by museums have focused on virtual reality (VR) and augmented reality (AR) through virtual tours, digital restoration, mobile applications, interactive audioguides, the gamification of the visit, immersive projections and video mapping, or sensory spaces. Taken together, all of these proposals capture the attention of a broader audience, especially younger generations, facilitate the understanding of complex concepts, and foster curiosity (Fernández y González, 2019).

Several of the most prominent cultural institutions in this regard are the Soumaya Museum (Mexico), which uses cutting-edge technology to present its collections, including virtual reality and mobile applications; the Museum of Contemporary Art of Niterói (Brazil), whose futuristic architecture and interactive exhibitions make it a benchmark in contemporary museography; and the Larco Museum (Peru), which offers virtual tours and mobile applications that enrich the visitor experience.

Other institutions, such as the aforementioned MALBA, have developed innovative technological strategies by combining augmented reality, virtual tours, and interactive multimedia resources—texts, audio, and videos—to diversify the interpretive experience with an educational approach. On the other hand, the Museum of Memory and Human Rights (Chile) has been experimenting with AI to analyze patterns of access to reconstituted memory archives and thus optimize the organization and presentation of materials for users. Likewise, the National Museum of Anthropology (MNA) in Mexico has implemented initiatives that use IBM Watson technology and allow visitors to interact immersively with some pieces in the collection through a mobile application.

In relation to this latter issue, the use of artificial intelligence (AI) and blockchain in Latin American museums is a constantly expanding field, with enormous potential to transform the visitor experience and the management of collections. This technology has become a fundamental tool for creating digital records of heritage objects, reinforcing criteria of authenticity, temporal traceability, the fight against illicit trafficking, and the use of non-fungible tokens (NFTs) that make it possible to raise funds through more operational, transparent, and secure procedures.

Rivero Moreno (2024) points out that the incorporation of NFTs and blockchain technology into the heritage debate, and specifically into contemporary museums, makes it possible to explore other alternatives for preserving and managing collections, attracting audiences through participatory engagement, and positioning museums as providers of verifiable information in the global environment of information and discourse construction.

Rivero Moreno (2024) señala que la incorporación de los NFTs y la tecnología blockchain en el debate patrimonial y en específico, en los museos contemporáneos, permiten la exploración de otras alternativas para conservar y gestionar las colecciones, atraer el público desde una actuación participativa, además de posicionar a los museos como proveedores de información verificable en el entorno global de la información y de construcción de discursos.

Without a doubt, this is one of the major challenges for museums, because they face problems related to significant investment in hardware, software, and training. It is essential to create the proper guarantees for the privacy of visitors' data, to balance technological innovation with the preservation and management of collections, and to generate narratives that connect with broad audiences and in which users can identify themselves.

1.3. Artificial Intelligence Systems in Museums: Are We Prepared?

Museographic practices have recently been challenged by the implementation of AI systems, especially in Latin American museums, where this constitutes a significant turning point by establishing new operational horizons for the management, interpretation, and socialization of regional and local cultural heritage.

Adapting these emerging technologies entails going beyond instrumental modernization and reconfiguring a conceptual and procedural scenario in which museum tradition and new analytical possibilities converge. The development of this field of computer science includes the possibility of diverse analytical tools aimed at curatorial automation and combining various elements that will be discussed below. This could generate substantial transformations in the methodologies of cultural mediation and in the collective processes of meaning-making surrounding the management of collections.

In this context, the capacity for information processing and collection analysis through the use of AI systems, as well as inventory management, makes it possible to identify correlations and interpretive patterns that considerably broaden the hermeneutic possibilities of heritage, thus establishing a new ecology of cultural knowledge that articulates the materiality of objects with the new virtual dimensions of interpretation and understanding.

Likewise, AI systems are being used for heritage conservation from various perspectives, both as support for the restoration of works that have suffered damage over time and through the monitoring and prediction of changes in environmental conditions that could affect the pieces. Although these tools offer greater precision and predictive capacity, which contribute to improving actions for the preservation of cultural heritage, they require greater technical preparation and training on the part of specialized personnel.

The use of chatbots and virtual assistants generated by AI systems is transforming the way visitors interact with museums. The visitor experience becomes more accessible, and all kinds of questions, exhibition information, or recommendations become more personalized. In this same direction, another use of AI lies in eye tracking and the measurement of the time audiences spend in a gallery, as well as their interaction with a work or activity, all with the aim of adapting exhibitions and improving the visitor experience.

Finally, the task of evaluating the ethical, social, and cultural dimensions inherent in the implementation of intelligent systems involved in these new technological transformations still remains pending, from a legal standpoint, within the contexts of museum management. The adoption of ethically responsible and collaborative frameworks for action among institutions and different social actors should continue to strengthen the sustainable preservation and democratic socialization of cultural heritage.

Although some museums in Latin America have ventured into this transformation, the implementation of AI systems is still in a growth phase, and widespread adoption continues to face challenges related to investment, infrastructure, training of the actors involved in these experiences, and legal gaps.

Conclusions

Museums in Latin America are currently going through one of their main challenges, caught between the adoption of new technologies, a defining feature of the transition toward Museography 4.0, and, on the other hand, the implementation of strategies that allow them to sustain the course of these transformations the specific contexts marked by the persistence

of traditional museum management, lacking investment and government funding for modernization, incipient interinstitutional collaboration, the social limitations imposed by the technological divide, among other elements. The adoption of new technologies is progressive and conditioned by political, economic, and cultural factors, which make this process the subject of an ongoing debate on how to improve the museum experience and democratize access to culture.

However, many museums in the region are leading the way toward a more interactive and inclusive museography, using new technologies to make collections more accessible, immersive, and personalized, which contributes to democratizing access to culture through co-constructed narratives based on the particularities of their audiences.

The incorporation of AI systems into museum management in Latin America, although constrained by contextual limitations, opens up a significant horizon of tools to enhance cultural experiences, deepen the analytical understanding of regional and local heritage, foster spaces for interaction and collective interlearning, and encourage the collaborative participation of all social actors.

The future scenario of the transition toward Museography 4.0 in Latin America will depend on the factors already mentioned, such as political will, investment in technologies and in the training of the human talent working in these institutions, the capacity of museums to devise adaptation strategies consistent with local realities, the ability to take advantage of opportunities for collaboration between the public and private sectors, flexibility in perspectives regarding transformation in traditional museum management schemes and their organic symbiosis with digital resources, and ensuring that the incorporation of advanced technologies is articulated with the principle of equitable universal access for all audiences.

Within the horizon of Information Sciences, it becomes imperative to develop lines of research that go beyond technical implementation and focus on data governance and algorithmic ethics within the Latin American museum ecosystem. Future studies should delve deeper into the design of interoperability systems that allow for the creation of shared digital archives among institutions in the region, thereby mitigating the fragmentation of efforts and the lack of strategic investment.

Finally, the analysis of the information literacy gap among professionals in the sector emerges as a priority area to ensure that the transition toward Museography 4.0 is not an instrumental imposition, but rather a process of inclusive, sustainable knowledge management adapted to local realities.

References

- Angarita Niño, D. P., Victoria Eugenia, R. R., & Camacho Yáñez, A. C. (2025). Museos inclusivos en Colombia: Diseño Universal, Accesibilidad y Tecnologías 4.0. Cuadernos del Centro de Estudios de Diseño y Comunicación, (255). <https://doi.org/10.18682/cdc.vi255.12182>
- Angulo, A (2020) Memoria fragmentada: la reconstrucción del pasado en el ciberespacio. URU, Revista de Comunicación y Cultura, 3, 43-52. <https://revistas.uasb.edu.ec/index.php/uru/article/view/1483/1323>
- Betanzos Torres, E., & Márquez Roa, U. (2022). La digitalización cultural en tiempos de pandemia. *Designio*, 4(1). <https://doi.org/10.52948/ds.v4i1.525>
- Briceño-Florez, E., y Eccles, K. (2022). Museos como plataformas de resistencia: El uso de la tecnología en la memoria de conflictos, la justicia transicional y la construcción de la paz. *Museum International*, 74 (3-4), 82-93. <https://doi.org/10.1080/13500775.2022.2234196>
- Camacho Domínguez, A., & Pérez García, Y. (2021). Comunicación, marketing y tecnología desde la experiencia museística en pandemia: *Revista Científica Ecociencia*, 8, 36-47. <https://doi.org/10.21855/eco-ciencia.80.639>
- Caliari, P. F., Spallone, R., Lamberti, F., Giovannini, E. C., Natta, F., Diatta, A. L., ... & De Lorenzis, F. (2024). Virtual Reconstruction, Museography, and VR/AR Communication in Design for Heritage. In *Advances in Representation: New AI-and XR-Driven Transdisciplinarity* (pp. 217-235). Cham: Springer Nature Switzerland. https://link.springer.com/chapter/10.1007/978-3-031-62963-1_13
- Carreras, C., Munilla, G., & Solanilla, L. (2003). Museos on-line: nuevas prácticas en el mundo de la cultura. *PH. Bol. Inst. Andaluz Patrimonio Histórico*, 46, 68-77 <https://dialnet.unirioja.es/servlet/articulo?codigo=761719>



- Chagas, M. (2017) Las dimensiones política y poética de los museos: fragmentos de la museología social. En *Museos, memoria, historia. Memorias de la XX Cátedra Anual de Historia Ernesto Restrepo Tirado* (pp. 93 - 113). Museo Nacional de Colombia. https://www.museonacional.gov.co/servicios-educativos/catedra/XXI_Catedra/Documents/Museos_%20memoria_historia_XXI_Ca%CC%81tedra_Museo_Nacional.pdf
- Dos-Santos-Abad, J., Piñeiro-Naval, V., & Somoza-Sabatés, I. (2023). La comunicación digital de los museos: análisis comparativo. *Anuario Electrónico de Estudios en Comunicación Social "Disertaciones"*, 16(1), 1-25. <https://doi.org/10.12804/revistas.uosario.edu.co/disertaciones/a.12316>
- Fernández Cortés, A. y González Sánchez, R. (2019). Análisis del uso de la tecnología en los museos: los museos inteligentes. Estudio de casos en la ciudad de Madrid. *Revista Internacional de Turismo, Empresa y Territorio*, 3(1), 96-139. <https://doi.org/10.21071/riturem.v3i1.11190>
- García-Martín, R., Ortega-Mohedano, F. y Pérez-Peláez, M. E. (2021) Comunicación y espacios culturales en tiempos de COVID-19. *Vivat Academia Revista de Comunicación*. 154. 21-43 https://doi.org/10.15178/va.2021_154.e1261
- Guijarro Sánchez, R., & Iglesias-García, M. (2024). Museos y tecnología: El caso del MACA y su interacción con el público. *European Public & Social Innovation Review*, 9, 1–20. <https://doi.org/10.31637/epsir-2024-1022>
- ICOM (April-2021). UNESCO Report. Museums around the World. In the face of COVID-19. https://unesdoc.unesco.org/ark:/48223/pf0000376729_eng
- ITU - Development Sector. (2023). Measuring digital development: The ICT Development Index 2023. https://www.itu.int/hub/publication/D-IND-ICT_MDD-2023-2/
- Landa Rojano, G. (2014) Redes sociales en museos mexicanos. Plataforma y posibilidades de las redes sociales en los museos de la Ciudad de México. *Escuela Nacional de Conservación Restauración y Museografía*.
- Mendoza-Proano, M. y Jadán-Guerrero, J. (2024) La transformación de los museos: De las vivencias presenciales a las experiencias digitales. En: Báez Revelo, N y Cueva Ortiz, N. *Urbanismo y Museología Social*. EnredARS, pp. 51-70. <https://dialnet.unirioja.es/servlet/articulo?codigo=9517752&orden=0&info=link>
- Murphy, O. y Villaespesa, E. (2022). La Red de Museos + Inteligencia Artificial: Guía para la aplicación de IA en museos (Informe de discusión). Goldsmiths, Universidad de Londres. Londres. <https://research.gold.ac.uk/id/eprint/31611/>
- NEMO (Network of European Museum Organisations) (2020) Survey on the impact of the COVID-19 situation on museums in Europe. Final Report. https://www.ne-mo.org/fileadmin/Dateien/public/NEMO_documents/NEMO_COVID19_Report_12.05.2020.pdf
- Palencia Triana, C. A. (2024). Museums, Social Media, And Transmedia Universes: Content Creation for Active Audience Participation. *VISUAL REVIEW. International Visual Culture Review*, 16(3), 229–238. <https://doi.org/10.62161/revvisual.v16.5259>
- Radicelli-García, C. y Pomboza-Floril, M. (2022) Museos digitales interactivos, una nueva forma de generar y transmitir conocimiento. *DYNA*, 89(222), 83-90, <https://revistas.unal.edu.co/index.php/dyna/article/view/101540/84904>
- Registro de Museos Iberoamericanos (2025). Museos en datos. <https://www.rmiberoamericanos.org/Home/Recursos>
- Rivero Moreno, L. D. (2024). Imagen precaria y NFTs.: Sobre la conservación del patrimonio digital a través de la tecnología blockchain. *Ge-conservación*, 26, 127-135. <https://doi.org/10.37558/GEC.V26I1.1224>
- Testón, A. M. (2018). *Hacia una museografía 4.0. Diseño de experiencias inmersivas con dispositivos de realidad aumentada*. [Tesis doctoral, Universidad politécnica de Valencia]. <https://riunet.upv.es/bitstreams/79d9d5a8-1074-4026-af40-18bfe26e9d13/download>
- Vargas Santiago, L. (2022). Museos: tendencias y estrategias digitales: arte, cultura y nuevas tecnologías en América Latina y el Caribe. *Banco Interamericano de Desarrollo* <https://doi.org/10.18235/0004298>
- Walhimer, M. (2016). Museum 4.0 as the Future of STEAM in Museums. *The STEAM Journal*. 2(2). 1-11. <https://scholarship.claremont.edu/steam/vol2/iss2/14/>



Author contribution

Authors	Contribution
Adriam Camacho Domínguez	Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Validation, Writing - original and final draft.
Yulianela Pérez García	Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Writing - original and final draft.