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METaverse, ACCESSIBILITY AND JOURNALISM: A REVIEW OF THE SCOPE OF THE SCIENTIFIC LITERATURE

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ABSTRACT

Introduction: In a context of rapid technological change, this study explores academic research on the metaverse in journalism, with a focus on accessibility to promote inclusion. **Methodology:** By using a scoping review based on the PRISMA protocol, a total of 16 open-access articles (2022–2024) from Web of Science and Scopus were analysed. Five main research themes emerged: media innovation, immersive journalism and technology, immersive journalism and gender, journalism and power, and other approaches. **Results:** Despite the innovative potential of these environments, the review reveals limited attention to digital inclusion in academic literature. A conceptual framework is proposed, integrating technical, symbolic, and organizational dimensions to guide the creation of accessible and ethically responsible journalistic content. **Discussion:** There is consensus on the urgent need to integrate accessibility as a structural axis in the design of immersive journalistic

experiences in the metaverse. **Conclusions:** Developing accessible immersive journalistic experiences requires structural transformation within media organizations, the incorporation of specialized expertise, and the active involvement of diverse communities from the earliest stages of content design and development.

Keywords: metaverse; immersive journalism; accessibility; digital inclusion; scoping review.

1. INTRODUCTION

Access to information is a fundamental right linked to the full exercise of citizenship. Web accessibility, as a gateway to information, has been recognized as part of digital rights in countries such as Spain (*Observatorio de Derechos Digitales*¹, 2025). Although progress has been made in guaranteeing inclusive access (Payeras, 2024), challenges remain, especially given the rapid pace of technological development. In fact, people with disabilities face significant barriers in accessing online content and services, impacting their employment, social, and leisure opportunities (Alonso López & Sidorenko Bautista, 2025).

The correlation between journalism and new technologies has given rise, since 2010, to immersive journalism, with new narrative forms adapted to digital environments (Barreda-Ángeles, 2018). These experiences are based on offering the viewer a first-person perspective of the news event (de la Peña et al., 2010), which requires a user-centered approach to information production.

The emergence of metaverses and proto-metaverses presents both opportunities and challenges for universal accessibility. These environments, which combine social networks, video games, and immersive platforms, promise to transform communication and access to information. However, their accessibility is still in its early stages (Dudley et al., 2023), which could widen existing gaps if not addressed through design. The nascent consolidation of metaverses offers an opportunity to build inclusive environments from the outset. Under this paradigm, user-centered design (UCD) is key to establishing guidelines that guarantee accessibility and prevent digital exclusion. Fernandez Casado (2023) emphasizes that ensuring equal access is essential for the metaverse to be truly inclusive.

Recent research indicates that the metaverse can reduce the digital divide by incorporating assistive technologies, interoperability standards, and universal design (Othman et al., 2024). However, without inclusive policies and active representation of people with disabilities in the design process, these environments could be exclusionary (Sorrentino et al., 2025). Media outlets, as key players, have an ethical and strategic responsibility: incorporating accessibility criteria into immersive experiences not only expands the potential audience but also reinforces journalism's commitment to equity and social justice.

¹ Digital Rights Observatory

1.1. Immersive Content and Journalism

Immersive experiences in journalism are not new. With digitization and the increase in screens, content has evolved toward 'transmedia' and disruptive narratives (Herrero de la Fuente et al., 2024), promoting the direct exploration of events (Barreda-Ángeles, 2018) and the personalization of formats (Pérez-Seijó & López-García, 2018). However, Sidorenko Bautista et al. (2020) warn that the continuity of this content is compromised by the lack of technical preparation among users and journalists. Recent studies indicate that interest in advancing immersive formats grows with the increasing penetration of technology in society (Posso Pacheco et al., 2024).

Authors such as Eskiadi and Panagiotou (2024) emphasize that the acceptance of immersive journalism depends on perceived realism and trust in the media, especially among older audiences with technological barriers. This requires adapting experiences to diverse demographic profiles and promoting inclusive digital literacy. Similarly, Cheng and Verboord (2024) point out that the implementation of immersive journalism requires, in addition to technological advancements, an organizational transformation in newsrooms to integrate new forms of digital storytelling.

Conversely, Costanza-Chock (2020) proposes designing technologies from a social justice perspective, acknowledging digital exclusions. Journalism in the metaverse should not only aspire to innovate in formats, but must guarantee access, understanding, and participation for all. This ethical perspective is key to ensuring that the metaverse does not become a new space of exclusion, but rather expands informed citizenship.

For Ihlebæk and Figenschou (2024), journalism can be considered a strategic field of action that redefines power dynamics. Immersive spaces reorient these dynamics and subject journalistic activity to ethical reinterpretation. Works such as that of López Hidalgo (2016) point to the opportunities that these immersive journalistic experiences offer for reflection on and understanding of conflicts.

1.2. Accessibility and Immersive Journalism

The *World Disability Inclusion Report* points out that disability is not homogeneous (Global Disability Summit, 2025) and suggests improving accessibility, combating stigmatization, facilitating access to quality technologies, and promoting the participation of people with disabilities in decision-making. Accessibility is not understood as mere access to content, but as a complete user experience (Guenaga et al., 2017).

The World Wide Web Consortium (W3C) published the WCAG 3.0 draft, which includes more descriptive guidelines and simpler explanations of accessibility for people with disabilities (W3C, 2024). Its structure allows for a more flexible evaluation of accessibility, considering visual, auditory, mobility, speech, sensory, cognitive, and combined needs (InSuit, 2024).

Marcus-Quinn et al. (2024) advocate for a structural transformation of media accessibility that includes the educational, urban, and cultural contexts in which information is consumed. Their approach emphasizes interdisciplinary collaboration and the active participation of people with disabilities in digital design. Similarly, Ribeiro et al. (2024) point out that accessibility must include symbolic dimensions, allowing avatars to reflect functional diversity without stigma. Media professionals should consider avatars as key elements of citizen representation. Current options are limited and can perpetuate stereotypes, restricting the self-expression of people with disabilities.

2. OBJECTIVES

The main purpose of this study is to explore the current state of academic research on the metaverse in the field of journalism, with particular attention to accessibility as a key component in the development of these environments. Based on this general premise, the following specific objectives are proposed:

- SO1. To identify the main themes and approaches that are being addressed in the scientific literature on metaverse and journalism.
- SO2. To examine whether accessibility is considered a relevant axis in the design, implementation or evaluation of immersive journalistic experiences in environments within the metaverse.
- SO3. To establish recommendations for promoting accessibility in the media environment, taking into consideration journalistic work.

3. METHODOLOGY

To achieve the objectives, a scoping review has been carried out, following the procedure established in the *Transparent Reporting of Systematic Reviews and Meta-Analyses* (Page et al., 2021), using the PRISMA flowchart to ensure a precise and standardized review. For the compilation of the literature that makes up the corpus of analysis, a systematic search was applied in the Web of Science (WoS) and Scopus databases, using the keywords "metaverse" and "journalism." This strategy allowed for the identification of an initial set of relevant publications. Subsequently, the results were refined, adjusting the sample to include only articles published in Open Access. The decision to select only open access articles follows guidelines established by CoARA (Coalition for the Advancement of Evaluation and Research), thus limiting potential biases or malpractice that could have influenced the selected articles. After this filtering and the removal of duplicates, the sample was limited to a very small number of items (n=16) that were published between 2022 and 2024. This aspect influenced the scoping approach. The review gave greater relevance to the narrative and qualitative dimension rather than the quantitative one.

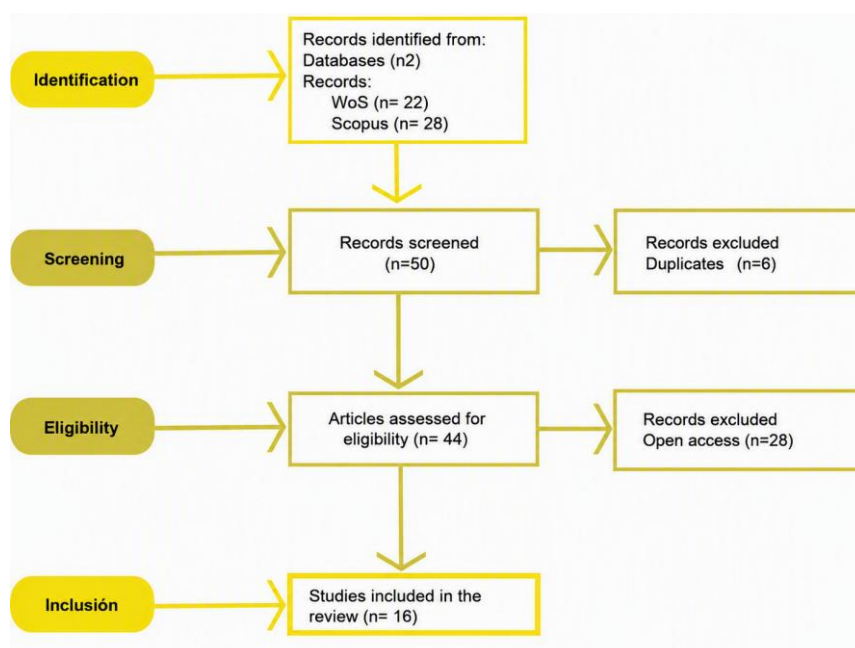
Subsequently, a thematic analysis of the articles was implemented, taking into account the content of the following elements: title, abstract, results, conclusions, and discussion. Following the analysis, a thematic categorization of the articles was established to identify patterns, gaps, and opportunities for future research, especially regarding the inclusion of people with disabilities in immersive information

experiences. Finally, to identify mentions or omissions of accessibility within the research content, NotebookLM, an artificial intelligence application based on a language model (Google, 2025), was used with the prompts: "Does this article discuss accessibility or access to information?" and "What other concepts does accessibility relate to in these articles?" To validate the results, a triangulation process was carried out with another artificial intelligence tool: Copilot, also based on a language model (Microsoft, 2025), using the same prompt. In all cases, the original texts were provided to the artificial intelligence tool to ensure control over the sources. The results obtained were individually compared and verified by the authors to ensure their accuracy and validity, following the recommendations of Codina (2025).

OpenAI ChatGPT-5 tool (2025) was used in the final stage of this research to shorten the text to the intended length for publication, as the initial version was longer. It should be noted that neither this nor any other AI tool was used to generate new substantive content or to replace the authors' analysis. Xu (2025) highlights that AI tools, such as GPT-based models, are widely used to support academic writing, for example, by reducing long texts to shorter versions, thus facilitating more efficient manuscript production.

Figure 1

Methodological Procedure for Defining the Corpus of Analysis



Source: Elaborated by the authors based on the PRISMA flow model in Page et al. (2021).

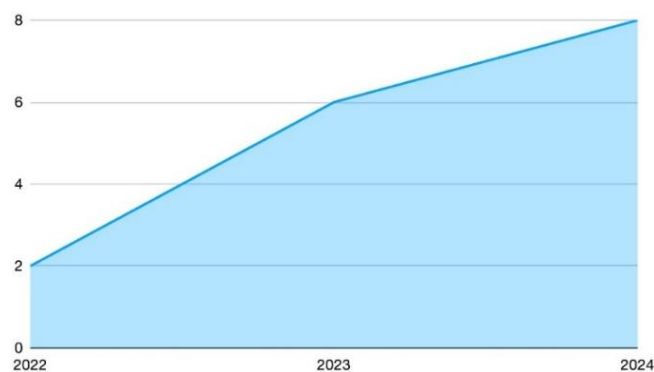
4. RESULTS

The corpus resulting from the review presented a limited number of articles indexed in WoS and Scopus (16 articles), suggesting the incipient nature of journalism's

integration into the digital environments of metaverses and its still exploratory academic approach. Similarly, the scientific output found in the results appears to be confined to a recent time frame (2022-2024), despite not having included any temporal filter in the results refinement. Nevertheless, the increase in literature continues to rise (Figure 2).

Figure 2

Temporal Progression of Publications on Metaverse and Journalism in WoS and Scopus

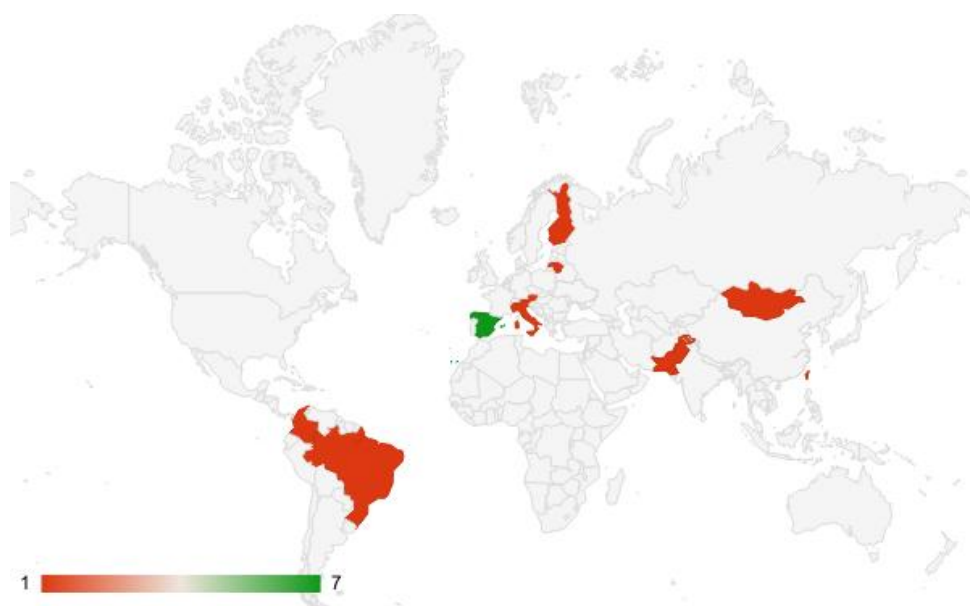


Source: Elaborated by the authors.

According to the nationality of the authors' affiliation, the country with the highest recorded scientific output is Spain, with 7 articles out of the total 16, while the rest of the identified nations, namely Italy, Taiwan, Lithuania, Brazil, Finland, Colombia, Pakistan and Mongolia, contribute to the corpus with 1 article each (Figure 3).

Figure 3

Nationality of the Contributions



Source: Elaborated by the authors.

There is some dispersion in the authorship of the publications. Only two articles by the authors Sánchez-Acedo, Carbonell-Alcocer, Gertrudix, and Rubio-Tamayo are identified; these are the authors with the highest scientific output in the analyzed sample, representing 11.7% of the total articles. There is a recurrence of publications in the Brazilian Journalism Research and European Public and Social Innovation. Each journal contains two articles in each section. In the first case, the articles are from the same special issue dedicated to virtual, augmented, and mixed reality in journalism. In the second case, the articles are from two different special issues included in the same volume, but with distinct themes.

Conversely, the impact of the publications has been analyzed. Table 1 summarizes the publications and quartiles according to Scimago Journal Ranking (SJR) identifying its impact index and considering the impact of WoS of the two publications that do not appear in the SJR. It can be seen that the publications are ranked in the top quartiles of that indexing database, although their impact factor range is limited.

Table 1

Comparison of the Quartile and Impact Factor of the Journals Publishing the Articles in the Sample

Journal	Area + Subarea	Quartile	Impact Factor	Number of SCIMAGO Citations	Country
<i>Communication and Society</i>	Social Sciences, Communication Cultural Studies	Q1	0.455	2/3.4	Spain
<i>Heliyon</i>	Multidisciplinary	Q1	0.644	11 / 4.1	United Kingdom
<i>JLIS.it</i>	Social Sciences Documentation and Information Sciences	Q2	0.260	0 / 1.0	Italy
<i>Multimodal Technologies and Interaction</i>	Computer Science Computer Networks and Communication Applications of Computer Science Human-Computer Interaction	Q2	0.590	10 / 5.7	Switzerland
<i>Asia Pacific Management Review</i>	Business, Management and Accounting International Business and Management Strategy and Management	Q1	1.187	0 / -	Taiwan
<i>Journal of Communication Inquiry</i>	Social Sciences Communication Cultural Studies	Q1	0.466	2 / -	USA
<i>Fonseca Journal of Communication</i>	Social Sciences Communication Linguistics and Language Social Sciences (miscellaneous)	Q2	0.239	2 / 1.3	Spain
<i>European Public and Social Innovation Review</i>	Social Sciences Development Sociology and Political Science	Q3	0.171	2 / 0.1	Spain
<i>Brazilian Journalism Research</i>	Social Sciences Communication	Q2	0.336	3 / 1.2	Brazil
<i>Profesional de la Información</i>	Social Sciences Communication Cultural Studies Documentation and Information Science	Q2	0.719	10 / -	Spain

Table 2

Thematic Grouping Matrix

Thematic Axis: Journalism + Metaverse	Article title
a) Innovation and media	Building the future of European Public Service Media: innovation priorities, key points and optimization areas in PSM
	CNN as the axis of immersive journalism inside the informative business
b) Immersive journalism and applied technologies	Metaverse and Extended Realities in Immersive Journalism: A Systematic Literature Review
	From the 360° photo of the Metaverse: Conceptual and technical evolution of virtual and immersive journalism from Spain
	Attraction Journalism with Immersion and Presence-based systems: experimental approach applying the classical diffusion of innovation theory
	Metaverse and the Future of Journalism in The Context of Expert Opinions
	Revealing trends in academic publishing on immersive journalism through a dataset analysis of metaverse and extended technologies from 2017 to 2022
c) Immersive journalism and gender	Women in the Metaverse and the gender data gap: a cultural approach television
	Analysis of the journalistic profession: the role of the women in today's sports
d) Immersive journalism, power and effects on the audience	Utopian or dystopian? The portrayal of the metaverse in popular news on social media
	Cultures of Digital Architectures: Power and Positionalities in the Backend of Online Journalism Production
	Back to Fukushima: Perceptions and effects of an immersive journalism story
	I enjoy 360° video news more but understand them less! Gratification gained in virtual reality journalism research
	Exploring Regenerative Tourism Using Media Richness Theory: Emerging Role of Immersive Journalism
	Mapping metaverse industrial architecture using LDA and bibliometrics based on technology news framing
e) Other topics	Influence and Evolution of the Internet in the Communication of Science and its Sources

Source: Elaborated by the authors.

In the first section, two articles address innovation in the media. Fieiras Ceide et al. (2024) analyze the innovation strategies of European public broadcasters, highlighting digitization and technological adaptation as key to remaining competitive. Artificial intelligence and content personalization emerge as priority trends. Meanwhile, Lavilla Muñoz and Sánchez Franco (2024) focus on immersive journalism, using CNN as a case study, exploring the challenges of Industry 4.0 in the post-pandemic context. They note that CNN adopted techniques such as virtual reality and 360° videos between 2016 and 2019, achieving greater emotional impact and fostering empathy.

In the second section, the articles by Sanchez-Acedo et al. (2023, 2024) provide a state-of-the-art overview of immersive journalism through a systematic review. The first article highlights how immersive technologies can be used to spread disinformation, identifying publication trends and types of research (descriptive, analytical, comparative, explanatory). The second presents two datasets in Zenodo: one with metadata according to PRISMA and another with publication characteristics according to the DESLOCIS framework. Herranz de la Casa and Sidorenko Bautista (2023) review the evolution of immersive journalism up to the metaverse, noting the gap between academic and professional production. Their study agrees that, although current and interesting, a distance exists between the technical possibilities and audience reception. Carneiro Dos Santos (2023) analyzes the degree of adoption of virtual reality by producers and audiences, and the obstacles preventing journalism from penetrating the metaverse. Dumanlı Kürkçü and Altınok (2024) explore the intersection of metaverse, immersive journalism, and blockchain, presenting the results of expert surveys to assess the impact of these technologies on the journalism profession. Taken together, the texts balance the challenges and opportunities of immersive journalism as a tool for experiential interaction and news penetration, but also as a potential vehicle for disinformation.

The third section, on journalism and gender, includes two articles. Morriello (2024) analyzes how the metaverse reproduces gender inequalities, from exclusion from leadership roles to biases in the data used by AI. This author points to male predominance in technological development and the lack of gender-disaggregated data as contributing factors, proposing a cultural and feminist approach to correct these biases. Meanwhile, Vaquerizo Mariscal and Alonso Martín-Romo (2024) study inequalities in televised sports journalism in Spain. Although there has been progress in visibility, inequalities persist in positions of responsibility and in storytelling. Coverage of women's sports increases with successes, but female professionals still face stereotypes and must constantly prove their worth, demonstrating that equality has not yet been achieved.

In the section on the effects of immersive journalism on audiences, five studies address different aspects. Deng and Matthes (2023) identify polarized coverage of the metaverse on social media, with utopian and dystopian frameworks that fragment public opinion. Gutsche (2024) analyzes how technological structures and digital actors influence journalistic production, reproducing ideological inequalities. Vázquez-Herrero and Sirkkunen (2022) compare immersive formats and highlight technological limitations in contextual understanding. Hernández-Rodríguez and García-Perdomo (2023) address the subjective user experience and entertainment. And finally, Hui et al. (2023) study how immersive journalism in the metaverse can improve informational reach and tourism education.

The final section includes two articles on the industrial architecture of the metaverse and power in journalism. Chang and Zhang (2024) analyze how technological media frame the development of the metaverse, using text mining (LDA) and bibliometric analysis to map its industrial architecture. They reveal how news influences public perception. Fernández Muerza (2022) studies the transformation of scientific

communication from the origins of the internet to emerging technologies, proposing best practices such as leveraging new technologies and fostering more participatory and accessible communication.

4.2. Accessibility in Metaverse Research

The metaverse is a set of environments that are still consolidating their nature and potential uses. Opportunities for citizen inclusion and universal design require considering the underlying interest of the specialized literature, which assumes accessibility as essential in the creation and consumption of informational content. In general, none of the works in the analyzed corpus address accessibility as a primary issue in the context of journalism and the metaverse.

Neither of the two articles in the first thematic area on innovation and media addresses accessibility or access to information as a central idea. The text by Fieiras Ceide et al. (2024) does not address accessibility, although it mentions user experience (UX) optimization and personalization, which could include improvements in this area. It does mention access to information in relation to the values of European public service media (PSM). The text by Lavilla Muñoz and Sánchez Franco (2024) does not directly address either accessibility or access to information, although it points out barriers such as high production costs and a lack of continuity in immersive content.

In the second thematic axis, the study of Dumanlı Kürkcü and Altınok (2024) analyze the transformative potential of emerging technologies in accessing information, highlighting their capacity to make it freer, more immersive, and more reliable. They also identify significant accessibility challenges, particularly regarding who will be able to access and effectively benefit from these platforms. The participating experts underscore the persistence of the digital divide and limited digital literacy as critical factors that could exacerbate inequalities in the information ecosystem. Meanwhile, the work of Herranz de la Casa and Sidorenko Bautista (2023), while not delving into accessibility for specific groups, explores the opportunities and challenges that new technological formats present for audience access and adaptation, highlighting the gap between technological development and sustained media investment. Carneiro Dos Santos' (2023) proposal addresses access to information indirectly, focusing on the factors that hinder the adoption of immersive journalism based on virtual reality, such as the high cost of equipment, limited access to technology, usability problems of interfaces and ergonomics, and the difficulty in understanding and becoming familiar with a new narrative language.

The two articles in the third group do not address accessibility. In the section on the effects of immersive journalism on the audience, accessibility is only discussed in two texts: Hui et al. (2023) and Vázquez-Herrero and Sirkkunen (2022). These authors address accessibility from the perspective of technological factors that limit access to these environments and affect the user experience, highlighting the potential of the metaverse to broaden informational reach, generate greater empathy and emotional presence, albeit at the expense of contextual understanding. Finally, the two articles in the last section do not analyze accessibility. However, the text by Fernández

Muerza (2022) does, addressing access to information and highlighting how the internet has facilitated the dissemination and consultation of scientific content for both specialized and general audiences.

5. CONCLUSIONS AND DISCUSSION

The exploratory nature of the metaverse has been noted by authors such as Acevedo Nieto (2022), who identified its mutable and unstable nature, both practically and as an object of study. Because of this, its connection to journalism justifies the limited number of indexed articles and gives this work a preliminary character. It is important to note that the search in WoS and Scopus databases limits the results to 2025, although articles on the subject have already been published (Herrera Damas, 2025; Illescas Reinoso et al., 2025; Sidorenko & Alonso, 2025; Sorrentino et al., 2025). The analyzed works highlight the innovative possibilities promised by immersive journalism in a synthetic space that is yet to be designed, focusing on new formats and the connection they can generate with the user, without going into the analysis of how to generate them to be inclusive.

The intersection between the metaverse, information, and journalistic practice must be articulated through immersive narratives, interactive spaces, and shared experiences. This immersive journalism must allow the audience to immerse themselves in three-dimensional spaces that enable them to experience events and happenings firsthand (Sukhee et al., 2024). It must be conceived as accessible not only from a technical perspective, but also from its narrative, symbolic, and participatory construction, which entails taking into account technological, discursive, and expressive dimensions. In this sense, the contributions of Eskiadi and Panagiotou (2024) are especially relevant, demonstrating that the acceptance of immersive journalism is conditioned by factors such as trust in the media, perceived realism, and the ease of use of the technologies. This reinforces the need to design accessible and emotionally resonant experiences for diverse audiences. Marcus-Quinn et al. (2024), for their part, insist that media accessibility must be addressed from a holistic perspective that integrates education, urban design, and technological innovation, promoting truly inclusive digital environments.

Accessibility cannot be limited to functional adaptations; it must be integrated from the very conception of virtual environments, encompassing both the form of interaction and the values that underpin the experience. This implies moving from corrective accessibility to proactive accessibility, based on universal design and centered on the diversity of users. To guarantee accessible immersive journalism experiences, media outlets must review traditional team structures and adopt new professional profiles. This type of recommendation is already being implemented in other sectors of audiovisual media and advertising, recognizing transversal skills such as software design and development, knowledge of marketing strategies and platform management, and the creation of digital and 3D content (Grijalba de la Calle et al., 2022).

New accessibility standards imply better adaptation to mobile applications and dynamic environments, and integration with emerging technologies such as virtual

reality (VR), augmented reality (AR), and the Internet of Things (IoT) (W3C, 2024). However, these guidelines are not applied when designing and developing these environments (Gutiérrez & Restrepo, 2024), nor is it guaranteed that “the product meets users’ needs, is suited to their abilities, and is understandable and usable” (Norman, 2013, p. 219). The responsibility for accessibility is therefore shared with content creators and developers of metaverses. This issue could suggest a redefinition of professional roles within news production teams, including usability experts for people with specific needs, when making design decisions or integrating content. This requires greater governance and ethical responsibility on the part of media outlets and information professionals.

The social influence of media representations and their relevance to the normalization of accessibility must also be considered. In this regard, and with respect to the representativeness of avatars of presenters or other protagonists in the metaverse, it is worth highlighting the recommendations made by Zang et al. (2025), which synthesize 17 design guidelines for creating inclusive avatars. These principles are graded as highly recommended (HR) and recommended (R). Some of the highly recommended guidelines include the possibility of customizing body parts, leaving the user without the choice of whether or not to make their disability visible; the possibility of incorporating non-human parts to destigmatize disability; and the possibility of equalizing the capabilities and performance of avatars, regardless of the simulation.

Regarding the design of information, messages, and the spaces in which they are delivered, these must be accessible and adhere to usability principles, allowing users to interact with the interface, navigate virtual environments, and access information independently. Implementing sensory adaptations (visual, auditory, haptic), employing assistive technologies, facilitating advanced personalization, and using adaptive design that responds to diverse profiles and fluctuating abilities are some basic considerations for integrating people with limited access to information into the metaverse. Initiatives like Microsoft's *SeeingVR* demonstrate the importance of offering configurable interfaces and multimodal feedback to ensure better accessibility. Specifically, *SeeingVR* offers 14 tools that improve the inclusion of people with low vision in VR environments through visual and auditory augmentations (Zhao et al., 2019).

Another important consideration is to create truly inclusive narratives. Access alone is not enough; the story and its characters must also reflect human diversity. This means including diverse characters, non-stigmatizing perspectives on disability, and narrative structures that do not reproduce ableist or exclusionary logic. Furthermore, environments must allow each user to express their identity freely and safely, whether through customizable avatars, peripheral symbolic elements (such as badges or adaptive backgrounds), or alternative languages like sign language or digital braille. These recommendations are being successfully implemented in other contexts, such as educational content (Zavala Martínez et al., 2024) or audiovisual media, exploring the possibilities of increasing empathy and prosocial behaviors in immersive content such as 360° videos (Ivars-Nicolás & Martínez-Cano, 2020).

To address key design heuristics such as the principle of flexibility (Nielsen, 2024), which allows content to be adapted through personalization and functionalities specific to each user, the participation and co-creation of both the environments and the informational pieces are necessary. It is essential that people with disabilities actively participate in the creation, validation, and evaluation of metaverse experiences. This involves listening to their needs, recognizing the diversity of their conditions (permanent, temporary, or situational), and constructing journalistic messages from a technological justice perspective.

5.1. Proposed Framework for Accessibility in Immersive Journalism in the Metaverse

Based on the gap identified in the scientific literature on accessibility in immersive journalism, this section proposes a conceptual framework that articulates three key dimensions for designing inclusive information experiences in metaverse environments:

- 1) Technical dimension: This includes adapting interfaces, devices, and platforms to the needs of people with sensory, cognitive, or motor disabilities. It is based on the principles of universal design and the WCAG 3.0 guidelines, incorporating assistive technologies, personalized experiences, and multimodal feedback (visual, auditory, haptic).
- 2) Symbolic and narrative dimension: This considers the representation of functional diversity in content and avatars, avoiding stereotypes and promoting inclusive narratives. It proposes the inclusion of characters with disabilities, the use of alternative languages (such as sign language or digital braille), and narrative structures that foster empathy without falling into ableism.
- 3) Organizational and professional dimension: This involves reconfiguring journalistic production teams to include profiles specializing in accessibility, usability, and user experience. It also highlights the need for specific training for journalists and developers, as well as the active participation of people with disabilities in the design, validation, and evaluation of content.

This framework seeks to move beyond accessibility as a mere technical adaptation and integrate it as a structural principle of immersive journalism. Its application would allow progress toward a fairer, more pluralistic, and more democratic information metaverse, aligned with digital rights and technological justice.

In conclusion, this study offers an original contribution by identifying and systematizing a critical gap in the academic literature on immersive journalism in the metaverse: the lack of consideration of accessibility as a structural axis in the design and evaluation of news experiences. It has been observed that, although there is a growing interest in immersive technologies, accessibility remains a marginal or absent aspect in most of the works analyzed. In response to this deficiency, the article proposes a conceptual framework that articulates three dimensions—technical, symbolic, and organizational—to guide the development of truly inclusive immersive journalism. This proposal not only expands the field of study but also offers a

practical tool for researchers, journalists, and developers committed to information equity in virtual environments.

The limited scope of this review highlights the need for future lines of inquiry. These should examine contributions from other sources and repositories, as well as other types of documents and reports belonging to what is known as grey literature, to offer different and peripheral perspectives on the selected corpus.

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