



Urban Screens and Citizen Participation: Audiovisual Strategies and Interaction in Digital Out-of-Home Advertising

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KEYWORDS

DOOH
Digital out-of-home
advertising
Audiovisual
communication
Citizen interaction
Urban space.

ABSTRACT

This research analyses the transformation of contemporary outdoor advertising following the expansion of the Digital Out-of-Home (DOOH) ecosystem in Spain, examining the audiovisual, interactive and socio-spatial strategies of urban digital campaigns. The research adopts an exploratory-descriptive design based on mixed-methods content analysis of a purposive sample of 64 prominent campaigns developed between 2023 and 2025. To this end, an analysis form was designed to code variables linked to the type of audiovisual content, the timing of the message, the communicative function of the audiovisual material and the expected modes of interaction. The results reveal an 'audiovisualisation' of DOOH, characterised by the predominance of animation and recorded video in expository and immersive functions. Despite the medium's technological potential, passive observation prevails over active participation, highlighting a gap between the medium's interactive capacity and its creative implementation. Furthermore, a dual logic is identified in the use of urban space: large-format screens prioritise urban spectacle, whilst proximity media enhance strategies of dynamic contextualisation through real-time data. Thus, DOOH is evolving towards a programmable and contextual system, although it remains dominated by traditional broadcasting and visual impact logics.

RECIBIDO: 20/06/2026
ACEPTADO: 26/09/2026

How to cite this article / Standard citation: (APA 7th edition)

Rodríguez García, F., Lozano González, Ana A., Bogas Ríos, M.J. (2026). Urban screens and public engagement: audiovisual strategies and interaction in digital out-of-home advertising. *Prisma Social revista de ciencias sociales*, 55, 1-16.
<https://doi.org/10.65598/rps.6283>

1. Introduction

In recent years, the digitalisation of outdoor advertising has led to the consolidation of the DOOH (Digital Out-of-Home) ecosystem, characterised by the integration of connected screens into urban space and by the growing incorporation of data-driven logics, audience segmentation, and real-time measurement. In the Spanish context, this phenomenon has gained increasing relevance both in terms of investment and as a strategic component of the advertising system (IAB Spain, 2026; Ebiquity, 2025). Beyond its technological and industrial dimensions, this expansion highlights the need to examine how digital screen campaigns are transforming forms of communication in public space, particularly regarding their audiovisual nature, their interactive potential, and their relationship with the urban environment. Against this backdrop, the present article focuses on the study of digital screen campaigns within the Spanish DOOH ecosystem, understood as situated communicative practices that are reconfiguring contemporary outdoor advertising.

From this perspective, the significance of the study lies in understanding how these campaigns articulate new forms of relationship between message, technology, and urban experience, moving beyond the traditional model of one-way communication. To this end, the research is structured around four main questions:

- What audiovisual features characterise the digital screen campaigns analysed within the Spanish DOOH ecosystem?
- What interaction strategies do these campaigns employ, and what forms of audience engagement do they promote in urban space?
- How is urban space integrated into digital screen campaigns: as a location, as a communicative context, or as an active component in the construction of the message?
- In what ways does the digital screen reconfigure outdoor advertising towards more dynamic, audiovisual, and interactive forms of communication?

In line with these research questions, the overall objective of this study is to analyse how the digital screen is reconfiguring contemporary outdoor advertising as a form of audiovisual communication situated within urban space, with particular attention to its communicative, interactive, and socio-spatial dimensions within the Spanish DOOH ecosystem.

More specifically, the study pursues the following specific objectives:

SO1. To identify the audiovisual features that characterise the digital screen campaigns analysed, paying particular attention to the use of moving images, message temporality, and the communicative function of audiovisual content.

SO2. To examine the interaction strategies employed in these campaigns and the forms of audience engagement they promote within the context of urban space.

SO3. To analyse how urban space is incorporated into these campaigns, whether as a location, a communicative context, or an active component in the construction of brand messages.

SO4. To assess the extent to which digital screens are transforming traditional outdoor advertising into more dynamic, audiovisual, and interactive forms of communication, linked to new relationships between technology, message, and urban experience.

Urban digital screens are interfaces that mediate between technology and citizens. Recent studies conceptualise them as mediators of placemaking, revitalising spaces and generating a sense of place, as observed on Madrid's Gran Vía (García Carrizo, 2016), where they have succeeded in making urban environments "more audiovisual, dynamic, and interactive". This incorporation of audiovisual and interactive elements reorganises urban experience (Wiethoff & Hussmann, 2017; Verhoeff, 2019). However, their proliferation also intensifies visual saturation and generates

debates around the legitimacy of the urban landscape and surveillance (McQuire, 2016; de Souza e Silva & Frith, 2012). Their meaning therefore emerges from the convergence of image, place, and audience, with tensions linked to commercialisation and the “right to the city” (Verhoeff et al., 2019).

In this context, digital out-of-home advertising (DOOH) may be defined as the evolution of traditional outdoor advertising through the incorporation of digital technologies that transform both the medium itself and its logics of production and circulation. Whereas traditional outdoor advertising is based on static media, DOOH incorporates connected electronic screens capable of updating content in real time according to context, temporality, and audience (Wilson, 2022; García Carrizo, 2016). This transition means that the medium no longer operates as a fixed surface, but rather becomes a programmable and dynamic system integrated into the broader digital ecosystem.

Moreover, the incorporation of technologies associated with the AdTech environment, such as sensors, mobile connectivity, audience data, and programmatic buying systems, expands the medium’s capabilities, allowing messages to be adapted to specific environmental and audience conditions (IAB Spain, 2026; Ebiquity, 2025). In this sense, DOOH transforms the experience of the receiver: passers-by are no longer confronted with a fixed message, but instead encounter dynamic, sequential, and potentially responsive content that may vary according to factors such as time of day, weather, or audience density. As a result, outdoor media are shifting towards more audiovisual, contextual, and interactive forms of communication, in which the medium itself actively participates in the construction of the message and in the modulation of urban experience (Krajina, 2014; McQuire, 2016).

This technological reinvention is driving change within the advertising industry and consolidating DOOH in Spain. Recent reports (IAB Spain, 2026; Ebiquity, 2025) point to its growth: €143.5 million in investment in 2025 (+8.9% year on year) and 4% of total media investment in 2024, with the highest ROI in the digital mix. This growth is ecosystemic, encompassing the digitalisation of outdoor inventory, programmatic buying, attribution through MMM, and integration with mobile media and social networks. DOOH is therefore a measurable and programmable communication system, embedded in the datafication and automation of contemporary media (Wilson, 2022; Krajina, 2014).

A crucial transformation brought about by DOOH is the “audiovisualisation” of outdoor media. Digital screens introduce temporality, movement, and narrative into a medium previously dominated by static imagery. In practice, DOOH campaigns employ short videos, animations, and looping graphics, adding brief and synchronised narrative layers (according to time of day, weather conditions, or the surrounding context) that printed billboards could not provide. At the same time, these media continue to adhere to the classic principles of outdoor communication. As Brevia-Franch and Balado-Albiol (2026) note, informational conciseness, long-distance legibility, and visual salience remain essential, although digital screens expand the medium’s expressive possibilities. Outdoor advertising content is increasingly moving towards the logics of interactive audiovisual communication, incorporating transmedia dynamics that connect urban advertising pieces with other digital environments, such as social media platforms and mobile devices, thereby extending the communicative experience beyond the physical location itself (García Carrizo, 2016; Jenkins, 2006; McQuire, 2016).

Furthermore, DOOH offers a high degree of flexibility in creative management. The literature consistently identifies two key dimensions underlying this flexibility: geotemporal targeting and real-time measurement capabilities. Through geolocation technologies, content can be automatically adapted to the surrounding environment, time of day, predominant demographic profile, weather conditions, or local events, generating highly contextualised messages and, consequently, increasing their relevance to audiences (Wilson, 2022; IAB Spain, 2026).

In addition, DOOH media incorporate sensors, cameras, and data analytics systems that enable audience monitoring and real-time campaign optimisation, facilitating both the dynamic adaptation of content and the evaluation of its effectiveness (Ebiquity, 2025; Krajina, 2014). In this sense, the “audiovisualisation” of outdoor media involves not only the incorporation of moving images but also the integration of spatial and temporal variables into the narrative logic of the message itself, so that location and context become constitutive elements of advertising communication (García Carrizo, 2016; McQuire, 2016).

Interactivity constitutes another distinctive feature of DOOH. Many campaigns incorporate functions designed to encourage active audience participation, ranging from simple QR codes and links to social media platforms to sophisticated augmented reality experiences and interactive games. For example, it is increasingly common to encounter digital kiosks with touchscreens offering games or surveys, or billboards that respond to the presence of passers-by through motion tracking, gesture recognition, or similar technologies. As a result, the passive viewer becomes, to some extent, an active participant. As Du et al. (2017) explain, contemporary DOOH advertising initiatives transform individuals walking past a screen into users who actively engage with it, thereby strengthening emotional connections and enhancing brand recall.

However, it is important to distinguish between interaction and participation in the full sense of the term. Carpentier (2012, 2016) argues that mere access to or interaction with a system does not constitute genuine participation, since the latter entails the ability to influence decision-making processes and redistribute power. In the case of DOOH, most interactive activations generate interaction and audience engagement, but rarely provide citizens with meaningful control over the message itself.

The literature on public displays and DOOH suggests that locally relevant content and user-generated content facilitate interaction. Nevertheless, attention in urban environments is fleeting, and public interaction is constrained by distraction, social pressure, and the discomfort associated with public exposure (Du, Degbelo & Kray, 2017; Müller et al., 2010; Brignull & Rogers, 2003). As a result, the act of interacting becomes performative, which discourages its adoption in open public spaces.

In the Spanish context, this contextual dimension has been empirically confirmed. Various studies show that interest in interacting with digital signage systems depends not only on the available technology but also on the perceived value of the environment and the contextual relevance of the message (Wilson, 2022). Similarly, research on outdoor advertising in urban settings highlights that the effectiveness of digital campaigns depends largely on their integration into urban space and their capacity to generate situational relevance for mobile audiences (García Carrizo, 2016; McQuire, 2016).

The studies reviewed suggest that audience engagement in DOOH cannot be explained exclusively through technological design. Rather, it emerges from the intersection of campaign design, urban context, and the social norms governing the use of public space (de Souza e Silva & Frith, 2012; McQuire, 2016).

2. Methodology

This study adopts an exploratory-descriptive design based on the content analysis of digital out-of-home advertising campaigns developed within the Spanish DOOH ecosystem. A mixed-methods approach was employed, combining qualitative and quantitative perspectives to quantify frequencies and percentages while examining the audiovisual, interactive, and urban strategies present in the campaigns analysed.

The study population consists of campaigns featured on the specialised platform *OOH Lovers*, promoted by *La FEDE* (Spanish Federation of Advertising and Communication Companies), within the *Digital Screens* category. This included award-winning and shortlisted campaigns from the 2023, 2024, and 2025 editions of the *OOH Lovers Awards*, the only editions held to date. From

an initial pool of 99 campaigns, a final sample of 64 cases ($N = 64$) was selected through purposive criterion-based sampling, with each individual campaign constituting the unit of analysis.

The inclusion criteria were as follows:

- Campaigns associated with digital out-of-home advertising or DOOH.
- Presence of digital formats within the advertising medium.
- Availability of sufficient information to code the principal variables.
- Availability of textual, visual, or audiovisual material enabling analysis of the campaign's communication strategy.

The exclusion criteria comprised exclusively static or conventional campaigns, campaigns that did not incorporate identifiable digital formats, and campaigns with insufficient information to analyse the audiovisual, interactive, or urban variables.

Data were collected using an ad hoc analytical framework incorporating a coding matrix. The framework included identification variables (ID, campaign, advertiser, link, summary, and OOH Lovers category); industry variables (sector, scope, campaign type, creative agency, media owner, and media agency); urban intervention variables (city, degree and level of integration, use of local elements, advertising medium, digital formats, storytelling, integration of the city into the narrative, and special installations); interaction variables (interactive media, type of interaction, and expected interaction); and audiovisual variables (moving image, type and function of content, temporality, sound, and dependence on additional elements for interpretation).

The analytical categories were defined in advance to ensure consistency in coding. Within the audiovisual dimension, distinctions were made between recorded video, animation, graphic loop, live data, hybrid piece, product demonstration, and not applicable. The communicative function of the audiovisual content was classified as expository, narrative, immersive, interactive, or call to action. Message temporality was coded as static, sequential, looped, interaction-triggered, real-time triggered, or not specified. With regard to expected interaction, the categories identified were contemplative, sensory, participatory, photographic/shareable, and narrative/sequential.

The analytical procedure was conducted in three stages. First, campaigns sourced from OOH Lovers were identified and screened, removing duplicates and cases that did not meet the inclusion criteria. Second, each campaign was coded within the analytical matrix using information available on the platform, campaign videos, campaign descriptions, and supplementary links. Third, the consistency of the coding process was reviewed in order to standardise categories, correct terminological inconsistencies, and ensure comparability across cases.

Data analysis was conducted using Google Sheets to construct the coding matrix, record variables, screen cases, standardise categories, and generate pivot tables. Descriptive statistical techniques were applied, including absolute frequencies, percentages, and cross-tabulations of categorical variables, calculated on the basis of $N = 64$ valid campaigns. This made it possible to identify patterns in sectoral distribution, advertising media, audiovisual functions, temporality, and interaction. To ensure transparency and replicability, the dataset, coding matrix, and analytical framework have been deposited in the Open Science Framework (OSF) and are available at the following link: [accessible link](#).

3. Results

In characterising the DOOH ecosystem and the profile of the sample, analysis of the corpus provides a snapshot of DOOH in Spain structured around three fundamental dimensions: sectoral diversification, the technological evolution of the medium, and geographical centrality.

The sectoral analysis reveals that innovation in digital out-of-home advertising is strongly driven by industries whose DNA is intrinsically audiovisual and digital. The corpus included representation from 12 productive sectors, as shown in Table 1:

Table 1. *Sectoral Representation in the Analysis of the DOOH Ecosystem.*

Productive Sector	Frequency	%
Fashion, accessories, beauty and cosmetics	15	23.44%
Food, drinks and snacks	8	12.50%
Music, entertainment and culture	8	12.50%
Tourism	8	12.50%
Food service	6	9.38%
Entertainment, streaming services and cinema	5	7.81%
Video games	4	6.25%
Sport	3	4.69%
Services	2	3.13%
E-commerce	2	3.13%
Automotive	2	3.13%
Technology	1	1.56%
TOTAL	64	100%

Source(s): Author's own elaboration based on the analysed corpus.

A more in-depth qualitative examination of the strategies deployed by these industries reveals that the adoption of DOOH is not driven solely by the objective of digitalisation, but also by distinct communicative logics and brand objectives according to the nature of each sector:

- **Fashion, accessories, beauty, and cosmetics (23.44%)** lead the use of DOOH. These industries exploit large-format, high-resolution screens and 3D techniques (anamorphosis) to generate a “wow effect” and create product spectacle. Such brands transform the screen into an “expanded shop window” or immersive catwalk designed to spectacularise luxury products, encourage image capture, and stimulate viral dissemination through social media.
- **The broader Tourism, Culture, and Entertainment cluster (39.06%)**, comprising Tourism; Music, Entertainment and Culture; Entertainment, Streaming Services and Cinema; and Video Games, focuses on the creation of extended experiences. For these brands, DOOH functions as an immersive portal. Tourism campaigns seek to decontextualise passers-by through visual and emotional impact (e.g., climatic data or landscape imagery), while the cultural and audiovisual industries extend their narrative formats by transforming the street into a cinema auditorium or gaming interface in which characters interact with the physical environment.
- **The Food, Beverage, and Food Service sector (21.88%)** employs digital out-of-home advertising through a tactical and interactive strategy aimed at generating direct engagement. These campaigns leverage geolocation and time-specific scheduling to encourage drive-to-store behaviours and citizen participation through touchscreens, QR codes, or gamified experiences, often connecting with local cultural elements.
- **Minority sectors (10.95%)**, including Automotive, Sport, Services, E-commerce, and Technology, tend to use DOOH for technical demonstration or public utility purposes. They capitalise on screen connectivity to integrate live data, presenting their value proposition in a context-specific manner.

A total of 56 brands were identified, most of which appeared only once. Only McDonald's (5), Amazon Prime Video (3), L'Oréal Paris (3), Turismo de las Islas Canarias (2), PlayStation (2), Adidas (2), and Jean Paul Gaultier (2) achieved greater representation within the analysed corpus, which may be interpreted as evidence of a stronger strategic commitment to exploiting the distinctive capabilities of digital out-of-home advertising.

The predominant audiovisual content type is **animation (29.69%)**, often incorporating anamorphosis (3D) to create a hyper-realistic visual impact, followed by **recorded video (25.00%)**, which is frequently used to transform urban environments. These are followed by **live data content (15.63%)**, **hybrid pieces (14.06%)**, **graphic loops (9.38%)**, and, to a lesser extent, **product demonstrations (1.56%)**.

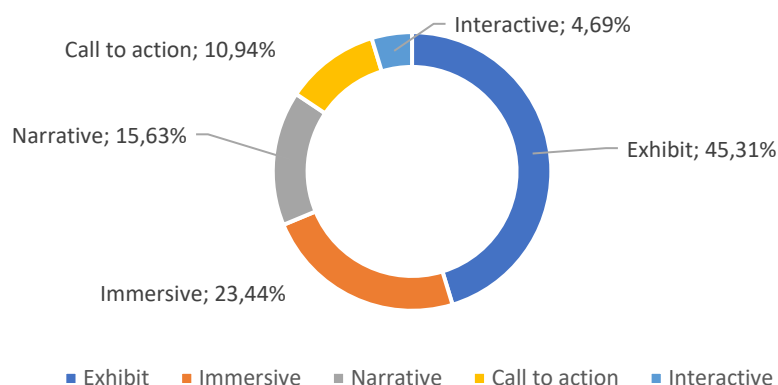
Analysis of content across advertising media reveals the predominance of **large-format screens (65.63%)**, located primarily in Madrid (transport interchanges, Gran Vía, and Callao). This *spectacular* format represents the benchmark of DOOH innovation in Spain, enabling complex narrative constructions while dominating the urban landscape. Content is distributed across animation (35.71%), recorded video (30.95%), and hybrid formats (14.29%). Their connectivity also facilitates the use of real-time data (9.52%), supporting both expository and immersive functions aimed at capturing mass attention.

In contrast to this macro-scale approach, **proximity-based digital media** (digital kiosks and bus shelters, 20.31%) are evolving from simple broadcasting devices into interaction terminals, facilitating convergence with mobile devices in pedestrian environments. The most common content type is live data (30.77%), followed by video (23.08%) and animation (15.38%). Their proximity encourages active participation through technologies such as QR codes, augmented reality, touchscreens, and sensors. Other content formats include product demonstrations, graphic loops, and hybrid pieces (7.69% each).

Some of the campaigns analysed combined both approaches, with **mixed campaigns** accounting for 14.06% of the corpus. The audiovisual content employed in these campaigns seeks to balance large-scale impact with local contextualisation. Animation is the dominant content type (33.33%), suggesting its effectiveness as a visual resource across different media scales. The remaining audiovisual categories are distributed relatively evenly.

Analysis of the function assigned to audiovisual content within the campaigns reveals a Digital Out-of-Home strategy primarily oriented towards high-impact broadcasting. The principal functions (almost 70% of the total) are concentrated in exposition (45.31%) and immersion (23.44%), prioritising message transmission and immersive experiences, while placing less emphasis on narrative development, direct action, and, above all, interactivity.

Figure 1.



Function of DOOH audiovisual content

The relationship between communicative function and type of audiovisual content can be observed in Table 2:

Table 2. *Distribution of audiovisual function by content type (% of total campaigns analysed, N=64)*

Content Type	Expository	Immersive	Narrative	Call to action	Interactive
Animation (29.69%)	14.06%	7.81%	1.56%	6.25%	-
Recorded video (25.00%)	12.50%	3.13%	6.25%	3.13%	-
Live data (15.63%)	7.81%	4.69%	1.56%	-	1.56%
Hybrid piece (14.06%)	3.13%	6.25%	1.56%	1.56%	1.56%
Graphic loop (9.38%)	4.69%	-	4.69%	-	-
Product demonstration (1.56%)	-	-	-	-	1.56%
Not applicable (4.69%)	3.13%	1.56%	-	-	-

Source(s): Author's own elaboration based on the analysed corpus.

This analysis of communicative function reveals the dominance of animation and recorded video. Animation (14.06%) and recorded video (12.50%) emerge as the principal vehicles for the expository function, which is the most common within the medium. Animation further reinforces its role as an effective visual resource by making a substantial contribution to the immersive function (7.81%).

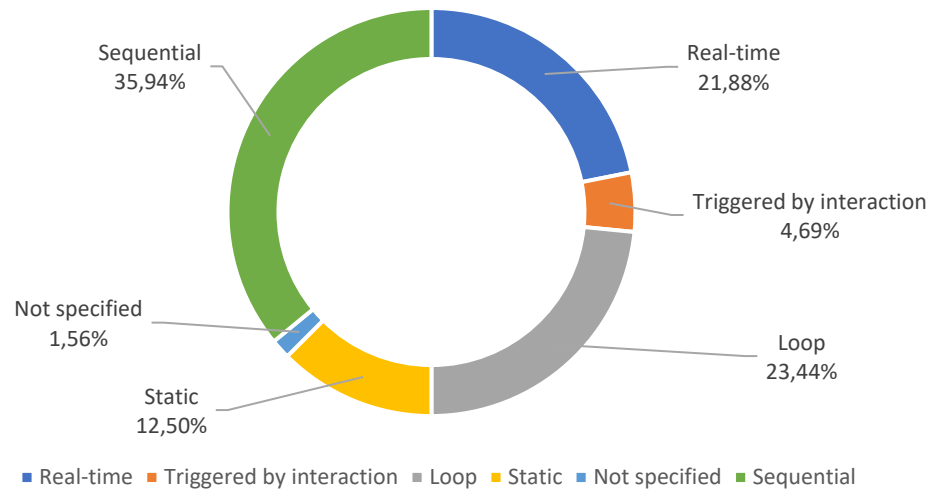
By contrast, although the interactive function is the least common (4.69%), the product demonstration format (1.56% of the total) is the only content type exclusively dedicated to this function, suggesting that interactivity constitutes a niche strategy based on dedicated formats. At the opposite end of the spectrum, the hybrid piece (14.06%) stands out for its versatility, as it is the only content type represented across all five communicative functions. This makes it the most suitable format when campaigns pursue multiple objectives and require a high degree of adaptability.

Finally, live data content (15.63%) is used primarily to add dynamism to the dominant functions, contributing to both the expository (7.81%) and immersive (4.69%) categories.

Although the interactive function remains marginal (4.69%), its use is strategic and highly concentrated. It plays a particularly important role in the Video Games sector (75%), where the objective is less direct interaction than immersion, reflecting the nature of the product itself. Among campaigns employing interactive media, the immersive function (5 cases) is more prevalent than the interactive (3 cases) and expository (1 case) functions. This pattern suggests that interactivity operates not merely as a mechanism for audience response, but as part of broader configurations designed to reinforce the immersion of the message within urban space.

The content type most frequently associated with campaigns using interactive media is the hybrid piece (4 out of 9 cases), which is consistent with the need to combine multiple elements in order to manage the complexity of interaction. This is followed by live data formats (2 cases), indicating that interaction is often linked to the medium's capacity to display information or reflect states in real time (for example, counters or live streaming).

From the perspective of message temporality, although most campaigns operate according to a pre-programmed logic, the ability to respond to the surrounding context in real time constitutes the principal driver of strategic innovation in DOOH. This finding points to a balance between the traditional logic of broadcasting and more dynamic forms of innovation.

Figure 2.

Classification of campaigns according to their timing

A clear predominance of fixed exposure can be observed (59.38%), with the sequential (35.94%) and looped (23.44%) categories being the most frequent. This confirms that DOOH continues to prioritise expository and immersive functions, as discussed previously, focusing on capturing mass attention and facilitating the passive transmission of brand messages in high-traffic environments.

Dynamic contextualisation, although less common (26.57%), remains significant. Advanced temporality, which requires connectivity and activates content in real time, is present in 21.88% of cases. This is associated with the use of live data (15.63% of occurrences), demonstrating the medium's capacity for contextualisation, particularly in event-based campaigns or those adjusted according to external data (e.g., weather conditions). User-triggered interactive activation is the least common category (4.69%), reflecting the limited use of the interactive function.

Whereas large-format screens (65.63%) base their strategy on sequential and looped temporality to generate large-scale spectacle, proximity media (20.31%) constitute the principal vehicles for dynamic temporality. Street-level formats employ live data more than three times as frequently as large-scale formats (30.77% versus 9.52%), demonstrating that advanced contextualisation functions as a tactical and localised strategy oriented towards drive-to-store objectives and nearby target audiences.

The fleeting nature of temporally activated messages (such as a live event or user interaction) is intentionally designed to generate photographic or video content capable of circulating within the digital ecosystem, thereby transforming an ephemeral physical moment into a permanent and shareable brand asset with viral potential.

To deepen our understanding of temporal strategies, it is relevant to examine how these are distributed across productive sectors. Table 3 presents the relationship between the type of temporality employed and the industry sectors in which it is used.

Table 3. Distribution of message temporality by sector (percentage of total campaigns analysed, N=64)

Sector	Real-time triggered	Interaction-triggered	Looped	Static	Sequential	Not specified	Total
Food, drinks and snacks	1.56%		3.13%		7.81%		12.50%
Automotive	1.56%		1.56%				3.13%
Sport	1.56%		1.56%		1.56%		4.69%
E-commerce	1.56%				1.56%		3.13%
Entertainment, streaming services and cinema	1.56%		1.56%	4.69%			7.81%
Fashion, accessories, beauty and cosmetics	3.13%		9.38%	1.56%	9.38%		23.44%
Music, entertainment and culture	6.25%		1.56%		4.69%		12.50%
Catering		1.56%		1.56%	6.25%		9.38%
Services			1.56%			1.56%	3.13%
Technology	1.56%						1.56%
Tourism	3.13%		1.56%	3.13%	4.69%		12.51%
Video games		3.13%	1.56%	1.56%			6.25%
Total	21.88%	4.69%	23.44%	12.50%	35.94%	1.56%	100.00%

Source(s): Author's own elaboration based on the analysed corpus.

The Fashion, Accessories, Beauty and Cosmetics sector is the principal user of both looped (9.38%) and sequential (9.38%) messages, suggesting that these forms of temporality are particularly well suited to the presentation of brand narratives. Other sectors, such as Food, Beverages and Snacks (7.81%) and Food Service and Hospitality (6.25%), also make extensive use of sequential temporality.

Temporalities involving continuous change or responsiveness in content are highly specialised and concentrated within specific sectors. Real-time triggered temporality (21.88% of the total) is dominated by the Music, Entertainment and Culture sector (6.25%), while interaction-triggered temporality is most frequently employed by the Video Games sector (3.13%).

A relatively limited use of static temporality and interaction-triggered activation can be observed, suggesting that the majority of the messages analysed incorporate some form of movement or development over time. Fully static content (12.50% of the total) is used primarily by the Entertainment, Streaming Services and Cinema sector (4.69%), most likely for promotional advertising and poster-style campaigns that present information concisely without requiring complex temporal development.

To complete this overview of the DOOH ecosystem, it is essential to move beyond the structure of the message itself and examine the response expected from audiences, thereby addressing the communication process as a whole. In this regard, the most relevant dimension for understanding

the active (or passive) role of citizens is the classification of the interaction expected from passers-by, the results of which confirm the predominance of observation over action.

Five modes of induced interaction were identified, grouped into three main categories:

1. Passive or reception-based responses (contemplative category, 60.94%): these involve observation without modifying or interacting with the medium (e.g., viewing, observing, or scanning).
2. Immersive or physical interactions (sensory category, 3.13%): these require direct engagement with the medium (e.g., smelling, touching, or listening).
3. Active participation: actions that require a specific response from the user:
 - Participatory (15.63%): requires users to complete an action, play a game, or activate a device.
 - Photographic/shareable (12.50%): explicitly designed to be photographed and shared on social media.
 - Narrative/sequential (7.81%): users progress through or discover the message in a staged or sequential manner.

The interaction strategy is strongly oriented towards passive or contemplative observation, which accounts for the vast majority of expected interactions (60.94%). This indicates that the medium's primary objective remains the dissemination of messages and the generation of large-scale impact in high-traffic environments. These findings suggest that the communicative potential of DOOH has yet to be fully exploited.

This predominance of passive engagement is consistent with the patterns observed in the dominant formats and functions. Nearly 70% of content functions are concentrated in expository (45.31%) and immersive (23.44%) categories, reflecting a focus on capturing mass attention and communicating brand messages. As previously noted, this approach is primarily embodied in large-format screens (65.63%).

Active participation and content designed for sharing constitute the second and third most significant categories, although they remain considerably less prevalent than the contemplative mode. In the case of participatory interaction (15.63%), its relatively substantial presence indicates that a proportion of content is specifically designed to encourage direct user engagement through concrete actions. Likewise, 12.50% of the content is intended to be photographed or shared on social media, highlighting the value of the content as a backdrop or aesthetic element worthy of being documented and disseminated by users through their own platforms.

Narrative/sequential interaction was identified in only 7.81% of the cases analysed, indicating that exploration and the sequential or progressive activation of narrative structures are not priorities in most of the content examined.

In addition, a classification of the expected interaction types was conducted according to the type of audiovisual content employed.

Table 4. *Classification of Expected Interaction by Type of Audiovisual Content (percentage of total campaigns analysed, N=64)*

Expected interaction	Animation	Demo	Live data	Graphic loop	Hybrid piece	Recorded video	Not applicable	Total
Contemplative	25.00%	-	3.13%	7.81%	4.69%	17.19%	3.13%	60.94%
Participatory	-	1.56%	4.69%	-	4.69%	4.69%	-	15.63%
Sensory	-	-	1.56%	-	1.56%	-	-	3.13%
Photographic / shareable	4.69%	-	1.56%	1.56%	-	3.13%	1.56%	12.50%
Narrative / sequential	-	-	4.69%	-	3.13%	-	-	7.81%
Total	29.69%	1.56%	15.63%	9.38%	14.06%	25.00%	4.69%	100.00%

Source(s): Author's own elaboration based on the analysed corpus.

When a contemplative mode of interaction is expected, campaigns rely almost exclusively on the two most common types of audiovisual content: animation (25.00%) and recorded video (17.19%). This means that 84% of animation-based campaigns and 68.76% of recorded-video campaigns primarily seek passive observation, confirming their role as vehicles for broadcasting and visual impact.

By contrast, campaigns that require some form of action from passers-by are distributed across formats that involve greater dynamism or complexity:

- Participatory interaction is driven primarily by hybrid pieces (4.69%), live data content (4.69%), and recorded video (4.69%). The hybrid piece, which combines multiple techniques, is particularly well suited to more complex actions (e.g., playing a game or activating a device). In addition, the sole product demonstration case (1.56%) was designed exclusively to generate this type of participatory interaction.
- Narrative/sequential interaction is concentrated in the use of live data content (4.69%) and hybrid pieces (3.13%). This suggests that narrative progression is achieved less through linear video and more through real-time content updates or complex structures requiring the combination of multiple formats.
- Photographic/shareable interaction is the second category most dependent on animation (4.69%) and recorded video (3.13%), after the contemplative mode. This finding highlights the use of these content types to generate the “wow effect” that encourages social sharing and viral dissemination.
- Low-frequency categories, such as sensory interaction, also show a direct dependence on visually striking formats. The limited instances of sensory interaction are distributed exclusively between live data content (1.56%) and hybrid pieces (1.56%).

Finally, the expected mode of interaction was analysed in relation to the audiovisual function of the content. Contemplative interaction is primarily associated with the expository function (37.50% of the overall total), which is consistent with passive or informational observation. Participatory interaction (15.63% of the total), by contrast, is multifunctional, being distributed relatively evenly across immersive, interactive, and call-to-action functions (between 4.69% and 6.25% each), with no presence of expository or narrative functions.

The immersive function (23.44% of the total) is the most diverse. Its significant presence in photographic/shareable content (7.81% of the overall total) suggests a strong emphasis on the creation of aesthetic environments designed to encourage dissemination through social media.

4. Discussion

The results obtained both confirm and refine the theoretical dynamics outlined in the introduction, allowing an assessment of the extent to which digital out-of-home advertising has reconfigured communication within urban space.

The findings confirm the “audiovisualisation” of DOOH as a crucial transformation, characterised by the predominance of animation and video. This is consistent with a medium that introduces temporality, movement, and narrative into what was previously a static visual format. However, rather than replacing the classic principles of outdoor advertising, DOOH appears to reinforce them (Breva-Franch & Balado-Albiol, 2026). Informational conciseness and legibility remain central, as reflected in the predominance of expository and immersive audiovisual functions aimed at capturing mass attention (McQuire, 2016; García Carrizo, 2016).

Animation, particularly through techniques such as anamorphosis (3D), appears to have emerged as the most effective resource for generating the “wow effect” and the resulting photographic sharing and viral dissemination. In this respect, it incorporates transmedia dynamics that connect the urban advertising piece with other digital environments, as suggested by Jenkins (2006).

Although DOOH has the capacity to encourage active audience participation, the analysis reveals that contemplative interaction overwhelmingly predominates over direct action. This pattern is consistent with the emphasis on exposition and immersion and highlights the gap between technological capability and creative adoption, a point frequently discussed in the literature on public displays.

While DOOH generates interaction, it rarely entails genuine control over the message on the part of citizens, which is particularly significant in light of Carpentier’s framework of participation (2012, 2016). Most interactive activations are limited to audience engagement and involvement, without fostering full participation or any meaningful redistribution of power.

The strategies that do seek action focus primarily on participatory and photographic/shareable forms of interaction. Such campaigns are consistent with the proposition advanced by Du et al. (2017) and Müller et al. (2010) that relevant content, or content incorporating elements of user creation, tends to generate greater engagement and interaction. However, the overall low incidence of active interaction also supports the structural friction identified by Brignull and Rogers (2003): the fleeting and fragmented attention of passers-by, together with the discomfort associated with interacting in public, limits the adoption of performative actions in open urban environments.

The findings indicate that urban space is used according to a dual logic determined by the scale of the medium, corroborating the idea that the meaning of DOOH emerges from the interaction between image, place, and audience:

- **Large-format screens**, described by García Carrizo (2016) in Madrid’s Gran Vía, are employed to dominate the urban landscape and contribute to the revitalisation of specific areas (Wiethoff & Hussmann, 2017). Their strategy, based on fixed temporality (sequential and looped formats), seeks to generate large-scale impact despite the tensions they raise concerning the urban landscape and the “right to the city” (McQuire, 2016; Verhoeff et al., 2019).
- **Proximity media** facilitate mobile convergence and enhance dynamic contextualisation. They make use of live data three times more frequently than large-format screens,

generating situational relevance for mobile audiences (Wilson, 2022; García Carrizo, 2016; McQuire, 2016). This finding underscores the need to adapt messages to spatio-temporal variables, transforming context into a key component of advertising communication.

Traditional outdoor advertising has evolved into DOOH, a digital, programmable, and measurable communication system that integrates audiovisual, temporal, and spatial dimensions (Wilson, 2022; Krajina, 2014). This medium has become increasingly audiovisual, contextual, and interactive, combining traditional broadcasting logics with dynamic innovation driven by real-time activation and geotemporal targeting. Its ability to adapt messages in real time according to both environmental conditions and audience characteristics positions DOOH within the broader processes of datafication and automation that increasingly shape contemporary advertising (Krajina, 2014; IAB Spain, 2026; Ebiquity, 2025).

Despite the methodological strengths of the study, the generalisability of the findings should be interpreted with caution due to several key limitations. First, the use of a purposive sample drawn from a specialised platform may overrepresent formal innovation and therefore limit the extent to which the findings can be generalised to the broader DOOH inventory within the Spanish market. Furthermore, actual citizen participation was not measured directly; rather, it was inferred from the modes of interaction anticipated by campaign design and from the information provided by the platform regarding the operation of the media employed.

To address these limitations and further consolidate understanding of DOOH as an audiovisual urban interface, several avenues for future research are proposed, with implications for theory, public policy, and professional practice. These include comparing the broader market inventory with the most innovative campaigns in order to assess their actual impact; applying mixed-methods approaches (combining content analysis, ethnography, and usage metrics) to measure audience reception and behaviour more comprehensively; examining urban governance, including regulatory frameworks and their implications for the urban landscape, privacy, and the public value of visual space; and, finally, analysing participatory interventions in order to determine whether they foster genuine citizen involvement beyond superficial forms of engagement.

5. Conclusions

The general objective of this study was to analyse how digital screens are reconfiguring contemporary outdoor advertising as a form of audiovisual communication situated within urban space in the Spanish DOOH ecosystem. The findings confirm the transformation of the medium and allow several concise conclusions to be drawn in response to the initial research questions and objectives:

1. In response to the first research question concerning the characterisation of the medium, the findings confirm that digitalisation has transformed outdoor advertising through the incorporation of movement, sequentiality, and dynamism, with animation and video emerging as the dominant content formats. However, this evolution does not replace the traditional principles of outdoor advertising; rather, it rearticulates them. Almost 70% of audiovisual content is concentrated in expository and immersive functions, demonstrating that formal innovation continues to prioritise mass attention capture and concise legibility, in line with the process of “audiovisualisation” that preserves the historical grammar of the medium.
2. With regard to the interaction strategies addressed in the second research question, the central conclusion is more nuanced. Despite its technical capacity to encourage direct action, Spanish DOOH primarily favours weak or passive forms of interaction, with contemplative observation prevailing over active participation. The findings reveal a clear gap between the participatory potential of the medium and its actual use, as the engagement generated rarely entails any meaningful redistribution of communicative power.

3. Regarding the integration of urban space and the reconfiguration of the medium, the study identifies a dual strategy determined by the scale of the medium. Large-format screens are employed to generate large-scale spectacle, dominating the urban landscape through a logic of fixed exposure (sequential or looped) aimed at maximising impact. By contrast, proximity media enhance dynamic contextualisation, employing live data three times more frequently than large-format screens in order to generate situational relevance and support localised tactical strategies.

In light of these findings and their discussion, it can be concluded that the research questions have been satisfactorily addressed and that the proposed objectives have been achieved. The study positions the digital screen at the centre of the transformation of traditional outdoor advertising towards more dynamic and contextual forms of communication.

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