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WHAT WE DON'T HEAR DOESN'T EXIST:

Inclusive design and user experience on social media for people with blindness and low vision (AI and WCAG as an operational framework)

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ABSTRACT

This article analyses the experiences of people with blindness and low vision in their interactions with social media from a digital accessibility and user experience perspective, with a socio-technical reading inspired by Actor-Network Theory. Using a qualitative methodology grounded in grounded theory, the study combines data from a questionnaire and in-depth interviews. The findings show that accessibility on social media platforms is partial and conditional, depending both on platform design and on users' adaptive efforts and assistive technologies. Persistent structural barriers are identified, along with the emerging role of artificial intelligence as a mediator of autonomy and the educational function of social media, highlighting the need to integrate digital accessibility as a structural principle of design.

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1. Introduction

Digital social networks (SN) have established themselves as everyday infrastructures for communication, participation, and access to information, organised by a grammar of interaction that is highly focused on the visual.

In this scenario, SN operate as widely used interfaces, where practices of interaction, creation and social recognition are modelled. For this reason, it is essential to consider the keys to accessible digital production—not just the "consumption" of content—since the ability to publish, respond, inform oneself, learn and maintain connections depends on texts, images, audio and videos being generated and circulated under conditions that allow for their access. Incorporating accessibility criteria from the production stage benefits both people with disabilities and those who, for various reasons, require support, while also promoting active, autonomous and independent participation in digital life.

Although our analysis focuses on social media, however, the findings can be extrapolated to other digital environments, as they describe socio-technical mediations that condition agency[1] and the inclusive participation of all people. We understand that digital platforms, AI systems and assistive technologies operate as socio-technical mediators that enable agency by making practices and forms of interaction visible or invisible (Latour, 2008).

It is important to mention that this article is part of a larger research project, phase 1 of which has already been published (first open coding and emerging categories): "Digital inclusion: social network design, accessibility and participation" (Ladaga & Rangel, 2024) and has advanced to phase 2 in a poster presentation at the VII International Congress on University and Disability 2025, with the theme "Higher Education and Digital Inclusion: towards accessible and participatory virtual environments" (Rangel & Ladaga, 2025), which contrasts and confirms categories and presents cross-cutting subcategories. This article narrows the analytical focus to people with blindness and low vision (hereinafter referred to as PBLV) because, in the social media ecosystem, interaction is heavily mediated by visual components (images, video, iconography, etc.) whose interpretation and operability depend on accessibility aids (screen readers, labelling, focus management, alternative text, audio description and semantic structure). This delimitation also responds to a methodological criterion: concentrating the analysis on a group with comparable—albeit heterogeneous—accessibility demands allows for greater consistency in the comparative method and a deeper identification of patterns, nuances, and internal contradictions without dissolving the findings into interaction issues of a different nature.

In this sense, moving towards axial coding (Strauss & Corbin, 2002), this study focuses on the experiences of PBLVs to deepen their requirements for autonomous and full participation in digital environments. This decision does not imply excluding other disabilities from the overall project but rather establishing an analytical approach consistent with the objectives of this work, providing situated evidence on limitations and facilitators related to digital accessibility, which can then be contrasted and integrated with other profiles in later phases of categorisation and theorisation.

1.1 Purpose and perspectives

This research aims to understand how PBLV participation in social networks (SN) is shaped, given that their functioning, interaction systems and content circulation are predominantly visual. In particular, it investigates how this asymmetry—between those who produce and socially validate the visual and those who access it through non-visual means—reconfigures the agency and affective dimension of the experience, considering that accessibility does not depend solely on the

[1] "Agency" is not just "doing something" but getting others to do things. In other words, any actor – human or non-human – that produces changes in a situation has agency; it is not an exclusive property of people, but a relational effect. In this sense, objects, technologies or systems can also have agency when their presence modifies what people do or can do (Latour, 2008).

platform, but on the relationship between the person, content, devices, players, platforms, and interaction (World Wide Web Consortium, 2024).

Berners-Lee's notion of the universality of the web (World Wide Web Consortium, 1997) and the principle that the digital experience should enable the participation of all people, especially those who encounter barriers due to design or interaction practices, is a guideline for this work. In this sense, social media has established itself as a key environment for socialisation, information, work and entertainment, and its cultural centrality requires an analysis of the conditions of access and interaction from a user experience (UX) and digital accessibility perspective.

Consequently, the work is structured from the following perspectives: 1) educommunication (Kaplún, 1998; Aparici, 2010), which requires media literacy for social media interventions aimed at inclusion; 2) universal design and accessible digital communication that guarantee content that is perceptible and operable through assistive technologies (Mace, 1998; Web Content Accessibility Guidelines WCAG 2.2, 2024); 3) a normative and socio-technical perspective, informed by Actor-Network Theory (ANT), in which digital accessibility is understood as a mediation that articulates human and non-human actors and forms part of a framework of rights, international instruments (Convention on the Rights of Persons with Disabilities, Sustainable Development Goals, United Nations (2025), UNESCO (2025), etc.), European regulations (European Accessibility Act, EAA, 2019) and technical recommendations WCAG 2.2 (2024); and 4) a mixed methodological perspective but highly focused on qualitative contributions based on Grounded Theory and the constant comparative method, which allows theoretical understanding to be generated from data and from "in vivo" codes emanating from the experience reported by users (Strauss & Corbin, 2002).

In this regard, the general and specific objectives are set out below. These are then expanded upon conceptually so that the development of the work is clearly expressed.

1.2 Objectives

General objective:

To elucidate how agency is reconfigured in people with blindness and low vision on social media—whose creation practices and interaction codes are predominantly shaped by the criteria of sighted people—by examining perceptions, practices, and obstacles and integrating accessibility as a right, AI mediation, and social media as informal learning environments.

Specific objectives:

- **SO1: Examine perceptions, practices and limitations of participation (experience, affectivity and autonomy/dependence).**
- **SO2: Identify patterns of use, accessible representation of the visual and interface components.**
- **SO3: Delve into operational implications: AI mediation, digital accessibility and learning practices.**

When we refer in SO1 to "examining perceptions, practices and limitations", we are focusing on observing people's experiences. In this way, we attempt to characterise the logic and conditioning factors of interaction reported by PBLVs in their use of social media, identifying how these affect their digital well-being, their sense of autonomy or dependence, and their continued or discontinued participation.

On the other hand, SO2, "identifying patterns of use, preferences for accessible visual representation and interface elements", focuses on the conditions of participation of individuals. This involves identifying patterns of use (platforms, purposes and modes of interaction), as well

as preferences regarding accessible translation of visual content (e.g. alternative text, descriptions, subtitling, audio description), and mapping the interface elements that operate as facilitators or restrictions (button labelling, navigation, multimedia controls) can explain their relationship with agency (Latour, 2008).

Finally, OE3, "delving into operational implications: AI, digital accessibility and learning practices", attempts to generate, based on the results obtained, a translation into recommendations that will lead to operational applications for platforms and content creators geared towards inclusion (e.g., design of publication flows, nudges and mandatory descriptions, alt-text quality criteria and interface consistency), considering the potential/risks of AI as a mediator of accessibility and inviting the educational and informal learning dimension of social media to be based on an approach to digital accessibility as a right.

We state that "interfaces are interaction environments where different human and technological actors exchange information and perform actions" (Scolari, 2018, p. 32) and, from an ANT perspective, this figuration is understood as an assembly of mediations in which agency emerges in interaction and is distributed among human and non-human actors (Latour, 2008).

1.3 Justification

This study contributes an argument that we consider relevant, which is to shift the focus from "accessibility understood only as *compliance*" to a vision of accessibility as a condition of subjectivation in social media (or any digital environment). In other words, how these mediations enable (or limit) not only access to information, but also the possibility of 'inhabiting/being', expressing oneself and forming links in spaces where the visual organises participation. This approach is particularly timely when publishing practices and communication systems are created mainly by sighted people, while blind and low-vision people depend on translations (alternative text, descriptions, subtitles, audio description and readings using assistive technologies) to participate on an "equal footing". It is therefore not possible for 'compliance' to ignore people's experiences.

The paper also introduces a discussion on the role of AI as a mediator of accessibility (e.g., in automatic description and support for accessible production), addressing both its potential and its risks if implemented without quality criteria, transparency, and a rights-based approach. At the same time, it shifts accessibility towards its role as a mediator of inclusive interaction: not just a design attribute, but a set of conditions that make it possible to understand, navigate and participate autonomously, using WCAG 2.2 (W3C, 2024) as a frame of reference.

2. Design and method

The focus of this study is the reconfiguration of PBLV's agency on social media, analysed from a UX perspective and from the perspective of accessibility as a right, as an effect of socio-technical mediations (interfaces, practices and access technologies).

Specifically, a type of applied research with a mixed approach is adopted, with a predominantly qualitative, descriptive-interpretative scope and sequential exploratory design. In the first phase, non-probabilistic sampling by convenience and self-selection was used, complemented by chain sampling (snowball sampling) by referral among participants in social media groups linked to people with disabilities. In this environment, an anonymous survey was circulated via a form (Google Forms) in order to gather perceptions, practices and constraints regarding accessibility and usability. Subsequently, a second phase of in-depth interviews was carried out with participants who, voluntarily and using the same form, provided contact details and gave their consent to expand on their testimony.

The analysis integrated, on the one hand, descriptive quantitative treatment by counting responses (frequencies and distribution of options) and, on the other, a qualitative analysis guided by the procedures of Grounded Theory in the tradition of Strauss and Corbin (2002) (coding and constant comparison), aimed at generating analytical categories emerging from the data and understanding processes of experience and interaction on social media by PBLV.

2.1. Research questions and scope of study

The approach to this research has been based on the previous studies mentioned in the introduction, operational analyses of use with users, direct observation, among other actions carried out by the authors on the interaction of people with disabilities in digital environments that are so present in everyday life for all types of activities. As we progress, we are increasingly deepening our intention to understand and contribute to conditions for digital production that is accessible and, therefore, inclusive for all people. In this sense, the questions that concern us are:

PI1. How is PBLV agency reconfigured in social networks that are visually standardised by people with vision, based on their perceptions, practices and conditions of interaction?

PI2. What usage patterns, forms of accessible visual representation, and interface/interaction elements are associated with greater or lesser continuity of participation and digital wellbeing?

PI3. What operational implications arise for platforms and creators, considering digital accessibility as a right, AI mediation, and learning on social media?

The scope of the study focuses on PBLV interaction in digital communication and social media environments, without geographical limitations. It centres on practices of participation, access, and content production/consumption; To this end, a list of platforms was included in the questionnaire —Discord, Facebook, Flickr, Google My Business, Instagram, LinkedIn, Meetic, MySpace, Pinterest, Reddit, Snapchat, SoundCloud, Spotify, Telegram, TikTok, Tinder, Tripadvisor, Twitch, Twitter/X, Vimeo, WhatsApp and YouTube—, also incorporating the category "Others" to capture unforeseen uses. The focus is limited to UX and digital accessibility (interface constraints, access mediations and effects on agency and learning), with sociodemographic characterisation by gender, age range, educational level and type of disability.

To ensure the quality of the study, validity and reliability criteria were met in accordance with the mixed approach and qualitative predominance: the content validity of the questionnaire was strengthened by informal validation carried out by an expert in UX and digital accessibility with many years of experience in the field of accessible design and by two blind people, aimed at verifying the clarity, relevance and appropriateness of the questions; in addition, triangulation was applied between the open-ended responses on the form and the in-depth interviews to strengthen interpretive credibility. In the qualitative analysis, consistency was maintained through Grounded Theory procedures (coding and constant comparison). The descriptive quantitative component is reliable as the counting of responses was carried out in a consistent and transparent manner, indicating the number of valid responses for each item and purging incomplete or duplicate records (e.g., checking for incomplete or duplicate responses), without any claim to statistical inference.

3. Fieldwork and data analysis

This section provides a summary of the stages followed for data collection and the time period in which they were carried out, as well as the analysis approach applied to the questionnaire and interviews to meet the research objectives.

3.1. Fieldwork

As already mentioned, the fieldwork was carried out in two complementary phases, aimed at capturing both a broad overview of experiences and an in-depth look at individual testimonies. First, an anonymous online survey was conducted, followed by in-depth interviews with volunteer participants.

The form collected 53 responses between January and September 2025, of which 28 people belonged to the PBLV segment (which were coded as F1–F28). In terms of participation by gender, 14 were women (5 with low vision and 9 with blindness) and 14 were men (3 with low vision and 11 with blindness).

The sample presents a diverse age distribution, with a higher concentration in the 46–55 age group (n=9) and 56–65 age group (n=6), followed by the 26–35 age group (n=4) and 36–45 age group (n=4); the 66–75 and 76–85 age groups each had n=1, along with three cases with no

declared age. In terms of educational level, the sample had a high level of education, concentrated in university and postgraduate education. In both genders, 14 of the 28 people had university studies (F=7; M=7), while 11 participants have completed postgraduate studies (F=6; M=5), with the remaining three (F=1, secondary education and F=2, upper secondary education); this reinforces the presence of profiles with high academic qualifications and advanced training skills in the analysis.

With regard to the in-depth interviews: eight were conducted (6 women —4 with blindness and 2 with low vision) and 2 men with blindness. The time period was the same, except for three interviews that were conducted in January 2026. The interviews were coded as E1–E8. The quotes are referenced by code and month/year (e.g. E6, blindness, January 2026).

3.2. Data analysis

As already mentioned, the data collection instruments were a questionnaire and an interview. The questionnaire included closed questions (5) aimed at the sociodemographic and technological characterisation of the participants, which allowed for the contextualisation of the experiences analysed, along with mixed questions (2) that facilitated the transition to a deeper understanding of digital uses and practices. The core of the instrument consists of open-ended questions (11), designed to explore perceptions, experiences, barriers, and subjective assessments regarding the accessibility of social media from the perspective of the PBLV experience.

The questions facilitate the identification of meanings, patterns of use and recurring problems. Interviews were used to explore experiences of AI use in greater depth. In both cases, the inclusion of reflective and propositional questions allows perceptions to be identified and suggestions to be gathered for improving the usability of social media.

Together, the instruments enable a comprehensive reading of the process studied, articulating description, interpretation and the generation of applied knowledge from the voice of PBLVs (Table 1).

Table 1. Aspects of the study questions.

Aspects	Function	Type of question
Sociodemographic and characterisation	Contextualise participants	Closed, descriptive, identification questions.
Use of and access to technologies	Describe practices, habits, conditions of use.	Closed and semi-open, descriptive.
Motivational and meaningful	Explore reasons, meanings, purposes of use.	Open, interpretative.
Perception of accessibility	Identify assessments, comparisons, subjective criteria.	Open, exploratory, evaluative.
Personal experience and lived experience	Delve into the situated experience of disability.	Open-ended, phenomenological.
Content consumption and production	Describe cultural and communicative practices.	Open or semi-closed, descriptive.
Psychosocial impact	Explore emotional and social effects.	Open, reflective.
Proactive and closing	Gather contributions, suggestions, unprompted comments.	Open, proactive and emergent.

Source: Own elaboration.

In summary, data analysis is structured around a combination of instruments that allow us to approach the digital experience of PBLVs from a situated, relational and applied perspective. The articulation between the questionnaire and interviews makes it possible not only to describe practices and conditions of use, but also to interpret meanings, assessments and strategies for interaction, incorporating the voices of participants as the central axis of the analytical process.

4. Results

This section presents the main results of the study, organised around analytical dimensions that allow us to understand the experience of PBLVs in social media interaction from an accessibility and UX perspective. The findings are structured based on the articulation between the data obtained through the questionnaire and the interviews. In particular, we analyse perceptions of accessibility, practices and barriers encountered in interaction, as well as usage patterns, visual preferences and interface elements that affect the digital experience. We also address the associated social and emotional implications, considering their impact on everyday life. Finally, results related to operational implications for the design and improvement of accessibility are presented, together with the use of artificial intelligence-based tools.

This organisation allows for an integrated reading of the results, aimed at highlighting both the conditions that facilitate and those that restrict digital participation, from the voice and situated experience of PBLVs.

4.1 Perceptions, practices and barriers

The results allowed for a clear description of the perceptions, practices and limitations in the use of social media by PBLVs, revealing a functional digital experience that is nevertheless conditioned by the design of each social network. In terms of perception, social media are mainly valued as spaces for social connection, access to information, and educational and employment opportunities.

Based on the open-ended responses, a content analysis was conducted on the most used social media platforms and the reasons for this preference. Each mention was assessed as positive or negative and counted as a unit of record, allowing frequencies and accessibility balances to be established by platform. The results show significant differences between platforms in terms of perceived accessibility, so the mentions were coded into two main dimensions: **structure** (compatibility with screen readers, labelling, navigation, interface) and **use** (autonomy, fluidity, possibility of interaction, user ability).

The results show significant differences between platforms in terms of perceived accessibility. Table 2 shows the absolute frequencies (n) of positive and negative mentions, as well as the resulting balance (Hernández *et al*., 2010).

Table 2. Frequency of positive and negative mentions regarding accessibility

Social network	Positive mentions	Negative mentions	Balance
WhatsApp	11	2	+9
YouTube	9	2	+7
X	6	3	+3
Mastodon	2	0	+2
Spotify	1	0	+1
LinkedIn	1	0	+1
Facebook	6	7	-1
Instagram	3	4	-1
TikTok	4	5	-1
Telegram	0	5	-5

Source: Own elaboration.

Platforms with the highest perceived accessibility. WhatsApp has the highest number of positive mentions (n=11) and the highest accessibility balance (+9). YouTube ranks second in perceived accessibility (n=9 positive; balance +7). X (formerly Twitter) shows a moderate positive balance (+3).

- WhatsApp. It offers an experience close to functional equivalence, a key principle of accessibility. Add-ons developed by blind people, such as WhatsApp Plus and Unigram Plus, reinforce actual accessibility.

- YouTube. It is accessible in terms of consumption but fails in terms of semantic accessibility of content.
- X. Good structural accessibility, but weak in user-generated content.

Platforms with intermediate accessibility. Facebook, Instagram, and TikTok have slightly negative balances (-1), characterised by an almost equal distribution of positive and negative mentions.

- These are partially accessible platforms, but with high cognitive load and low predictability.

Platforms with low perceived accessibility. Telegram has only negative mentions (n=5), making it the lowest-performing platform in terms of accessibility.

- It has serious structural barriers, failing to comply with the basic principles of accessibility: perceivable, operable, understandable, robust.

However, this positive assessment is fragile and dependent on the stability of the design. For example, frequent interface changes, the introduction of non-descriptive visual elements, and intrusive advertising generate frustration, loss of control (focus), and a feeling of exclusion. Accessibility is not perceived as a guaranteed right, but as a variable condition that can be lost with an update.

In contrast, platforms with lower accessibility concentrate their interaction barriers on the structural dimension of the interface and the lack of accessibility of visual content. Therefore, it can be inferred that the differences observed suggest that accessibility in social media is not homogeneous and depends both on technological design decisions and on content use and production practices.

4.2 Usage patterns, visual preferences, and interface elements

To interpret the usage patterns among the participants' responses, we implicitly differentiated three ways in which PBLV relates to content on social media:

Consultation. This is mainly associated with searching for and locating relevant information, especially related to information, education, culture, technology, and medical or scientific topics, reflecting a use oriented towards staying informed and up to date.

Consumption. This involves more sustained interaction with the available content and manifests itself in the viewing of videos, tutorials, photographs, live events, comments or films, where the audiovisual format and ease of navigation directly influence the experience.

Sharing. This represents a form of active participation that includes the dissemination of questions, queries, news, videos, music or work-related activities, and is usually conditioned by the accessibility of the publishing tools and confidence in using the interface.

This distinction allows us to understand (Table 3) not only which content is most frequent, but also how the degree of interaction varies according to the actual possibilities of access and use offered by each platform.

Table 3. Reasons for using PBLVs

	Information	Leisure	Work	Socialising	Education	Family/Friends
M	10	7	8	5	5	4
F	6	7	2	6	4	4

Source: Own elaboration.

A. **Usage patterns**

Usage patterns show selective, instrumental and adaptive interaction with social media:

- **Use concentrated on a few platforms** considered "stable" and predictable from an accessibility standpoint (mainly WhatsApp, YouTube, Facebook, and X), while avoiding or abandoning the use of networks with frequent changes or complex interfaces.
- **Preference for mobile phones** over computers, due to sequential navigation and the efficiency offered by screen readers such as NVDA or JAWS.

- **Predominant consumption of informative, educational and audiovisual content,** with an emphasis on accessible audio and video, and less participation in highly visual or exploratory dynamics.
- **Functional interaction** prioritises the function of social media over the social relationships it can foster. The objective is more practical, for example: searching for news, requesting tutorials or courses for learning.
- **Strategies to reduce cognitive effort,** for example: avoiding long texts, limiting the number of networks used and relying on learned browsing routines.

B. **Visual preferences**

Visual preferences do not focus on aesthetics, but on readability, predictability, and functional clarity:

- **High value of alternative text and audio description,** not only as a complement, but as a basic condition for understanding visual content.
- **Preference for clean interfaces** with low information density, no intrusive advertising and clear hierarchies.
- **Rejection of images with embedded text**, poor contrast, or small fonts that make reading difficult even with magnification.
- **Need for control over text size, brightness and zoom,** especially on mobile devices.
- **Positive assessment of content where language is explicit and contextual,** avoiding visual ambiguities that do not translate adequately to audio.

These preferences reflect that the visual experience is mediated by audio and structure, rather than by the graphics themselves.

We feel it is important to quote here: *"What we don't hear doesn't exist for blind people..."* (F13, blindness, September 2025). The expression was so strong and forceful that it became the title of this work.

C. **Key interface elements**

Interface elements emerge as decisive factors for inclusion or exclusion when interacting. There is a difference between PBLVs in interaction processes, but they all start the journey on the device screen by "focusing"[2] . Therefore, the navigation of the interactive elements that receive the focus, in addition to having a visual indicator, needs to have a logical order and be consistent across all the web pages that make up the site.

Most highly rated navigation aids:

- Correctly labelled buttons.
- Consistent and linear navigation.
- Compatibility with multiple screen readers and devices.
- Accessible keyboard commands and shortcuts.
- Complete multimedia controls (pause, fast forward, rewind, speed).
- No visual captchas or accessible alternatives.

Critical navigation elements that cause difficulties:

- Unlabelled buttons or buttons with ambiguous labels.
- Loss of focus during navigation.
- Constant interface changes without functional justification.
- Advertisements that interrupt the flow of reading.
- Video players with inaccessible controls.
- Automatic descriptions using AI that are perceived as inaccurate or insufficient.
- Excessive use of capital letters that causes spell-out reading in screen readers.

[2] Focus (keyboard): this is the point on the interface where the interaction occurs when a person navigates using a keyboard. The focus can move between interactive components, and the component that receives the keyboard input is the one that has the focus, which must be perceptible to the user. The WCAG 2.2 compliance criteria are: 2.4.7 Focus Visible (AA): requires that any interface component that receives keyboard focus display it visibly. 2.4.11 Focus Not Obscured (Minimum) (AA): establishes minimum requirements for the size, contrast, and visibility of the focus indicator. 2.4.12 Focus Not Obscured (Enhanced) (AAA): extends the focus visibility requirements to ensure even clearer identification.

4.3 Perception of social media in social and emotional life

In order to delve deeper into the relationship between disability and user experience in digital environments, we must understand how their disability affects them when interacting with social media. The direct question on the subject allowed us to explore, from the personal experience of the participants, how visual limitations influence their ways of accessing, navigating, understanding content and interacting socially on digital platforms.

It also made it easier to identify not only the technical and design barriers that affect autonomy and participation, but also adaptation strategies, changes in usage habits, and conscious decisions to avoid certain functions or networks. In this way, the question acts as a bridge between subjective experience and structural accessibility factors, providing key evidence for understanding how design impacts the digital inclusion or exclusion of PBLVs.

Table 4. Perception of social media use by PBLVs

Axis of analysis	Women Low vision	Women Blind	Men Low vision	Men Blindness
Main reasons for use	Practical information, messaging, family contact, leisure and daily management	Information, meaningful social contact, belonging to the community	Specialised information, work, technology, learning	Information, training, access to opportunities and functional autonomy
Perceived value of networks	They facilitate daily life and reduce spatial barriers; sense of companionship	Social inclusion and access to information on equal terms	Useful tool for obtaining information and optimising tasks	Key infrastructure for accessing information and participating without intermediaries
Social and emotional perception	Predominantly positive, although notification overload is an issue	Positive when there is support and accessibility; rejection when imposed as the only channel	More instrumental than emotional; utility over connection	Moderately positive impact, they expand contacts but do not replace face-to-face relationships
Relationship with accessibility	Perceived as a necessary condition for autonomous use	Claimed as a right, not an optional feature	Functional requirement for maintaining efficiency	Fundamental right, "what is not named does not exist"
General attitude towards networks	Frequent but selective use	Strategic and critical use	Pragmatic, goal-oriented use	Critical use, conditioned by actual accessibility

Source: Own elaboration.

The results show a clear predominance of positive perceptions, especially in terms of social inclusion, access to information and the expansion of interpersonal links. Social networks are seen as a means of reducing isolation and facilitating the social participation of people with visual impairments. However, specific negative effects have been identified, such as information overload, which affects the emotional experience.

4.4 Operational implications

Overall, the results indicate that social media positively influences the social and emotional lives of people with visual impairments by achieving greater inclusion, social interaction, and access to training and employment opportunities. However, the data also shows the persistence of factors that limit the potential of these benefits. Suggestions for improvement consistently point towards

the adoption of standards, diversity-focused design and greater social responsibility on the part of platforms.

The suggestions provided by participants are mainly grouped into three areas:

Regulatory-technical area: the need to comply with international accessibility standards and ensure stability in updates.

- *"General standardisation of the web; if there are ISO standards for things like paper sizes, there should be standards for digital reading"* (F3, low vision, January 2025).
- *"The main thing is that each project has an accessibility department from the outset in order to design the programme or network to be accessible to all types of disability, with regular studies to check its accessibility with new updates"* (F13, blindness, September 2025).
- *"Improve image descriptions and interfaces to comply with WCAG"* (F22, blindness, September 2025)

User-centred design approach: interfaces designed for screen readers, clear navigation and full access to features.

- *"Include alternative text in images, audio description in videos and controls to pause, fast forward and increase speed in videos"* (F2, blindness, January 2025).
- *"It would help me if my devices responded more to voice commands and if text reading were more accurate"* (F6, low vision, August 2025).
- *"Make navigation in Windows easier by creating keyboard commands to perform direct actions"* (F20, blindness, September 2025).
- *"Improve usability with keyboard shortcuts and allow captchas to be solved in ways other than the traditional method"* (F1, blindness, January 2025)

Social and organisational focus: active participation of people with disabilities in testing, validation and design processes.

- "*Surround yourselves with experts and take into account what users suggest*" (F8, blindness, August 2025).
- *"Hopefully, at some point, content creators will think about everyone. There is certainly a lack of inclusion, from my perspective as a blind person, but I'm sure that other disabilities also have their pros and cons. What I can say is that I hope that, at some point, we can talk about it in a comprehensive way, without stumbling blocks or* problems" (F15, blindness, September 2025).
- "*Social media developers should have people with disabilities as beta* testers" (F28, low vision, September 2025).

These trends reinforce the idea that accessibility should not be conceived as an add-on, but as a cross-cutting principle of digital design.

4.5 Use of AI

The results presented below (Table 5) reflect the responses provided by PBLV in the interviews (E1–E8) regarding the use of artificial intelligence in their daily lives, with particular attention to aspects of accessibility, autonomy, and interaction with digital platforms.

Table 5. Use of AI

Question	Common responses
Use of AI	Regularly.
Tools	Be My Eyes / TalkBack / ChatGPT/ Gemini / Azure AI Vision (Microsoft) / Seeing AI /
Perceived benefits	Autonomy. Access to information and quick decision-making.
How to use (specific tasks)	Image description. Interpretation of visual content. Photographing documents or objects. Text creation. Informative queries. Educational support.
Devices	Mobile phone. Occasional use on a computer or tablet.
AI on platforms	WhatsApp (image description). AI functions integrated into applications and systems.
Interaction with integrated AI	Selective use. Only used if it is fast and does not require complex configurations. As an assistant.
AI for accessibility	Image description. Recognition of the environment or visual elements. Interpretation of documents and environment. Pillar of daily autonomy when living alone.
Accessibility of AI solutions	Useful but not fully accessible. Problems with labelling, focus, inclusive design, initial configuration, privacy and updates.
AI and creation/productivity	Use for writing, learning, organising information and preparing materials.
AI in programming	Occasional use as support (e.g. Python).

Source: Own elaboration.

5. Conclusions and Discussion

5.1 Conclusions

The conclusions of the study are presented according to the objectives set, in order to provide analytical consistency between the methodological design and the results obtained. The sub-items developed below summarise the main qualitative findings and allow for a coherent response to each specific objective. This structure facilitates the interpretative reading of the results and their link to the theoretical and methodological contributions of the work.

Table 6. Sub-items of conclusions and correlation with the objectives set.

Sub-items	SO1	SO2	SO3
Platforms with greater perceived accessibility	X	X	X
Operational implications	X	X	
Use of AI			X
Accessibility as a right		X	X
The educational role of social media			X

Source: Own elaboration.

A. **Platforms with greater perceived accessibility**

Common patterns can be identified, such as consistent labelling of buttons and controls, high compatibility with screen readers, less advertising or distracting elements, and the possibility of achieving functional autonomy equivalent to that of people without visual impairments.

However, this positive assessment is fragile and dependent on design stability: frequent interface changes, the introduction of non-descriptive visual elements, and intrusive advertising

generate frustration, loss of control (focus), and a feeling of exclusion. Accessibility is not perceived as a guaranteed right, but as a variable condition that can be lost with an update.

In contrast, platforms with lower accessibility concentrate their interaction barriers in the structural dimension of the interface and in the lack of accessibility of visual content. We can therefore see that the differences observed suggest that accessibility in social media is not homogeneous and depends both on technological design decisions and on content use and production practices.

B. **Operational implications**

Overall, the results show that accessibility in social media is perceived as a multidimensional phenomenon that articulates regulatory standards, design decisions, and organisational practices. People with visual impairments demand not only specific technical solutions, but also a structural change in the way digital platforms are conceived, developed, and updated. Accessibility thus emerges as a right, a condition for autonomy and a shared responsibility between companies, designers and user communities.

C. **Use of AI**

The responses from the PBLVs show differentiated but convergent uses of AI: it is a functional aid that, in certain situations, can offer cognitive assistance. In all cases, AI is not perceived as a luxury, but as an opportunity for digital inclusion, provided that it is designed according to criteria of accessibility, transparency and human control. The feeling of autonomy and independence that comes from not depending on third parties contributes to empowerment; specific practices, tools used, perceived benefits and accessibility conditions associated with the use of AI are described.

D. **Accessibility as a right**

In the case of accessibility for people and their right to it, the good news is that to correct the functioning of the elements of an interface, it is easy to translate the findings into assessable requirements of WCAG 2.2 compliance criteria, thereby applying the digital accessibility features most valued by participants.

Table 6. List of the most valued features *vs.* level of compliance with WCAG 2.2 criteria

Feature	WCAG 2.2 criterion	Level
	Principle: Perceivable	
Alternative text and absence of captchas	1.1.1 Non-text content.	A
Review audio text	1.2.1 Audio-only and Video only (Prerecorded).	A
Subtitles	1.2.2 Captions (Prerecorded).	A
Audio description	1.2.5 Audio Description (Prerecorded).	AA
	Principle: Operable	
Access to all functionalities	2.1.1 Keyboard.	A
Does not get stuck with the device	2.1.2 No Keyboard Trap.	A
Facilitate navigation	2.4.1 Bypass Blocks.	A
Titles and buttons	2.4.6 Headings and Labels.	AA
	Principle: Understandable	
Clear and simple navigation	3.2.3 Consistent Navigation.	AA
	Principle: Robust	
Compatibility with any device	Guideline 4.1 Compatible	A - AA

Source: Own elaboration.

The responses show that accessibility is experienced by persons with disabilities as contingent: "it depends on the version," "the interface changes," "it is not designed for screen readers." Below are three aspects aimed at strengthening the governance and accountability mechanisms of digital platforms, understood as the decision-making, regulation and responsibility processes necessary to improve the user experience on social media.

- Start from the "user experience" to achieve "guaranteed access".

- Participation and co-design as a condition for the development of any digital project.
- Accessibility also means "no operational exclusion" and the participation of people with disabilities in the development of projects from the outset, not just as testers.

E. **The educational role of social media**

The corpus suggests that social media plays an educational role, for example through access to tutorials, informal learning, dissemination of work and social belonging. Therefore, platforms operate as spaces for media and digital literacy.

Social media enables a formative agency that is not limited to the content that circulates on it but is also produced through the design of its interfaces. When the interface is consistent and allows for predictable navigation, people develop transferable learning skills: they understand how to access, navigate, publish, interact and verify information, consolidating usage routines that strengthen their digital autonomy. On the other hand, frequent or unjustified changes in the navigation structure interrupt this learning, increase the cognitive load and can lead to frustration or rejection of digital technology, especially when such changes affect compatibility with assistive technologies.

In this sense, design must uphold criteria of consistency and progressiveness, have clear mechanisms for communicating changes or updates as they are incorporated—for example, through an accessible "guided mode"—that allow users to relearn without losing control of the interaction. Complementarily, the circulation of accessible educational tools and resources within platforms constitutes a strategic opportunity: not only does it promote the inclusion of PBLV, but it also improves understanding for all users, expanding the social and educational reach of social media as informal learning environments.

As a general conclusion, the results show that accessibility in social media is not a stable attribute, but a socio-technical condition in constant dispute. Autonomous interaction depends on design, governance and usage decisions that can enable or restrict the agency of people with visual impairments — we can venture to say, "not exclusively" PBLV. Incorporating accessibility as a right, a structural criterion and a situated practice is key to ensuring inclusive, sustainable and educational digital environments for all.

5.2 Discussion

The results of this research consolidate and deepen the emerging categories identified in Phase 1 of the research (Ladaga & Rangel, 2024) and contrasted in Phase 2a (Rangel & Ladaga, 2025), confirming the stability of the categories "accessibility", "digital well-being", "usage preferences" and "participation". From a perspective based on Actor-Network Theory (Latour, 2008), accessibility can be understood as a socio-technical mediation that distributes agency, insofar as platforms, interfaces, AI systems and assistive technologies act as mediators that enable or restrict action.

In this framework, design decisions—labelling, interface stability, focus control, among others—are not neutral: they have direct effects on the ability of PBLVs to act, learn and participate, confirming already identified cross-cutting subcategories, such as interface stability, governance and digital literacy. The results show that, by 2025, inclusion in social media is partial and conditional: it is sustained more by the individual adaptive efforts of people and by assistive technology (and its "patches" or add-ons) than by a truly inclusive and stable design from the outset. Accessibility thus emerges not as a technical adaptation, but as a structural condition for the exercise of agency.

These findings are in line with previous studies on accessibility and digital media, which show that when accessibility is not structurally integrated into design, the responsibility for adaptation falls on users and external technologies, limiting full participation (Orero, 2022, pp. 71–84) and reinforcing the idea that digital exclusion is a relational effect of design. Accordingly, the use of AI appears to amplify agency, provided that it operates as an accessible and controllable mediator, rather than an opaque intermediary. Finally, the formative function of social media confirms that learning occurs in both the content and the design of the experience, guiding progress towards

axial codification, where accessibility, agency and participation are articulated as inseparable dimensions.

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