© NOV 2025 | IRE Journals | Volume 9 Issue 5 | ISSN: 2456-8880
DOI: https://doi.org/10.64388/IREV9I5-1712233

Tech Accessibility for Differently-Abled Users: Public Awareness Survey

SANIKA BHOSALE[1], PROF. KIRTI SAMRIT[2], SAKSHI GORAD[3], JISMY JACOB[4], PROF. SNEHAL VIVEK VASTRAD[5]
[1, 2, 3, 4, 5]*Zeal Institute of Business Administration Computer Application and Research, Pune, Maharashtra, India.*

Abstract- ***Technology can be used to empower differently-abled people by creating equal opportunities in education, employment, and everyday life. The success of accessibility features, though, is greatly dependent on public awareness and uptake. This research examines the level of public awareness of technology accessibility tools for differently-abled users. A survey approach was used to gather responses from a representative sample of participants from diverse age groups, gender, and occupations. The findings indicate that although most of the respondents are aware of such basic accessibility features as subtitles and voice assistants, awareness about sophisticated tools like screen readers, Braille displays, and assistive mobile applications is low. The respondents also identified some barriers to adoption, including lack of awareness, high price, scarce availability, and inadequate training. Results indicate the immediate need for awareness campaigns, inclusive education initiatives, and forward-looking actions by tech companies to make everyone digitally inclusive. The study stresses that narrowing the awareness gap is vital towards developing a technology-enabled society where everyone is able to enjoy the benefits of technology, irrespective of ability. The research provides actionable recommendations to stakeholders such as governments, schools, and business corporations to enhance accessibility awareness and usage [1]-[8].***

Keywords: Access To Technology, Assistive Technology, Public Awareness, Digital Inclusion, Inclusive Education, Differently Abled Users.

I. INTRODUCTION

With the fast-paced digital world of the present times, technology has pervaded virtually all areas of existence, including communication, medicine, education, and work. For differently-abled individuals, technology is not just a luxury it is a key facilitator that enables us to break through physical, sensory, or intellectual hindrances. Assistive technologies like screen readers, speech-to-text software, alternative input devices, and captioning tools have been created to render digital spaces more accessible [1].

Notwithstanding all these technological developments, one of the main issues is that there isn't enough public knowledge regarding the availability and value of accessibility features. The majority of tools go unused because people, teachers, or employers simply don't know they exist, how they work, or how useful they are. Thus, differently-abled people are excluded not based on technology constraints but on a lack of social interaction with these tools [2].

In addition, research indicates that even if technology exists, it is still not being adopted at high levels due to social misconceptions, stigmas, or a lack of training [4], [5]. Access must therefore not only be viewed as a technological but also as a social and educational challenge. Public education, awareness, and advocacy have central roles to play in ensuring that such technologies are applied to everyday life effectively.

The aim of this study is to evaluate people's awareness of technology accessibility and learn about attitudes and perceptions toward adopting it. Through a systematic survey of a representative population, this research hopes to establish knowledge deficiencies, single out major impediments, and offer practical suggestions for enhancing digital inclusion.

II. LITERATURE REVIEW

Technology has become an imperative means to facilitate inclusion and participation of differently-abled persons in every aspect of society. Literally decades of research over the last twenty years have highlighted both the progress in accessibility tools and the continued concerns about awareness, affordability, and adoption.

According to the World Health Organization (WHO), more than 1 billion individuals have some kind of disability, which is about 15% of the world's population [8]. This emphasizes the need to create accessible digital platforms with a variety of needs in mind. Screen readers, speech systems, Braille displays, and adaptive keyboards are tools created to eliminate obstacles and offer equal opportunities [1].

The idea of Universal Design focuses on the fact that technology must be inherently accessible for all users, minimizing the requirement for adaptation or special modifications [3]. A study by Lazar et al. [2] suggests that products following universal design principles benefit not only users with disabilities but also improve usability for everyone. Subtitles and voice assistants, for instance, are highly valued by nondisabled users as well, highlighting the universal advantages of accessible design.

These advancements notwithstanding, public consciousness is still a major hurdle. Kelly et al. [3] identified that whereas elementary accessibility features such as captions and voice assistance are fairly well-known, advanced tools such as screen readers and Braille displays remain unknown outside the differently-abled population. This understanding indicates that there is a need for public campaigns and advocacy to familiarize people with using these tools.

Among the barriers to adoption are costs, unawareness, shortage, and inadequate training [4]. Stigma and misconceptions also deter people from obtaining or applying assistive technology [5]. Ellcessor [6] draws emphasis on embedding education for accessibility in school and university curricula in order to enhance knowledge and rates of adoption. In the same vein, global standards such as the Web Content Accessibility Guidelines (WCAG 2.1) have been established to inform inclusive digital design [7].

Although there has been considerable research aimed at the design and creation of accessibility tools, there have been fewer studies examining public awareness and perceptions, and hence there is a critical knowledge gap. This research seeks to fill this gap by examining how aware the broader population is of accessibility features and their perceptions of their significance in digital spaces.

III. RESEARCH METHODOLOGY

This research takes a quantitative, survey-based study design for measuring public awareness of technology accessibility by differently-abled users. The method was thoughtfully crafted for measuring demographic variation, levels of knowledge, attitudes, and subjective barriers.

1.Research Design: A descriptive study design was employed, using structured questionnaires for quantitative data collection. Both closed-ended and open-ended questions were used to elicit in-depth understanding.

2. Population and Sample: The population of interest consisted of students, professionals, teachers, and other members of the general populace. A purposive random sampling method was utilized to achieve diversity in age, occupation, and gender. 120 valid responses were obtained.

3. Data Collection Tool: A Google Form survey was created containing 11 questions, grouped into four categories:

Demographics: Age, gender, and occupation.

Awareness: Knowledge of accessibility tools and features.

Attitudes and Perceptions: Significance of accessibility and readiness to facilitate it.

Suggestions: Open-ended answers about what could be done better and awareness measures.

4.Data Collection Procedure: The link to the survey was shared online via social media, scholarly networks, and via email. All responses were voluntary and respondents were made aware of the goal of the research.

© NOV 2025 | IRE Journals | Volume 9 Issue 5 | ISSN: 2456-8880
DOI: https://doi.org/10.64388/IREV9I5-1712233

5. Data Analysis: The responses were analyzed employing descriptive statistics such as percentages, frequencies, and visual presentation using bar charts, pie charts, and tables. This facilitated simple interpretation of awareness levels, perception, and barriers.

IV. RESULTS AND FINDINGS

Analysis of responses from the survey uncovered important trends in public awareness and attitudes towards technology accessibility:

1. General Awareness: About 65% of the participants were aware of the term "technology accessibility," whereas 35% were unaware, showing a moderate baseline awareness level.

2. Familiarity with Accessibility Features:

- Subtitles/closed captions: 72%
- Voice assistants: 68%
- Screen readers: 38%
- Braille displays: 15%
- Speech-to-text tools: 41%
- Alternative input devices: 22%

3. Usage of Accessibility Tools: A mere 29% of the participants had used or helped someone with accessibility features personally, whereas 71% had never interacted with such tools.

4.tImportance Perceived: 80% of the sample ranked accessibility as very important to technology businesses, 14% as important, and just 6% as not important.

5.Barriers Recognized: Unawareness was cited most often (52%), followed by cost (28%), not readily available (12%), and no training (8%). Social stigma was cited by 5% of the survey participants.

6. Educational Significance: An overwhelming 85% concurred that schools and colleges must educate accessibility awareness, reflecting robust support for educational interventions.

7. Respondent Suggestions: Open-ended questions highlighted structuring workshops, initiating awareness campaigns, incorporating accessibility as a prerequisite in digital applications, and lowering the cost of assistive technologies.

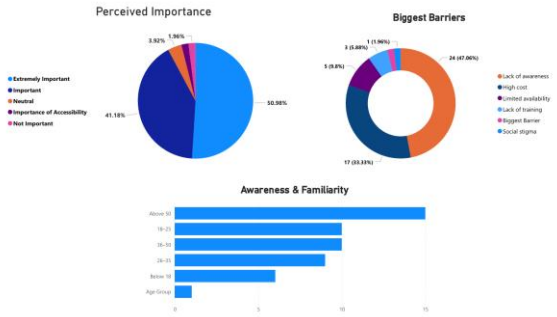

Fig 1.1: Result

V. DISCUSSION

The findings suggest a moderate degree of awareness with a bias toward widely utilized accessibility features, including subtitles and voice assistants. More advanced tools such as screen readers and Braille displays remain underappreciated, validating earlier research by Kelly et al. [3].

The survey reveals that the public recognizes the significance of accessibility, in agreement with Ellcessor's [6] discovery regarding the value of educational programs. The respondents also cited pragmatic barriers cost, awareness, and training which supports Goggin and Newell's [4] research that social and economic considerations hinder adoption.

These results imply that awareness campaigns, in addition to education programs, might fill the information gap and promote usage of high-end accessibility tools. Corporate social responsibility and governmental policies may also have a key role in providing accessible digital spaces.

RECOMMENDATIONS

Drawing on survey responses and literature, the following are the recommendations:

1. Awareness Campaigns: Governments, NGOs, and tech firms must promote accessibility features aggressively in both offline and online platforms.

2. Educational Integration: ICT and digital literacy courses should include accessibility consciousness in schools and universities.

3. Corporate Responsibility: Accessibility features should be default, not optional, in software and devices by companies.

4. Affordable Solutions: Governments and NGOs must provide subsidies, encourage open-source solutions, and lower the cost of assistive technology.

5. Training Programs: Educators, employers, and citizens can increase adoption rates and assist differently-abled users through workshops, webinars, and professional development programs.

CONCLUSION

This research explored the awareness of technology accessibility among differently-abled users in the public. Results show that despite the identification of basic tools of accessibility, advanced technology awareness is still limited. Accessibility is preferred by respondents and advocated for integration within learning, with calls for intervention opportunities.

Closing the gap in awareness needs multi-level action, such as public campaigns, educational programs, corporate responsibility, and affordable assistive technologies. Accessibility cannot be discretionary; it is a social and technological necessity. Addressing the knowledge gaps and barriers will help ensure that technology is inclusive, equitable, and advantageous to everyone [1]-[8].

REFERENCES

[1] Y. Shinohara and J. Wobbrock, "Self-Conscious or Self-Confident? A Diary Study Conceptualizing the Social Accessibility of Assistive Technology," ACM Trans. Accessible Comput., vol. 8, no. 2, pp. 1–31, 2016.

[2] J. Lazar, D. Goldstein, and A. Taylor, Ensuring Digital Accessibility through Process and Policy, Morgan Kaufmann, 2017.

[3] B. Kelly, E. Sloan, and H. Seale, "Accessibility 2.0: People, Policies and Processes," in Proc. Int. Cross-Disciplinary Conf. Web Accessibility (W4A), 2019, pp. 1–4.

[4] G. Goggin and C. Newell, Digital Disability: The Social Construction of Disability in New Media, Rowman & Littlefield, 2003.

[5] J. Seale, E-Learning and Disability in Higher Education: Accessibility Research and Practice, Routledge, 2014.

[6] N. Ellcessor, Restricted Access: Media, Disability, and the Politics of Participation, New York Univ. Press, 2016.

[7] World Wide Web Consortium (W3C), "Web Content Accessibility Guidelines (WCAG) 2.1," W3C Recommendation, 2018. [Online]. Available: https://www.w3.org/TR/WCAG21/

[8] World Health Organization (WHO), "Disability and Health," 2022. [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/disability-and-health