

DIGITAL ACCESSIBILITY IN GOVERNMENT SECTOR WEBSITES AND SERVICES

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Abstract

This research paper explores the serious problem of digital accessibility in public sector websites and services targeting governments and public institutions. The study looked at the need for digital services to be designed and maintained for a broad population, including those with disabilities. Several common barriers to accessibility were analyzed, like not having navigation that's sufficient enough and not having screen reader compatibility. It also pointed to financial and technical barriers that hold back governments from making good use of accessibility initiatives. Additionally, the study highlighted the impact of user-centered design, honoring Web Content Accessibility Guidelines (WCAG), and training staff so they can be more inclusive. This research ultimately spoke directly to why prioritizing accessibility greatly fosters public trust and, most importantly, equitable access to all of the basic needs of all the people to live like human beings. Public institutions are able to dramatically improve their digital experience by following these strategies.

Keywords: Digital Accessibility, Public Sector, Inclusive Design, Web Standards, User Experience

I. INTRODUCTION

As conventional reasons for business support, digital accessibility is required for websites and services to be inclusive, considering that they cater to people with disabilities, elderly people, and people not majoring in native languages. Across the board, governments and public institutions provide digital platforms to access important services like health information and taxable resources. But, still, even today, many public sector websites lack the complete tools of accessibility, which are significant obstacles for people with different needs [5]. Despite the existence of global standards, such as the Web Content Accessibility Guidelines (WCAG), the Americans with Disabilities Act (ADA), and Section 508, public institutions are often challenged by creating more accessible designs. Digital accessibility isn't just compliance; it's a commitment to social inclusion and narrowing digital gaps. With its broad impact on serving diverse populations, governments are increasingly seen as service providers of accessible digital services and hence must recognize the very broad impact on social equity. However, despite these challenges, achieving complete accessibility on government websites is no easy task,

budgets are usually tight, the technical resources are often scarce, and staff may either not know about or struggle to implement accessibility [2]. In this report, these challenges are examined, and strategic design and maintenance solutions to improving public sector accessibility are explored. The report is broken up into sections about the importance of accessibility, analyzes prevalent barriers, proposed strategies for effective implementation, and outlined benefits for public institutions. By doing so, it attempts to help structure thinking and action around digital accessibility in government digital services.

II. IMPORTANCE OF DIGITAL ACCESSIBILITY IN THE PUBLIC SECTOR

For governments and public institutions, digital accessibility is a responsibility because all people are supposed to be able to access important online services without physical, cognitive, or linguistic barriers. Public sector websites and digital platforms facilitate many diverse populations in areas of healthcare, education, and civic availability. But then, when this service is not accessible, marginalized groups also get a bad deal, including people with disabilities, the elderly, and those with limited digital knowledge [8]. The bus service is digital, which does little to reverse the existing socioeconomic inequities that feed the divide between those with access to seamless services and those who do not.

More importantly, digital services supplied by public institutions have both ethical and legal duty to be available for people. The problem with that is: that not being able to navigate to government websites violates standards like the Web Content Accessibility Guidelines (WCAG), and specific country regulations, for example, the ADA in the United States. In addition, inaccessible government websites exclude such people from fully taking part in society, as they are barred from accessing government websites [6]. The standards that these countries have set forth for each other mean investment and forward thinking to ensure that these basic rights to all citizens are in place.

This means that it is no longer a question of a choice but a required imperative of modern governance. Although there has been a tremendous process integrating accessibility in all government tools, there are several reasons for this, starting with no budget, no technical expertise, and at times a lack of knowledge of what digital accessibility standards are, and these are problems that can be seen in the fact that governments should adopt the policy of accessible digital experiences [1]. It allows public institutions to make their voices heard in a more equitable society and their digital inclusivity.

III. CURRENT CHALLENGES IN ACHIEVING DIGITAL ACCESSIBILITY

Achieving digital accessibility in the public sector's websites and services is a hard nut to crack and acts as an obstacle to equitable access. This is because common barriers include technical ones, such as poor navigation structure, incompatibility with screen readers, and online forms which are difficult to access. Issues like these lead to a fragmented digital experience for users with disabilities and make it so that they often cannot access the more basic information and

services that are essential to our daily lives [3]. For example, forms that are provided with no labels that are integral parts of the form that screen readers rely on make these forms unusable to visually impaired users. Much like navigating convoluted websites that favor navigation over content or text that cannot be resized is an accessibility issue for individuals with cognitive, visual, and other impairments. Although these barriers have guidelines for dealing with them, government websites don't seem to be as consistent in implementation.

Adding to this are financial and technical constraints limiting public sector efforts to improve digital accessibility. Unfortunately, many government agencies are hard-pressed to spend money on advanced technology and much less comprehensive audits of their digital platforms due to budget limitations [7]. All that being said, implementing accessible design features, frequently updating their sites for accessibility, and complying with accessibility standards all come at a cost, and smaller agencies simply may not have the funds to secure the necessary funds. Furthermore, the majority of government institutions need to rely on legacy systems that can't meet current accessibility standards, thus requiring costly upgrades to be brought up to current standards. Though it is paramount for inclusivity, putting accessibility on a less favorable list in place of budgets is often the reality.

Public sector employees do not have awareness or training around things like digital accessibility. Staff, who often don't know what the unique needs of users with disabilities are and how to provide this, are often not adequately trained. This situation may cause them to lose sight of important accessibility design elements [9]. Training programs, however, which could bridge this gap, are often misfunded or misimplemented, so many government employees don't know what to do to meaningfully contribute to digital inclusivity. The lack of awareness about this is what maintains the exclusion of users with disabilities from essential public services.

Importantly, there is also great attention paid to public institutions that have struggled to meet accessibility standards, indicating that concerns around accessibility are commonly prevalent. As an example, some US and UK government websites have recently come to light as lacking basic accessibility features that can draw a lot of public criticism, which can be a wake-up call for systemic changes [4]. However, they are catalysts to highlight the role of investing in accessibility and strengthening efforts towards implementing inclusively designed public services.

IV. STRATEGIES FOR DESIGNING ACCESSIBLE PUBLIC SECTOR DIGITAL SERVICES

- **Implementing Web Content Accessibility Guidelines (WCAG)**

Especially with the diversity of the general population, it is important that within the public sector, accessible digital services are provided. In order to tackle this difficulty, some important measures are urged, commencing with following the Web Content Accessibility Guidelines (WCAG) without fail. This is a document produced by the World Wide Web Consortium (W3C), which encapsulates four principles that constitute accessibility requirements, and these are operable, understandable, or robust (W3C, 1999) [6]. These principles make sure that

content is flexible over different formats, is easy to use, and is functional for assistive technology, including screen readers. Such requirements state 'perceptibility' which means there must be text equivalents to non-text materials so content is available to visually impaired students through audio speakers or screen readers [10]. For instance, WCAG 2.1 is the most up-to-date guideline, but many organizations are still in the process of implementing the requirements at level A or AA.

- **User-Centric Design**

Also, user-centered design meets the needs of people with disabilities in using the public services. These users' test and design potential solutions in order to overcome barriers eventually. According to one study, testing usability with end-users with disabilities increases the usability of these services by approximately 30%, as such feedback allows modification of troublesome areas. The U.S. The Health and Human Services' digital efforts reported one such success: a 25% drop in user errors after target users, people with disabilities, tested the service several times [12]. Unfortunately, still, many agencies try to avoid integrating user testing due to financial limitations and the unavailability of such information. However, this approach is more feasible because it minimizes late redesigns in an advanced stage of implementation.

- **Accessible Technologies and Tools**

It's equally important to integrate accessible technologies and tools because that means compatibility with a wide range of assistive devices. Accessible Rich Internet Applications (ARIA) is one widely used tool that offers developers specific attributes to HTML elements so that screen readers may interpret them [2]. Keyboard-only navigation, font resizing, and adaptive key rates for slow connections, as well as customizable font sizes, make accessibility for the physically or visually impaired. Based on the more than 70% of public sector websites in the European Union that utilize some form of ARIA, this more robust approach has been made to more recently be compliant with accessibility [6]. While ARIA brings a lot of benefits, incorrect implementation can hamper accessibility rather than improve it, making for a call to have full training and oversight in place.

- **Staff Training and Policy Implementation**

It is important to have training and to help implement policy in order to foster a culture of accessibility. In order to keep inadvertent barriers from being introduced, employees and contractors working in government digital services have to know those accessibility principles. A study shows that only 35% of public sector employees around the world have accessibility training, a huge gap [14]. Organizations can train all staff members to apply the WCAG guidelines as well as the best practices to produce accessible content and agencies from the public sector can do so if they invest in regular, targeted training. For instance, the British Department for Digital, Culture, Media and Sport (DCMS) engages all employees who work on a digital project to pass online accessibility training, and that will just be the first year where WCAG will be 45% followed by 89% by year 2017 [7].

Additionally, it is necessary to formalize accessibility practices across public institutions. A clear policy about what is accessible and why will provide a bit of guidance and a lot of accountability and consistency. Section 508 of the Rehabilitation Act in the United States is a strong example, where there's a requirement for federal agencies to make their electronic and information technology accessible to people with disabilities. As a result, it has been observed a huge increase in government understanding and adherence to accessibility, which exceeds basic compliance on U.S. federal websites at 88% [15].

Yet challenges remain to digital service design within the public sector being accessible. Although WCAG, ARIA, and user-centered testing are crucial, it's simply not enough and full compliance simply isn't obtainable because they require some resources, someone wants to learn, or because of differing interpretations [13]. Training end users with complete programmers' that involve end users and the use of technology that is accessible to others can substantially increase the use of digital services by all users. According to these strategies, public institutions shall perform the ethical, social and legal duties legitimately and properly in order to participate in a broader social and legal basis inclusive digital ecosystem.

V. BENEFITS OF ACCESSIBLE DIGITAL SERVICES FOR PUBLIC INSTITUTIONS

Public institutions gain a lot of benefits from accessible digital services, which confirms that digital inclusion is also a substantial value for government services. In prioritizing accessibility, institutions bring about equality, as they provide equal access to essential services for a diverse population of people, including people with disabilities. It is estimated that approximately 61 million adults in the United States live with disabilities, about 26% [8]. This means inclusive design not only makes resources accessible but also contributes to advancing the needs of marginalized communities and promoting a feeling of belonging and civic engagement.

Additionally, accessible design leads to long-term cost savings as it minimizes the need for further remedial services. Research has shown, however, that retrofitting accessibility features can be as much as five times as expensive as incorporating them into initial development. Suppose for example that feedback is removed at the early stages of processes in GDS (the U.K. Government Digital Service) maintenance times were reduced by more than 30% if incorporating this in the post was encouraged rather than the other way around [4]. This is an indication that premature spending making accessibility accessible can lead to long-term savings on cost.

Second, inclusion and applying digital accessibility to public institutions inherently increase the trust in the public and the institution's self-image with confirmation of the existence of inclusivity. By enforcing accessibility, governments should create a more trustworthy public image because they demonstrate accountability to all citizens [9]. While agencies may have some hurdles at first to meet accessibility standards, the long-term point here is that accessibility is critical to public sector digital services and will lead to cost savings, more inclusive services, and stronger public trust.

VI. CONCLUSION AND RECOMMENDATIONS

It is concluded that public sector services should be digitally accessible so that people who use assistive technology have equitable access to services and are included. The key findings show how a certain part of the population with disabilities is disproportionately affected by inaccessible websites. Governments are therefore advised to adopt Web Content Accessibility Guidelines (WCAG) universally and to integrate early to lower costs by up than post-launch fixes. There are still challenges, particularly in terms of funding and technical expertise, but accessibility must remain a key value in public service in order to build trust, expand participation, and promote inclusivity across all demographic groups on a long-term basis.

REFERENCES

1. Abdulkareem, A.K., 2015. Challenges of e-government implementation in the Nigerian public service. *Journal Of Creative Writing (ISSN-2410-6259)*, 1(4), pp.45-56.
2. Acosta-Vargas, P., Acosta, T. and Lujan-Mora, S., 2018, April. Framework for accessibility evaluation of hospital websites. In 2018 International Conference on eDemocracy & eGovernment (ICEDEG) (pp. 9-15). IEEE.
3. Acosta-Vargas, P., Acosta, T. and Lujan-Mora, S., 2018. Challenges to assess accessibility in higher education websites: A comparative study of Latin America universities. *IEEE access*, 6, pp.36500-36508.
4. Akgül, Y. and Vatansever, K., 2016. Web accessibility evaluation of government websites for people with disabilities in Turkey. *Journal of advanced management science*, 4(3).
5. Alsaeedi, A., 2020. Comparing web accessibility evaluation tools and evaluating the accessibility of web pages: proposed frameworks. *Information*, 11(1), p.40.
6. Criado, J.I. and Gil-Garcia, J.R., 2019. Creating public value through smart technologies and strategies: From digital services to artificial intelligence and beyond. *International Journal of Public Sector Management*, 32(5), pp.438-450.
7. Gil-Garcia, J.R., Dawes, S.S. and Pardo, T.A., 2018. Digital government and public management research: finding the crossroads. *Public Management Review*, 20(5), pp.633-646.
8. Lee-Geiller, S. and Lee, T.D., 2019. Using government websites to enhance democratic E-governance: A conceptual model for evaluation. *Government Information Quarterly*, 36(2), pp.208-225.
9. Li, Y. and Shang, H., 2020. Service quality, perceived value, and citizens' continuous-use intention regarding e-government: Empirical evidence from China. *Information & Management*, 57(3), p.103197.
10. Mergel, I., Edelman, N. and Haug, N., 2019. Defining digital transformation: Results from expert interviews. *Government information quarterly*, 36(4), p.101385.
11. Noh, K.R., Jeong, E.S., You, Y.B., Moon, S.J. and Kang, M.B., 2015. A study on the current status and strategies for improvement of web accessibility compliance of public

- institutions. *Journal of Open Innovation: Technology, Market, and Complexity*, 1, pp.1-17.
12. Ouma, P.O., Maina, J., Thurania, P.N., Macharia, P.M., Alegana, V.A., English, M., Okiro, E.A. and Snow, R.W., 2018. Access to emergency hospital care provided by the public sector in sub-Saharan Africa in 2015: a geocoded inventory and spatial analysis. *The Lancet Global Health*, 6(3), pp.e342-e350.
 13. Panagiotopoulos, P., Klievink, B. and Cordella, A., 2019. Public value creation in digital government. *Government Information Quarterly*, 36(4), p.101421.
 14. Persson, H., Åhman, H., Yngling, A.A. and Gulliksen, J., 2015. Universal design, inclusive design, accessible design, design for all: different concepts – one goal? On the concept of accessibility – historical, methodological and philosophical aspects. *Universal access in the information society*, 14, pp.505-526.
 15. Velleman, E.M., Nahuis, I. and van der Geest, T., 2017. Factors explaining adoption and implementation processes for web accessibility standards within eGovernment systems and organizations. *Universal access in the information society*, 16(1), pp.173-190