

DIGITAL DIVIDE FOR PERSONS WITH DISABILITIES RELATED TO INDONESIAN INFORMATION TECHNOLOGY ACCESSIBILITY FROM LEGAL PERSPECTIVE

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Received: July 29 2023; Accepted: September 02, 2024; Published: September 30, 2024

Abstract

Website accessibility and digital content for people with disabilities in Indonesia remain inadequate. Based on the Internet Inclusive Index, Indonesia ranks 66th out of 120 countries with a score of 69.75 and fails to meet the Web Content Accessibility Guidelines (WCAG). Despite the enactment of Law Number 8 of 2016 concerning Persons with Disabilities and the ratification of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) in 2011, accessibility rights to information and communication technology have not been fully realised. Existing studies have yet to comprehensively examine how digital law can be effectively applied to close the gap between legal norms and the digital inclusion of persons with disabilities. This research fills that gap by analysing the intersection of disability rights and digital law, identifying key legal and sociocultural barriers that contribute to the digital divide. Employing normative juridical methods and a statutory approach, the study is analysed using qualitative descriptive techniques. The digital divide is found to stem from three main factors: legal substance, institutional structures, and societal culture. The novelty of this research lies in its use of digital law as a conceptual and regulatory framework to formulate inclusive digital policy recommendations. These include the strategic implementation of Articles 5 and 127 of Law No. 8 of 2016, as well as the proposal for a government-regulated digital portal based on universal design principles. Additionally, a cultural shift from a compassion-based to a rights-based approach is essential to ensure that persons with disabilities are recognised as equal participants in the digital society.

Keywords: *accessibility; digital divide; disability; information, digital law*

Abstrak

Aksesibilitas situs web dan konten digital bagi penyandang disabilitas di Indonesia masih tergolong rendah. Berdasarkan data Internet Inclusive Index, Indonesia menempati peringkat ke-66 dari 120 negara dengan skor 69,75 dan belum memenuhi standar Web Content Accessibility Guidelines (WCAG). Meskipun Indonesia telah mengesahkan Undang-Undang Nomor 8 Tahun 2016 tentang Penyandang Disabilitas dan meratifikasi Konvensi Perserikatan Bangsa-Bangsa tentang Hak-Hak Penyandang Disabilitas (UNCRPD) pada tahun 2011, hak atas aksesibilitas terhadap teknologi informasi dan komunikasi belum sepenuhnya terwujud. Penelitian-penelitian sebelumnya belum secara komprehensif mengkaji bagaimana hukum digital dapat diterapkan secara efektif untuk menjembatani kesenjangan antara norma hukum dan inklusi digital bagi penyandang

disabilitas. Penelitian ini mengisi kekosongan tersebut dengan menganalisis keterkaitan antara hak-hak penyandang disabilitas dan hukum digital, serta mengidentifikasi hambatan hukum dan sosial budaya yang memperlebar kesenjangan digital. Metode yang digunakan adalah yuridis normatif dengan pendekatan perundang-undangan dan dianalisis secara deskriptif kualitatif. Ditemukan bahwa kesenjangan digital disebabkan oleh tiga faktor utama: substansi hukum, struktur kelembagaan, dan budaya masyarakat. Kebaruan penelitian ini terletak pada penggunaan hukum digital sebagai kerangka konseptual dan regulatif dalam merumuskan rekomendasi kebijakan digital yang inklusif. Rekomendasi tersebut mencakup penerapan strategis Pasal 5 dan 127 Undang-Undang Nomor 8 Tahun 2016, serta usulan pengembangan portal digital pemerintah yang berbasis desain universal. Selain itu, diperlukan pergeseran budaya dari pendekatan berbasis belas kasih menuju pendekatan berbasis hak asasi manusia, agar penyandang disabilitas diakui sebagai partisipan setara dalam masyarakat digital.

Kata-kata kunci: aksesibilitas; disabilitas; hukum digital; informasi; kesenjangan digital

Introduction

Access to information constitutes a fundamental necessity for all individuals, encompassing not only general knowledge but also access to digital data and online resources.¹ Every citizen has the right to freedom of information; the goal is to educate the life of a sovereign, just, and prosperous nation. In the Indonesian context, the right to access information is enshrined in the Preamble of the 1945 Constitution of the Republic of Indonesia, which affirms that intellectual advancement is the right of all nations. This principle is further reinforced by Law Number 14 of 2008 on Public Information Disclosure, which guarantees the public's right to obtain accessible and transparent information.² Freedom implies equality between one another.

Information dissemination has shifted from traditional to technology-based in the last few decades. Information and computer technology (ICT) has profoundly impacted global life, facilitating all aspects of human activity.³ The emergence of the digital era has transformed conventional manual processes by replacing them with more efficient and automated digital systems.⁴

Not all individuals have equal access to digital information in terms of ease, speed, and affordability. For some, particularly those with physical disabilities, accessing digital information remains a significant challenge due to limitations in infrastructure, design, or accessibility features. *People with* special needs are known

¹ Cédric Baudet, Maximiliano Jeanneret Medina, dan Cédric Benoit, "Widen Your Vision: From Technical Accessibility to Semantic Intelligibility of Information," *Universal Access in the Information Society*, 5 Januari 2023, <https://doi.org/10.1007/s10209-022-00963-y>.

² Ignatius Haryanto, *Apa Itu Kebebasan Memperoleh Informasi* (Jakarta: UNESCO, 2005).

³ Ed Lam, Kirk Girard, dan Vernon Irvin, 2019.

⁴ Clayton M. Christensen, "The ongoing process of building a theory of disruption," *Journal of Product innovation management* 23, no. 1 (2006): 39–55.

as *people with disabilities (PWD)*. The Central Statistics Agency (BPS) noted that the proportion of workers aged 15 years and over with disabilities in Indonesia was 0.53% in 2022. This figure increased by 0.12% points compared to the previous year.⁵ While Internet access has increased among all socioeconomic categories, significant differences persist by age, income, ethnicity/race, and educational level.⁶ Geographic location is also crucial, as rural communities are significantly less likely to have access to high-speed internet.⁷ Significant disparities also exist for those living with a disability. Around 81% of adults use the internet. However, only 51% of adults with disabilities access the internet.⁸

Over the last three decades, researchers have increasingly recognised not only that there are diverse and complex inequalities in access to, use of, and benefits from digital technologies, but also that digital inclusion varies in breadth and depth, exhibiting evolving gradations.⁹ From the above, the question arises as to how people with disabilities can obtain equality in accessing digital information. At the same time, they have difficulty moving around. Therefore, this research is essential to highlight the factors that cause the digital divide and the efforts that the Indonesian government must take to realise digital equality for people with disabilities from the perspective of Indonesian law. Article 5 of Law No. 8/2016 on Persons with Disabilities describes the rights to accessibility, involvement, and obtaining information.¹⁰ The 2022 Inclusive Internet Index data show that Indonesia ranks 66th out of 120 countries, with a score of 69.75, and does not meet the Web Content Accessibility Guidelines (WCAG) standards.¹¹

⁵ Data Indonesia, “Proporsi Pekerja Disabilitas di Indonesia 0,53% pada 2022,” [Dataindonesia.id](https://dataindonesia.id/sektor-ril/detail/proporsi-pekerja-disabilitas-di-indonesia-053-pada-2022), accessed 10 Juni 2023, <https://dataindonesia.id/sektor-ril/detail/proporsi-pekerja-disabilitas-di-indonesia-053-pada-2022>.

⁶ Barney Warf, “Contemporary Digital Divides in the United States: Contemporary Digital Divides in the United States,” *Tijdschrift Voor Economische En Sociale Geografie* 104, no. 1 (February 2013): 1–17, <https://doi.org/10.1111/j.1467-9663.2012.00720.x>.

⁷ Darrell M. West and Jack Karsten, “Rural and Urban America Divided by Broadband Access,” *Brookings* (blog), 30 November 2016, <https://www.brookings.edu/blog/techtank/2016/07/18/rural-and-urban-america-divided-by-broadband-access/>.

⁸ Cynthia K. Sanders dan Edward Scanlon, “The Digital Divide Is a Human Rights Issue: Advancing Social Inclusion Through Social Work Advocacy,” *Journal of Human Rights and Social Work* 6, no. 2 (Juni 2021): 130–43, <https://doi.org/10.1007/s41134-020-00147-9>.

⁹ Panayiota Tsatsou, “Digital inclusion of people with disabilities: a qualitative study of intra-disability diversity in the digital realm,” *Behaviour & Information Technology* 39, no. 9 (1 September 2020): 995–1010, <https://doi.org/10.1080/0144929X.2019.1636136>.

¹⁰ Sekretariat Website JDIH BPK RI, “UU No. 8 Tahun 2016 tentang Penyandang Disabilitas [JDIH BPK RI],” accessed 24 Juni 2023, <https://peraturan.bpk.go.id/Home/Details/37251/uu-no-8-tahun-2016>.

¹¹ Michael Paterra dan Shreya Mukarji, “Economist Impact: The Inclusive Internet Index, supported by Meta,” accessed 25 Juni 2023, <https://impact.economist.com/projects/inclusive-internet-index/2022/country/Indonesia>.

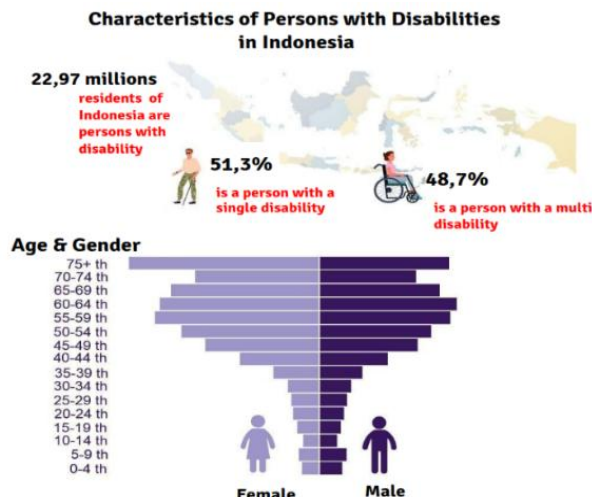


Image 1. Characteristics of Persons with Disabilities in Indonesia

Source: *Assessment of Enhancing Living Conditions and Access for Individuals with Disabilities in Indonesia* (Bapenas, 2020).

In a previous study, Bourdieusian scholars stated that digital capital is a form of human capital. Digital capital consists of internalised competencies related to digital technology. It is similar to digital media literacy or access to digital technology.¹² Social and economic disparities in urban and rural areas underscore the importance of government advocacy in achieving equitable internet access for all populations.¹³ People with disabilities have attracted the interest of scientists in recent years. Research has focused on analysing certain aspects, such as internet usability, online activities undertaken, and the benefits and risks of the internet relating to people with intellectual disabilities.¹⁴ Reviews related to this issue use both narrative and systematic approaches. The study aimed to assess academic output on the internet and the academic contributions of people with intellectual disabilities from a bibliometric perspective.¹⁵ Ninety-five (95) documents relevant to the topic were sampled from the *Web of Science* (WoS) core collection and then analysed using the bibliometric R-Tool. The findings of this study indicate an increase in recent publications relating to the subject, confirming Price and Bradford's law.

¹² Johan Lindell, *Digital Capital: A Bourdieusian Perspective on the Digital Divide* (SAGE Publications Sage UK: London, England, 2020).

¹³ Sanders dan Scanlon, "The Digital Divide Is a Human Rights Issue."

¹⁴ K.A. Ågren, H. Hemmingsson, dan A. Kjellberg, "Internet activities and social and community participation among young people with learning disabilities," *British Journal of Learning Disabilities* 51, no. 2 (2023): 125–34, <https://doi.org/10.1111/bld.12519>.

¹⁵ S. Mengual-Andrés, E. Chiner, dan M. Gómez-Puerta, "Internet and people with intellectual disability: A bibliometric analysis," *Sustainability (Switzerland)* 12, no. 23 (2020): 1–15, <https://doi.org/10.3390/su122310051>.

Following the investigation, pertinent sources, primarily dedicated to intellectual disability research, were identified in nations such as Spain, the United Kingdom, and Sweden.¹⁶ These nations are the most active in terms of publications on this subject. However, despite their significant contributions, this area still needs international scientific collaboration. It is crucial to fill this gap and further our understanding of intellectual disabilities, as well as the role of digital technology in addressing these needs.¹⁷ Digital technology is now pervasive everywhere, even in modern cities. An unequal technological adjustment process has been identified in response to current changes in digital geography and inequality. Based on a single interview with personnel from an urban service provider in Melbourne, Australia, and individuals with intellectual disabilities.

The study demonstrates how, while the digitisation of services has given some persons with intellectual disabilities new opportunities, it has also led to new obstacles to their integration into urban environments. Focusing on three sets of service digitisation—e-payment systems, public transportation e-ticketing, and public library digitisation—then demonstrates that the alignment of various components—including the person's skills component, financial resources, the availability and skills of disability support staff and urban service staff, as well as the positive reactions of bystanders—is necessary for the successful engagement of people with intellectual disabilities with digital technologies. Due to the complex alignment required for individuals with intellectual impairments to use digital services, there is a substantial risk of exclusion as digital delivery rapidly replaces traditional delivery for many services. Future thinking regarding inequality in digital geographies should focus on moments of friction and alignment, employment access, and other relevant areas.

The novelty of this research lies in its specific focus on examining the digital divide experienced by persons with disabilities in Indonesia through a legal lens, particularly within the emerging domain of digital law. This area remains underexplored in existing literature. Within the framework of positive law, all citizens of the Republic of Indonesia are entitled to equal access to information, including digital resources. By grounding the analysis in digital law, this study aims to identify the key legal, structural, and policy-related factors that contribute to the digital divide in information technology access. It further proposes law- and policy-based solutions that align with the principles of inclusivity and non-discrimination. These efforts support the broader objective of advancing digital inclusion and ensuring equitable access to digital technologies for all citizens, especially those with disabilities.

¹⁶ S. Johansson, J. Gulliksen, dan C. Gustavsson, "Disability digital divide: the use of the internet, smartphones, computers and tablets among people with disabilities in Sweden," *Universal Access in the Information Society* 20, no. 1 (2021): 105–20, <https://doi.org/10.1007/s10209-020-00714-x>.

¹⁷ Mengual-Andrés, Chiner, dan Gómez-Puerta, "Internet and people with intellectual disability: A bibliometric analysis."

Methods

This research is library research with a statutory approach and is analysed in a normative juridical manner. Several regulations related to information accessibility for persons with disabilities in Indonesia are Law Number 8 of 2016 concerning Persons with Disabilities, Government Regulation Number 70 of 2019 concerning Accessibility of Public Facilities and Settlements, Government Regulation Number 42 of 2020 concerning Accessibility to Settlements, Public Services and Protection from Disasters for Persons with Disabilities, and Law Number 19 of 2011 concerning the Rights of Persons with Disabilities.

The data for this research were collected and presented descriptively and qualitatively. The primary data source was various literature, especially laws and regulations related to persons with disabilities and their rights to information. This qualitative research method was chosen for its suitability in answering research questions that require in-depth exploration of issues surrounding access to scientific information sources. The data was obtained from previous research, up-to-date journal articles, and authoritative scientific literature. The data set was then analysed using Miles and Huberman's concept, which involves reducing related data, displaying the collected data, filtering the data, and verifying the final data used to analyse the research problem.

Results and Discussion

Factors Contributing to Indonesia's Digital Divide in Information Technology Accessibility for People with Disabilities

Article 1 of Law No. 8/2016 on Persons with Disabilities states that "a person with a disability is any person who experiences physical, intellectual, mental, and/or sensory limitations for a long period who, in interacting with the environment, may experience obstacles and difficulties to participate fully and effectively with other citizens based on equal rights." Based on this definition, there is a paradigm shift in the view of persons with disabilities, where a human rights perspective has been included in this concept. Persons with disabilities are known as *vulnerable populations*. According to the *World Health Organization* (WHO), as reported on the Red Cross website, vulnerability refers to the degree to which populations, individuals, or organisations are unable to anticipate, cope with, resist, and recover from the effects of disasters. Children, pregnant women, the elderly, malnourished people, and people with disabilities are part of this vulnerable group.

Meanwhile, *the International Classification of Impairment, Disability and Handicap* states 3 (three) definitions related to disability: *impairment*, *disability*, and *handicap*. "*Impairment is any loss or abnormality of psychological, physiological, or anatomical structure or function, e.g., paraplegia.*"¹⁸ People with disabilities are often still seen as unproductive

¹⁸ "UN Enable: First 50 Years : Chapter II - What is a disability?," accessed 25 June 2023, <https://www.un.org/esa/socdev/enable/dis50y10.htm>.

and unable to perform their duties and responsibilities. The United Nations (UN), through the World Health Organisation (WHO), has designated December 3 as World Disability Day.¹⁹ It aims to raise public awareness of the importance of disability issues by providing support to people with disabilities. Additionally, it positions people with disabilities to benefit from the development of information technology, enabling them to participate actively in the community's social life.

Every citizen is free to seek out, acquire, own, store, process, and transmit information, utilising the existing networks to enhance themselves and their surroundings. Article 28f of the Republic of Indonesia's 1945 Constitution stipulates that everyone has the freedom to communicate and seek information to promote their growth and the well-being of the environment. On the other hand, as information technology advances rapidly, all societal members must recognise its value. Community service initiatives based on information technology must be user-friendly and accessible. Disability-friendly design must be incorporated into the creation of digital platforms, applications, and other web-based information channels—design that is accessible to users not constrained by media, physical, geographical, or financial limitations.

With the right to obtain information for persons with disabilities, Section 20 of Law No. 8/2016 on Persons with Disabilities regulates the right to expression, communication, and information. In detail, Article 24 states that the rights to express, communicate and obtain information for Persons with Disabilities include the rights: (a) have freedom of expression and opinion; (b) obtain information and communicate through easily accessible media; and (c) use and obtain information and communication facilities in the form of sign language, braille, and argumentative communication in formal interactions.

In other words, the state recognises that by disclosing public information, efforts are made to implement the rights of its citizens as given and mandated by the 1945 Constitution. The approach contributes to improved governance while empowering public institutions to provide higher-quality information to the public.

After the arrival of the internet, digitalisation activities emerged. Digitalisation is one of the most interesting issues in the era of information technology. Such developments offer a breath of fresh air to generations commonly known as digital natives. Those who lived in the manual era and migrated to digital technology are known as digital immigrants. Everyone must eventually be able to master this digital development due to the demands and needs of the times. Information technology has become a tool that helps everyone in their daily activities.

¹⁹ "Hari Disabilitas Internasional 2021: Libatkan Penyandang Disabilitas PascaCovid-19," *Pusat Layanan Pembiayaan Pendidikan* (blog), 3 December 2021, <https://puslapdik.kemdikbud.go.id/hari-disabilitas-internasional-2021-libatkan-penyandang-disabilitas-pascacovid-19/>.

Compared to people without disabilities, Americans with disabilities are less likely to own a standard computer or smartphone.²⁰

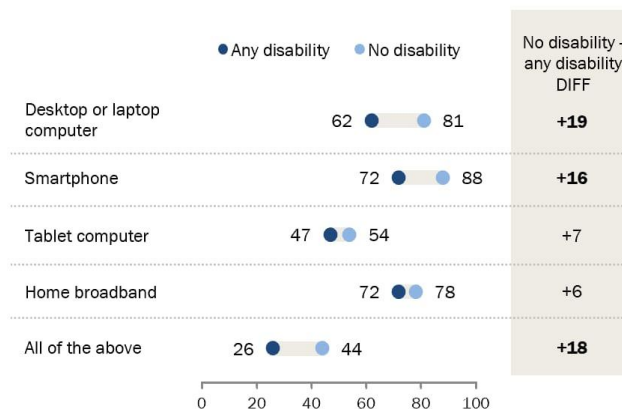


Image 2. Americans with a disability are less likely than those without one to have a traditional computer or smartphone.

Source: survey of U.S adults conducted Jan. 25-Feb. 8, 2021

Take note of the statistically significant differences shown in bold in that image. Subtracting the chart's rounded numbers yields the different values that are displayed. Those responders who remained silent are hidden. There has been an exponential increase in interest in internet access and use by people with intellectual disabilities. However, the number of publications is still relatively low compared to other scientific fields in information and communication technology (ICT). Then there is a trend towards *co-authorship* in journals of Anglo-Saxon countries with high international prestige and those in the JCR Index, which seems to favour a high scientific global impact, and the European Union turns out to be a very active research focus in this area, especially highlighting the scientific production work carried out in Spain and Sweden. Finally, international scientific cooperation remains limited, so researchers are often selected for national cooperation networks among universities.²¹

The digital divide arises from the process of digitalisation. In the context of contemporary information technology, this issue continues to attract considerable attention and scholarly interest. However, the digital disability divide often goes unnoticed. Some people still find it challenging to gain access to digital information, and disability is often overlooked as a potential reason for digital

²⁰ Andrew Perrin and Sara Atske, "Americans with Disabilities Less Likely than Those without to Own Some Digital Devices," *Pew Research Center* (blog), 10 September 2021, <https://www.pewresearch.org/short-reads/2021/09/10/americans-with-disabilities-less-likely-than-those-without-to-own-some-digital-devices/>.

²¹ Mengual-Andrés, Chiner, dan Gómez-Puerta, "Internet and people with intellectual disability: A bibliometric analysis."

exclusion.²² Dobransky and Hargittai explored the digital divide by investigating internet access and use among people with six types of disabilities.²³ When controlling for demographic and socioeconomic factors, i.e., gender, age, education, and income, five of the six types of disabilities reported less access to the internet and lower skills compared to the general population. Conversely, individuals with hearing impairment were more likely to have access to the internet compared to the general population.²⁴

The description of the digital divide for people with disabilities in terms of website accessibility and digital content for people with disabilities can be seen from several types of information technology that are not yet accessible to people with disabilities. Some types of information technology that are difficult to access by people with disabilities include: ²⁵ (a) Disabled-friendly websites are websites that are not designed with accessibility for people with disabilities in mind, which can make it difficult for them to access information. (b) Applications that are not disability-friendly, i.e., applications not designed with accessibility for people with disabilities in mind, can make it difficult for them to access information. (c) Software that lacks accessibility features, such as screen readers and voice amplifier software, can make it difficult for people with disabilities to access information. (d) Physical accessibility limitations, such as those related to building and transportation, can also impact the accessibility of information technology for people with disabilities.

Due to difficulties in accessing information technology, people with disabilities may face a digital divide in obtaining the right to information. Therefore, efforts are needed to improve the accessibility of information technology for people with disabilities, such as by issuing regulations governing digital accessibility, increasing understanding of the needs of people with disabilities, and ensuring adequate physical accessibility for them.

Legal and Policy Barriers in Digital Law Contributing to the Digital Divide for Persons with Disabilities

Using the internet means using search engines, browsers, and applications from specific platforms. So, information technology refers to the tools and

²² Frederike Scholz, Betül Yalcin, dan Mark Priestley, "Internet access for disabled people: Understanding socio-relational factors in Europe," *Cyberpsychology: Journal of Psychosocial Research on Cyberspace* 11, no. 1 (31 Mei 2017), <https://doi.org/10.5817/CP2017-1-4>.

²³ Kerry Dobransky dan Eszter Hargittai, "Unrealized Potential: Exploring the Digital Disability Divide," *Poetics* 58 (Oktober 2016): 18–28, <https://doi.org/10.1016/j.poetic.2016.08.003>.

²⁴ Johansson, Gulliksen, dan Gustavsson, "Disability digital divide: the use of the internet, smartphones, computers and tablets among people with disabilities in Sweden."

²⁵ Widowati Maisarah, "Kesenjangan Digital Menghambat Penyandang Disabilitas Untuk Terlibat Aktivisme Daring: Apa Yang Harus Dilakukan Pemerintah?," *The Conversation*, 25 Oktober 2022, <http://theconversation.com/kesenjangan-digital-menghambat-penyandang-disabilitas-untuk-terlibat-aktivisme-daring-apa-yang-harus-dilakukan-pemerintah-192030>.

methods used by humans to obtain information through the internet.²⁶ Within the framework of digital disability, digital law plays a crucial role in shaping how ‘technology’ is perceived and valued. Technology is understood not merely as a tool but as an entity imbued with values that actively empower persons with disabilities. E-Sports Ability Indonesia creates disability-friendly materials that provide practical information on job search and selling online. Although initially created for deaf friends, as the majority members of the community have hearing impairments, the PKM group was also thought to be able to contribute to other disabled friends outside of the community.²⁷ The data above shows that information technology is closely related to the massive use of the internet.

The following are some of the factors that cause the digital divide for people with disabilities in terms of legal or policy substance:²⁸

Table 1. Factors Causing the Digital Divide

No.	Factor	Caused
1.	There is a lack of regulations governing the accessibility of information technology for people with disabilities.	The absence of regulations governing the accessibility of information technology for people with disabilities can lead to a digital divide for them.
2.	Discrimination in services.	People with disabilities often experience discrimination in services, including in information technology accessibility. These factors may contribute to the emergence of a digital divide affecting them.
3.	Information technology accessibility limitations.	People with disabilities often experience limitations in accessing information technology, such as a lack of accessibility software and disability-friendly website design.
4.	Lack of understanding of the needs of people with disabilities.	A lack of knowledge of the needs of people with disabilities in information technology accessibility can lead to a digital divide.
5.	Physical accessibility limitations.	Physical accessibility limitations, such as those related to building and transportation, can also impact the accessibility of information technology for people with disabilities.

Source: data processed by author, 2023

²⁶ Charlie Tjokrodinata dkk., “Video pembelajaran ramah disabilitas bagi komunitas e-sports ability Indonesia,” *Jurnal Komunikasi Profesional* 6, no. 2 (2022): 169–80.

²⁷ Fakhriy Dinansyah, Charlie Tjokrodinata, dan Cendera Rizky Anugerah Bangun, “The Role of Esports Organisations in Accessibility for Disability Players,” *Ultimacomm: Jurnal Ilmu Komunikasi* 14, no. 1 (2022): 67–79.

²⁸ F.X. Lilik Dwi Mardjianto, “Sudahkah Media ‘Online’ Memenuhi Aksesibilitas Informasi Bagi Penyandang Disabilitas? - Nasional | Universitas Muhammadiyah Malang,” <https://www.umm.ac.id/id/nasional/sudahkah-media-online-memenuhi-aksesibilitas-informasi-bagi-penyandang-disabilitas.html>, accessed 24 Juni 2023, <https://www.umm.ac.id/id/nasional/sudahkah-media-online-memenuhi-aksesibilitas-informasi-bagi-penyandang-disabilitas.html>.

Given these factors, efforts must be made to enhance the accessibility of information technology for individuals with disabilities, including the implementation of regulations that ensure the accessibility of information technology, increased awareness of their needs, and the provision of adequate physical accessibility.

Some of the factors causing the above disparities are inseparable from the extent to which the role and participation of persons with disabilities in the preparation of laws and policies are still low. A slogan that states “*nothing about us without us*” is important to note and implement. Persons with disabilities are no longer perceived as passive objects; instead, they are recognised as active subjects. Only they understand disability issues, not non-disabled people. Public participation in the formation of laws and regulations is essential. This participation is a guarantee that must be provided to the people, allowing them to participate in the state administration process and access public policies freely and openly. This guarantee of participation embodies the people’s right to participate in the political process.²⁹ However, the key to realising participation in forming laws and regulations lies in the *political will of the legislature*, in this case, the DPR/DPRD. If the legislature opens the door within the framework of digital law, citizen participation becomes possible; when this occurs, both the legislature and the executive stand to benefit. Although policy regulations differ from formal laws, in practice, their legal binding force is generally equivalent, as they typically affect and bind the public. Consequently, the public is expected to comply with established policies under the scope of digital law.³⁰

Institutional Structure Factors in Digital Law Contributing to the Digital Divide for Persons with Disabilities

The reality of current planning and budgeting within the framework of digital law still faces challenges in increasing participatory community involvement, particularly among low-income and vulnerable groups. Consequently, the formulation of development programs often lacks consideration for the poor and vulnerable populations, including persons with disabilities. Planning and budgeting processes that are not pro-disability present significant obstacles to realising accessibility for persons with disabilities in exercising their right to quality information. Furthermore, the absence of active community participation under digital law creates opportunities for opacity in the planning and budgeting stages. Limited community control over these processes results in outcomes that ultimately occur in closed or inaccessible spaces. To realise good governance, one of the prerequisites is community participation, even for persons with disabilities.

²⁹ Joko Riskiyono, *Pengaruh Partisipasi dan Pengawasan Publik dalam Pembentukan Undang-Undang* (Publica Indonesia Utama, 2022).

³⁰ Syahrin Naihasy, *Kebijakan Publik: Menggapai Masyarakat Madani* (Mida Pustaka, 2006).

The implementation and fulfilment of the rights of persons with disabilities are based on full participation, as stated in Article 2, Letter d, of Law Number 8 of 2016 concerning Persons with Disabilities.

Pro-disability planning and budgeting are not separate from the existing system or the preparation of disability-specific plans and budgets. Pro-disability planning and budgeting aim to realise a more equitable budget, reduce inequalities, and open up more expansive participation space for persons with disabilities in development. Thus, the national planning system, as outlined in Law Number 25 of 2004 concerning the National Development Planning System, and the budgeting system, as stipulated in Law Number 17 of 2003 concerning State Finance, can be implemented to support inclusive development.

There has yet to be a standard agreement on the definition of inclusive economic development. The concept of inclusive economics is built on two other key ideas: inclusion and development. Inclusion is both a process and a goal. Inclusivity is about a society or community changing to accommodate existing differences by removing all barriers that discriminate against or make specific individuals or groups of people feel excluded. Inclusiveness views society, rather than individual people, as the problem.³¹

The International Disability and Development Consortium defines inclusive development as ensuring that all marginalised groups are fully included in the development process. *Inclusive development* is defined as: “*inclusive development means respecting the full human rights of every person, acknowledging diversity, eradicating poverty and ensuring that all people are fully included and can actively participate in development processes and activities regardless of age, gender, disability, state of health, ethnic origin or any other characteristic*”.³² Based on this understanding, socially excluded groups will merge with other group members in inclusive development, playing a role in the development process according to their abilities and capacities. According to Zhuang, inclusive development consists of three main principles: participation, non-discrimination, and accessibility. Accessibility here means the ease with which people with disabilities can benefit unhindered from buildings, facilities, services, and programs.³³ Disability-inclusive development aims to ensure that all phases of the development cycle, including planning, implementation, monitoring, and evaluation, incorporate the dimensions of disability and the perspectives of persons

³¹ ILO, *Pedoman ILO Tentang Pengelolaan Penyandang Disabilitas di Tempat Kerja* (Jakarta: ILO, 2013), https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-jakarta/documents/publication/wcms_218055.pdf.

³² “UN Enable - Contributions to the Third Session of the Ad Hoc Committee - International Disability and Development Consortium,” accessed 25 Juni 2023, <https://www.un.org/esa/socdev/enable/rights/ahc3iddc.htm>.

³³ Arif Maftuhin, “Mendefinisikan kota inklusif: Asal-usul, teori dan indikator,” *Tata Loka* 19, no. 2 (2017): 101.

with disabilities. The involvement and participation of persons with disabilities are essential in implementing inclusive development policies.³⁴

Article 9 and Article 20 of the *United Nations Convention on the Rights of Persons with Disabilities* (UNCRPD) state that persons with disabilities have the right to live independently and participate fully in all aspects of life. Therefore, the state is obliged to ensure access for persons with disabilities, on an equal basis with other citizens, to the physical environment, transportation, information, and communication, including information and communication systems and technology, as well as access to different facilities and services that are open or available to the public in both urban and rural areas.

Community Culture Factor Relating to Digital Accessibility for People with Disabilities

The legal culture of a nation is determined by specific values that serve as a reference in practising law. For the Indonesian nation, this particular value is Pancasila. Indonesia was founded on Pancasila as its ideology and the foundation of the state. For the Indonesian people, Pancasila values are placed as a paradigm of legal culture. Pancasila has fundamental values that are universal and permanent. One factor that influences law enforcement is the legal culture that develops in society. It is also a critical factor influencing the fulfilment of the rights of persons with disabilities and the effective functioning of law enforcement.

The existence of Law Number 8 of 2016, often referred to as the Law on Persons with Disabilities, is expected to alter the public's perception of people with disabilities. If previously the public viewed persons with disabilities as helpless because of their disability, then with the emergence of the Law on Persons with Disabilities, it is hoped that the public perspective will shift, becoming that the helplessness of persons with disabilities is not due to their disability but because of environmental barriers that make persons with disabilities unable to carry out all their activities properly. These environmental barriers also arise in fulfilling the right to digital information for persons with disabilities.

Awareness of disability is a significant factor in creating disability inclusion. The state is obliged to carry out policies to change the paradigm of people with disabilities. Therefore, it is important to place people with disabilities not as objects but as subjects. There is also a paradigm shift in viewing people with disabilities from charity to a human rights-based approach. If society does not view people with disabilities as objects, then they will continue to be excluded from their environment.³⁵

³⁴ Rika Kumala Dewi dkk., *Kendala Menujudkan Pembangunan Inklusif Penyandang Disabilitas* (Jakarta: Smeru Research Institute, 2020), 10.

³⁵ Ayu Aishya Putri dan Theofilus Baratova Axellino Kristanto, "‘Menyembunyikan’ Penyandang Disabilitas Tidak Selalu Diskriminatif, Banyak Keluarga Yang Hanya Ingin Melindungi," *The*

Reducing the Digital Divide for Individuals with Disabilities in Indonesia Through Digital Law and Promoting Digital Inclusion

Addressing the digital divide for persons with disabilities requires a multi-faceted approach that encompasses regulatory frameworks, universal design principles, and societal inclusion efforts. The following discussion will provide a more detailed examination of each of these points.

Regulatory and policy efforts are crucial to enhancing digital accessibility for individuals with disabilities. With the factors causing the digital divide for persons with disabilities in information technology accessibility as described above, it is necessary to make efforts to improve the accessibility of information technology for persons with disabilities, such as by issuing regulations governing digital accessibility, increasing understanding of the needs of persons with disabilities, and ensuring adequate physical accessibility for persons with disabilities.

The framework of these efforts can be realised through a disability-responsive policy. Law No. 8/2016 on Persons with Disabilities regulates the variety of persons with disabilities, the rights of persons with disabilities, the implementation of respect, protection, and fulfilment of these rights, coordination, the National Commission on Disability, funding, international cooperation, and awards. Article 5 of the Law states that persons with disabilities have the same rights as others in all aspects of life, including the right to education, health, employment, and participation in social, political, and cultural life. The article also stipulates that the state must provide protection, promotion, and fulfilment of the rights of persons with disabilities and ensure the survival of every citizen, including persons with disabilities, with legal standing. Therefore, the government and society must ensure that information technology is accessible to persons with disabilities, such as by utilising accessibility software and designing websites with disability-friendly features.³⁶

Although Law Number 8 of 2016 concerning Persons with Disabilities does not explicitly contain specific provisions regulating the accessibility of information technology for persons with disabilities, its spirit and broader legal mandate support the realisation of such accessibility. The absence of direct clauses does not mean the issue is neglected; instead, it opens space for interpretive implementation through supporting regulations and institutional initiatives. In line with the principles of equality and non-discrimination enshrined in the law, various initiatives have been launched to promote the accessibility of digital technologies for persons with disabilities throughout Indonesia. These efforts, while not always codified in statutory form, reflect the government's and society's growing awareness of the need to provide inclusive

Conversation, 4 Maret 2023, <http://theconversation.com/menyembunyikan-penyandang-disabilitas-tidak-selalu-diskriminatif-banyak-keluarga-yang-hanya-ingin-melindungi-192952>.

digital infrastructure and services. Several strategic steps have been identified and implemented to help ensure that persons with disabilities can fully access and benefit from information and communication technologies, including but not limited to the following:³⁷

Table 2. Problems and Efforts in Supporting Accessibility for Persons with Disabilities in Information and Communication Technology

No.	Problems	Efforts
1.	Utilisation of information and communication technology to improve library services for people with disabilities.	The availability of technology will make it easier for people with disabilities to access information, which can then be shared with anyone.
2.	The use of screen reader apps for people with visual sensory disabilities.	People with sensory impairment need a screen reader app for every device.
3.	Use of disability-friendly website design.	Governments and communities must ensure that information technology is accessible to people with disabilities, such as by implementing disability-friendly website design.
4.	Implementation and fulfilment of the rights of persons with disabilities.	The state is obliged to provide protection, promotion, and fulfilment of the rights of persons with disabilities and ensure the survival of every citizen, including persons with disabilities who have legal status.
5.	Policy on persons with disabilities.	The government has issued policies governing persons with disabilities, such as Government Regulation No. 56/2007 on Compensation and Disability Allowances for Indonesian National Army Soldiers and Law No. 8/2016 on Persons with Disabilities.

Source: data processed by author, 2023

Article 124 of Law No. 8/2016 on Persons with Disabilities states, “The Government and Regional Governments are obliged to provide information in a form that can be reached and understood following the diversity of disabilities and the conditions of their residence”. Based on this article, all public facilities, including digital services, should be accessible to persons with disabilities, thereby facilitating the realisation of accessible information technology for persons with disabilities in Indonesia.

Following the establishment of the regulatory framework, the subsequent step is to establish Universal design for disability-accessible digital ecosystems.

³⁷ Reny Indrawati, “Memikirkan Aksesibilitas Bagi Penyandang Disabilitas Pengguna Pembaca Layar | Formasi Disabilitas,” accessed 24 Juni 2023, <https://formasidisabilitas.id/2022/09/memikirkan-aksesibilitas-bagi-penyandang-disabilitas-pengguna-pembaca-layar/>.

Universal design considers the needs and abilities of all people, including people with disabilities, in accessing and using products or services. In the context of digital information accessibility, universal design can help reduce the digital divide for people with disabilities. Some universal design principles that can be applied to digital information accessibility include flexibility in use, simplicity and clarity, fault tolerance, consistency, accommodating various sizes and spaces, and accounting for sensory needs.³⁸

Here are some information technologies that can improve accessibility for people with disabilities: a) accessibility software such as screen readers, voice recognition software, and voice typing software can assist people with disabilities in accessing information and interacting with technology. (b) Accessibility information systems, such as the *Kumpulan Informasi Aksesibilitas untuk Penyandang Disabilitas* (KIAD) application, can help people with disabilities locate information about disability-friendly facilities.³⁹ (c) Accessible media, such as sign language, braille, and augmentative and alternative communication (AAC), can help people with disabilities communicate and access information.⁴⁰ (d) Universal design considers the needs of all people, including people with disabilities. Universal design can be applied to information technology, such as designing websites that are accessible to people with disabilities.⁴¹ (e) Using assistive technology, such as electric wheelchairs, walking sticks, and hearing aids, can help people with disabilities move and interact with their environment.⁴² The existence of disability-friendly information technology is expected to increase accessibility for people with disabilities in accessing information and interacting with technology.⁴³

The final step is arranging **digitally inclusive concepts in society**. The Ministry of Communication and Information is committed to realising inclusiveness for people with disabilities and accelerating national digital transformation. One of the efforts has been made by holding a Workshop, “Strengthening the Collaboration

³⁸ Cut Rezha Nanda Keumala, “Pengaruh Konsep Desain Universal Terhadap Tingkat Kemandirian Difabel: Studi Kasus Masjid UIN Sunan Kalijaga dan Masjid Universitas Gadjah Mada,” *INKLUSI* 3, no. 1 (21 Juni 2016): 19, <https://doi.org/10.14421/ijds.030102>.

³⁹ “KIAD, Aplikasi Ramah Penyandang Disabilitas Garapan Mahasiswa ITS,” *ITS News* (blog), 12 Desember 2022, <https://www.its.ac.id/news/2022/12/12/kiad-aplikasi-ramah-penyandang-disabilitas-garapan-mahasiswa-its/>.

⁴⁰ Apriliana Putri C, “Pentingnya Penggunaan Media Aksesibel Bagi Penyandang Disabilitas | Kementerian Koordinator Bidang Pembangunan Manusia dan Kebudayaan,” accessed 24 Juni 2023, <https://www.kemendikopmk.go.id/pentingnya-penggunaan-media-aksesibel-bagi-penyandang-disabilitas>.

⁴¹ Apriliana Putri C, “Pentingnya Penggunaan Media Aksesibel Bagi Penyandang Disabilitas | Kementerian Koordinator Bidang Pembangunan Manusia dan Kebudayaan.

⁴² Mardjianto, “Sudahkah Media ‘Online’ Memenuhi Aksesibilitas Informasi Bagi Penyandang Disabilitas?”

⁴³ Winda Anestya Ayunda, “Pemanfaatan Teknologi Informasi Dan Komunikasi Sebagai Upaya Peningkatan Layanan Perpustakaan Bagi Penyandang Disabilitas,” Universitas Indonesia Library (Pusat Jasa Perpustakaan dan Informasi, 2017), <https://lib.ui.ac.id>.

of Digital Literacy for Disabilities”, in Geneva, Switzerland, on Monday, March 13, 2023. The WSIS Forum 2023 workshop is a series of activities under the Ministry of Communication and Information’s *Indonesia Makin Cakap* Digital Program. The *Indonesia Makin Cakap Digital* Program aims to provide literacy about digital technology to 50 million Indonesians, including people with disabilities, by 2024. According to data from the Central Statistics Agency (BPS), in 2022, the number of people with disabilities in Indonesia was approximately 22.5 million. This number increased from 2021 to 16.5 million. BPS also revealed that 7.6 million of the 17 million people with disabilities of productive age are working. The fundamental problem faced by people with disabilities is discrimination. To realise inclusivity in the digital space, the government also needs help from the community to create a friendly environment for others. The digital literacy program initiated by the Ministry of Communication and Information Technology (Kominfo) for persons with disabilities aims to promote inclusivity and reduce the digital divide. Through this initiative, Kominfo demonstrates its commitment to strengthening multi-stakeholder collaboration within the digital literacy movement targeting persons with disabilities. The program is designed to enhance information and communication technology (ICT) literacy while also developing the skills and competencies of persons with disabilities.⁴⁴

To participate in Kominfo’s digital literacy program for persons with disabilities, individuals may join activities or programs organised by Kominfo or affiliated institutions and organisations. Information on these initiatives is available on Kominfo’s official website or through its official social media platforms. Additionally, local Social Service Offices may provide information regarding digital literacy programs specifically designed for persons with disabilities.⁴⁵ On the other hand, the community must create an inclusive environment and view people with disabilities not as objects but as subjects. Several efforts can be made so that the community can create an inclusive environment and view people with disabilities not as objects but as subjects:⁴⁶ (a) implement policies to ensure an inclusive, protective, and healthy learning environment. In this case, the government, educational institutions, and communities must work together to create an

⁴⁴ PDSI KOMINFO, “Siaran Pers No. 35/HM/KOMINFO/03/2023 Tentang Kominfo Perkuat Kolaborasi Aksi Literasi Digital Untuk Disabilitas,” Website Resmi Kementerian Komunikasi dan Informatika RI, accessed 29 Juni 2023, http://content/detail/47936/siaran-pers-no-35hmkominfo032023-tentang-kominfo-perkuat-kolaborasi-aksi-literasi-digital-untuk-disabilitas/0/siaran_pers.

⁴⁵ Hasna Dhiya, “WSIS Forum 2023: Kominfo Upayakan Ruang Digital Inklusif Bagi Penyandang Disabilitas,” *Ditjen Aptika* (blog), 14 Maret 2023, <https://aptika.kominfo.go.id/2023/03/wsiforum-2023-kominfo-upayakan-ruang-digital-inklusif-bagi-penyandang-disabilitas/>.

⁴⁶ Hasna Dhiya, “WSIS Forum 2023: Kominfo Upayakan Ruang Digital Inklusif Bagi Penyandang Disabilitas,”

inclusive and learning-friendly environment.⁴⁷ (b) Improving understanding of inclusive education: The community needs to improve its understanding of inclusive education as a friendly learning environment. (c) To ensure everyone feels appreciated and recognised, the community must list preferred behaviours that may be utilised in daily activities. (d) People must learn to listen carefully and to be receptive to the thoughts and opinions of others, especially those from groups that may feel marginalised or underrepresented. Such efforts may help create an environment that is both welcoming and inclusive for individuals with disabilities. (e) The community needs to be a protector of persons with disabilities by ensuring that their rights are respected and protected. (f) Communities need to instil care for others within themselves and set an excellent example for others by always appreciating and respecting one another. (g) Communities must promote diversity in the work environment and attract, recruit, and maintain diverse team members to understand the world and consumers better⁴⁸. With these efforts, it is hoped that society can create an inclusive environment and view people with disabilities not as objects but as subjects. Enhancing the quality of life for persons with disabilities can also promote greater social inclusion within society.⁴⁹ All of the above lead to the need for a paradigm shift in the way people with disabilities are viewed. So far, the paradigm developed is *charity*. Therefore, to realise inclusive digital opportunities in the community, all stakeholders must be encouraged to shift the paradigm from charity to a human rights-based approach.

Conclusion

The digital divide experienced by persons with disabilities in Indonesia stems from substantive issues within digital law, institutional frameworks that lack responsiveness, and societal cultures that remain insufficiently inclusive. Recent findings suggest that the lack of comprehensive regulations governing digital accessibility standards significantly hinders access to public websites and applications for individuals with disabilities. Therefore, the government must promptly adopt and enforce digital laws mandating the implementation of accessibility standards across all public service platforms. Moreover, specialized training for software developers and independent auditors should be strengthened to ensure effective implementation and compliance with these standards. The evaluation and utilization of open-source software may also serve as a strategic solution to broaden digital accessibility. The thorough application

⁴⁷ Ausaid dan Kementrian Pendidikan Australia dan Indonesia, *Buku 6: Menciptakan Lingkungan Inklusif/Ramah terhadap Pembelajaran yang Aman dan Sehat*, accessed 25 Juni 2023, <https://www.eenet.org.uk/resources/docs/ilfe/indonesia/LIRP6-2016.pdf>.

⁴⁸ William P. Gipson, “Kesetaraan & Inklusi | Procter and Gamble,” accessed 25 Juni 2023, <https://id.pg.com/keanekaragaman-dan-inklusi/>.

⁴⁹ Indrawati, “Memikirkan Aksesibilitas Bagi Penyandang Disabilitas Pengguna Pembaca Layar | Formasi Disabilitas.”

of inclusivity principles must be the foundation in designing digital systems, enabling accommodation of the unique needs of persons with disabilities, preventing discrimination and social exclusion, and promoting their welfare and independence. These recommendations are essential not only for fulfilling human rights obligations but also as strategic measures to build a just and sustainable digital society.

Acknowledgement

We thank the Faculty of Sharia IAIN Kediri, Indonesia and the Faculty of Tarbiyah IAIN Ponorogo, Indonesia, for providing the opportunity for this collaborative research.

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