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DIGITAL DIVIDE FOR PERSONS WITH DISABILITIES RELATED TO INDONESIAN INFORMATION TECHNOLOGY ACCESSIBILITY IN LAW PERSPECTIVE

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Abstract
Website accessibility and digital content for people with disabilities in Indonesia are still low. According to the Internet Inclusive Index Data, Indonesia ranks 66th out of 120 other countries with a score of 69.75 and does not meet the standards of the Web Content Accessibility Guideline. Although Indonesia has Law Number 8 of 2016 concerning Persons with Disabilities and ratified the United Nations Convention on the Rights of Persons with Disability (UNCRPD) in 2011, the right to information technology accessibility has not been fully fulfilled. This research identifies the factors of the digital divide for people with disabilities and seeks solutions to achieve the concept of inclusive digital. As normative juridical research, a statutory approach is used and analysed in a qualitative descriptive manner. The factors causing the digital divide involve legal substance, institutional structure, and community culture. Inclusive digital can be realised with exemplary implementation of Article 5 and Article 127 of Law Number 8 of 2016. The Ministry of Communication and Information Technology must provide a unique portal as a universal design reference, creating an accessible digital information ecosystem. In the cultural context, there needs to be a shift from the paradigm of compassion to human rights, where people with disabilities have information technology capabilities. Society must also create an inclusive environment in which persons with disabilities are considered equal to non-disabled persons and no longer excluded from their environment.

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

Abstrak
Aksesibilitas website dan konten digital bagi penyandang disabilitas di Indonesia masih rendah. Menurut Data Indeks Internet Inklusif, Indonesia menempati posisi ke-66 dari 120 negara lainnya dengan nilai 69,75 dan tidak memenuhi standar Web Content Accessibility Guideline. Meskipun Indonesia telah meratifikasi UNCRPD di tahun 2011dan memiliki UU Nomor 8 Tahun 2016 tentang Penyandang Disabilitas, hak aksesibilitas teknologi informasi belum sepenuhnya terpenuhi. Penelitian ini mengidentifikasi faktor *kesenjangan* digital bagi penyandang disabilitas, dan mencari solusi untuk mencapai konsep digital inklusif. Sebagai penelitian yuridis normatif, pendekatan perundang-undangan digunakan, menganalisis secara deskriptif kualitatif. Faktor penyebab kesenjangan digital melibatkan aspek substansi hukum, struktur kelembagaan, dan kultur masyarakat. Konsep digital inklusif dapat terwujud dengan implementasi yang baik dari Pasal 5 dan Pasal 127 UU Nomor 8 Tahun 2016. Kementerian Komunikasi dan Informatika perlu menyediakan portal khusus sebagai rujukan desain universal, menciptakan ekosistem informasi digital yang aksesibel. Dalam konteks budaya, perlu

adanya pergeseran dari paradigma belas kasihan menjadi hak asasi manusia, di mana penyandang disabilitas memiliki kemampuan teknologi informasi. Masyarakat juga harus menciptakan lingkungan inklusif di mana penyandang disabilitas dianggap setara dengan non-disabilitas, tidak lagi tereksklusi dari lingkungannya.

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

Introduction

Access to information is a necessity for everyone. This includes access to digital data.[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, as stated in the 1945 Constitution of the Republic of Indonesia, the fourth paragraph states that intelligence is the right ofall nations. This is also reinforced by Law Number 14 of 2008 concerning Public Information Disclosure.[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 controlled world life and assisted all human activities.[3] This includes the arrival of the digital era that disrupts all traditional (manual) tools into digital.[4]

Not everyone can access digital information easily, quickly and cheaply. Some people have difficulty gaining access to digital information. Among them are people who have physical limitations. *People with* special needs are known 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 grown among all socioeconomic categories, significant differences byage, income, ethnicity/race, and education level remain.[6] Geographic location is also essential, with rural communities much less likely to have access to high-speed Internet.[7] Significant disparities also exist for those

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.

5 Data Indonesia, "Proporsi Pekerja Disabilitas di Indonesia 0,53% pada 2022," Dataindonesia.id, accessed 10 Juni 2023, https://dataindonesia.id/sektor-riil/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 1M, https://www.brookings.edu/blog/techtank/2016/07/18/rural-and-urban-america-divided-by-broadband-access/.

living with a disability. Around 81% of adults use the Internet. However, only 51% of adults with disabilities access the Internet.[8]

In 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, showing evolving gradations.[9] From the above, the question arises about how these 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 inclusive internet index data for 2022 shows that Indonesia ranks 66th out of 120 countries with a score of 69.75 and does not meet the *Web Content Accessibility Guideline* (WCAG) standards. [11]

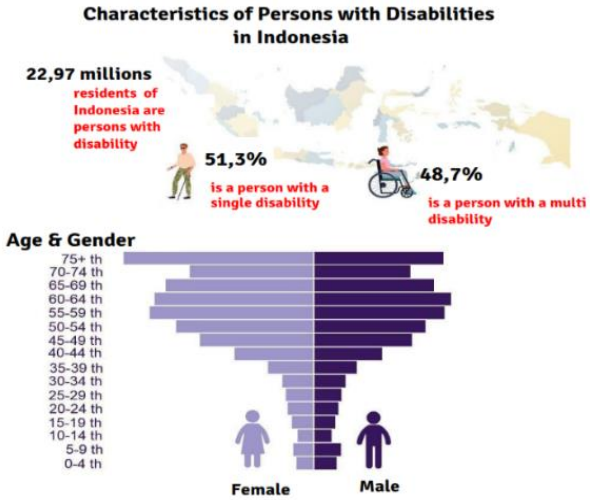

Image 1. Characteristics of Persons with Disabilities in Indonesia

[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.

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

In a previous study, Bourdieusian stated that digital capital is human capital. Digital capital consists of internalised competencies with digital technology. It is the same as digital media literacy or access to digital technology.[12] Gaps can occur at social and economic levels in urban and rural communities where the gap requires government advocacy to obtain fair and equitable internet access.[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 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.

Following the investigation, pertinent sources, mainly dedicated to intellectual disability research, were discovered from nations including Spain, the United Kingdom, and Sweden.[16] These nations are the most active regarding 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 and digital technology.[17] Digital technology is now pervasive everywhere, even in modern cities. An unequal technological adjustment process has been discovered based on 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

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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.

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."

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 needed for persons with intellectual impairments to use digital services, there is a substantial danger 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,[18] employment access[19], and others.

The difference between this research and several previous studies is the focus of the research, which discusses the digital divide for people *with disabilities* in Indonesia using a legal perspective. In positive law, all citizens of the Republic of Indonesia receive equal treatment when obtaining access to information. Based on the background of the problem, this article seeks to reveal the factors that cause the digital divide for people with disabilities in accessing information technology and solutions to overcome it so that the concept of digital inclusion in Indonesia can be achieved.

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 was collected and presented in a descriptive and qualitative manner. 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,

[18] Ellen van Holstein dkk., "People with intellectual disability and the digitization of services," *Geoforum* 119 (2021): 133–42.

[19] Dhea Erissa dan Dini Widinarsih, "Akses Penyandang Disabilitas Terhadap Pekerjaan: Kajian Literatur," *Jurnal Pembangunan Manusia* 3, no. 1 (2022): 22.

up-to-date journal articles, and authoritative scientific literature. The data set was then analysed using the concept of Miles and Huberman, which involves reducing related data, displaying the collected data filter, 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 released on the redcross.org page,[20] *vulnerability* is the degree to which populations, individuals or organisations cannot 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.*[21] People with disabilities are often still seen as unproductive and unable to perform their duties and responsibilities. The United Nations (UN) through WHO has designated December 3rd 1992 as Disability Day.[22] It aims to raise public awareness of the importance of disability issues by providing support to people with disabilities. In addition, it also positions people with disabilities to have the opportunity to enjoy the results of the development of information technology so that they can actively participate in the social life of the community.

Every citizen is free to seek out, acquire, own, store, process, and transmit information, utilising the networks that are now in place to enhance themselves and their surroundings. Article 28f of the Republic of Indonesia's 1945 Constitution mandates that everyone has the freedom to communicate and seek

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[20] "Mapping Vulnerability," accessed 25 June 2023, https://www.redcross.org/local/california/preparesocal/about-prepare/mapping-vulnerability.html.

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

[22] "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/.

information to benefit their growth and the environment. On the other hand, because information technology is advancing so quickly, all societal members must recognise its value. Community service initiatives based on information technology must be user-friendly. Disability-friendly design must be incorporated into creating digital platforms, applications, and other web-based information channels.[23] Friendly design to users not constrained by media, physical, geographical and financial constraints.

With the right to obtain information for persons with disabilities, the 20th section 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. This can help the state realise good state administration and significantly help the relevant public agencies improve the quality of information provided to the public.

After the arrival of the internet, digitalisation activities emerged. Digitalisation is one of the interesting issues in the era of information technology. This is a breath of fresh air for generations living in their era, often known as *digital natives*.[24] Then, those who live in the manual era and migrate to digital technology are known as digital immigrants. Everyone must finally be able to master this digital development because of the demands and needs of the times. Information technology has become a *tool* that helps everyone in their daily activities.

Compared to people without disabilities, Americans with disabilities are less likely to own a standard computer or smartphone.[25]

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[23] Riski Mario Johannes Parhusip, "Mewujudkan Fasilitas Ramah Difabel Melalui Teknologi Informasi dan Komunikasi," kumparan, accessed 22 Juni 2023, https://kumparan.com/riski-mario-j-parhusip/mewujudkan-fasilitas-ramah-difabel-melalui-teknologi-informasi-dan-komunikasi-1ugRCi1y6lt.

[24] Marc. Prensky, "Digital Natives, Digital Immigrants," *MCB University Press* Vol. 9, no. No. 5 (2001).

[25] 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/.

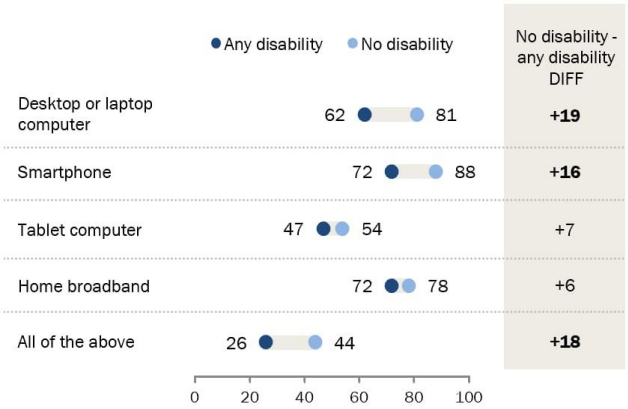

Image 2. American with a disability are less likely than those without one to have traditional computer, smartphone.
Source: survey of U.S adults conducted Jan. 25-Feb. 8.2021

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 is still limited, so researchers are selected for national cooperation networks between universities. [26]

The digital *divide* arises because of the digitalisation process. This is often an exciting issue in the current era of information technology. *However, the disability digital divide usually 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 exclusion.[27] Dobransky and Hargittai explored the digital divide by investigating internet access and use among people with six types of disabilities.[28] When controlling for demographic and socioeconomic factors, i.e., gender, age,

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

[27] Frederike Scholz, Betul 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.

[28] 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.

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, hearing impairment increased the likelihood of access to the Internet compared to the general population.[29]

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: [30] (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 disabled-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 does not have accessibility features or 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 building and transportation accessibility, can also affect the accessibility of information technology for people with disabilities.

With difficulties in accessing information technology, people with disabilities may experience adigital 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.

The Digital Divide for People with Disabilities Caused by Legal or Policy Issues

Using the Internet means using search engines, browsers, and applications from specific platforms. So, information technology means human tools for obtaining information through the Internet.[31] In the concept of digital disability, it is stated that "technology" is seen as having values attached to it, and these values actively operate to help people we call people with disabilities. *Esports Ability* Indonesia creates disability-friendly materials that can help add practical information about job search and selling online. Although initially, it was made

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

[30] 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.

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

more for deaf friends because the majority of ESports Ability members are friends with hearing impairments, in the process, the PKM group was thought to be able to contribute to other disabled friends outside of *ESports Ability*.[32] The data above shows that information technology isclosely 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:[33]

Table 1. Factors Causing The Digital Divide

No.	Factor	Caused
1.	Lack of regulations governing the accessibility of information technology for people with disabilities.	The absence of regulations governing the accessibility of information technology forpeople with disabilities can lead to a digital divide for them.
2.	Discrimination in services.	Persons with disabilities often experience discrimination in services, including in information technology accessibility. This can lead to a digital divide for 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 building and transportation accessibility, can also affect the accessibility of information technology for peoplewith disabilities.

Source: data processed by author, 2023

[32] 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.

[33] 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 need to be made to improve the accessibility of information technology for people with disabilities, such as by issuing regulations governing the accessibility of information technology for people with disabilities, increasing understanding of their needs, and ensuring 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 is still low. A slogan that states "*nothing about us without us*" is important to note and implement. This means that persons with disabilities are no longer extended objects but persons with disabilities as 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 given to the people to participate in the process of state administration and access public policies freely and openly. This guarantee of participation manifests the people's right to political participation.[34] 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 this key, citizen participation is not impossible; when this happens, the legislature and the executive will reap the benefits. However, policy regulations are not like laws; in practice, their binding legal force is the same as laws, generally binding on the public because the policy will affect the public. In practice, the public must follow the policies that have been set.[35]

Institutional structure factor contributing to the digital divide for people with disabilities

The reality of current planning and budgeting is still faced with the problem of a need for more participatory community involvement, especially the poor and vulnerable groups. As a result, the formulation of development programs does not show partiality to the poor and vulnerable groups, including persons with disabilities. Planning and budgeting that is not pro-disability is one of the obstacles in realising the accessibility of persons with disabilities in fulfilling the right to good information. In addition, the absence of active involvement of the wider community will also encourage opportunities for concealment in the planning and budgeting process. This is due to the lack of control from the community in the process and stages that ultimately occur in closed spaces. To realise good governance, one of the prerequisites is community participation, even for persons with disabilities. 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.

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

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

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 aims 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 that refers to Law Number 25 of 2004 concerning the National Development Planning System and the budgeting system that refers to 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 itself is built on two other ideas, namely inclusion and development. Inclusion is both a process and a goal. Inclusive is about a society or community changing to accommodate the existing differences by removing all barriers that discriminate or make certain individuals or groups of people exclusive. Inclusiveness sees society, not individual people, as the problem.[36]

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*".[37] Based on this understanding, socially excluded groups will merge with other group members in inclusive development to play a role in the development process according to their abilities. 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 unhindered benefit from buildings, facilities, services and programs.[38] Disability-inclusive development is intended to ensure that all phases of the development cycle, including planning, implementation, monitoring, and evaluation, incorporate the dimensions of disability and persons with disabilities. The involvement and participation of persons with disabilities are essential in implementing inclusive development policies.[39]

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[36] 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.

[37] "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.

[38] Arif Maftuhin, "Mendefinisikan kota inklusif: Asal-usul, teori dan indikator," *Tata Loka* 19, no. 2 (2017): 101.

[39] Rika Kumala Dewi dkk., *Kendala Mewujudkan Pembangunan Inklusif Penyandang Disabilitas* (Jakarta: Smeru Research Institute, 2020), 10.

Article 9 and Article 20 of *the United Nations Convention on the Rights of Persons with Disabilities* (UNCRPD) have stated that persons with disabilities can 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 become a reference in practising law, and for the Indonesian nation, this particular value is Pancasila. Indonesia was born with Pancasila as the ideology and 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. This is also one of the determining factors of how the fulfilment of rights of persons with disabilities can be fulfilled and law enforcement can run well.

The existence of Law Number 8 of 2016 often referred to as the Law on Persons with Disabilities, is expected to change the way the public perceives people with disabilities. If previouslythe 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 regarding fulfilling the right to digital information for persons with disabilities.

Awareness of disability is a major 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 human rights-based. If society does not view people with disabilities as objects, then they will continue to be excluded from their environment.[40]

[40] Ayu Aishya Putri dan Theofillius Baratova Axellino Kristanto, "'Menyembunyikan' Penyandang Disabilitas Tidak Selalu Diskriminatif, Banyak Keluarga Yang Hanya Ingin Melindungi," The Conversation, 4 Maret 2023, http://theconversation.com/menyembunyikan-penyandang-disabilitas-tidak-selalu-diskriminatif-banyak-keluarga-yang-hanya-ingin-melindungi-192952.

Reducing the Digital Gap for Individuals with Disabilities in Indonesia and Promoting Digital Inclusion

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 the rights of persons with disabilities, 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 using accessibility software and disability-friendly website design.[41]

Although no article explicitly regulates the accessibility of information technology for persons with disabilities in Law Number 8 of 2016 concerning Persons with Disabilities, there are several efforts made to realise the accessibility of information technology for persons with disabilities in Indonesia, among others:[42]

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 find information, which can then be accessed by 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.

[42] 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/.

3.	Use of disability-friendly website design.	Governments and communities need to ensure that information technology is accessible to people with disabilities, such as by using 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 in accordance with the diversity of disabilities and the conditions of their residence". Based on this article, all public facilities should be accessible to persons with disabilities including digital services so that it is expected to realise the accessibility of information technology for persons with disabilities in Indonesia.

Second, universal design for disability-accessible digital ecosystems. 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 information digital accessibility, universal design can help reduce the digital divide for people with disabilities. Some universal design principles that can be applied in information digital accessibility include flexibility in use, simplicity and clarity, fault tolerance, consistency, accounting for size and space, and accounting for sensory needs.[43] 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

[43] 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.

untuk Penyandang Disabilitas (KIAD) application can assist people with disabilities in finding information about disability-friendly facilities.[44](c) Accessible media such as sign language, braille, and augmentative communication can help people with disabilities communicate and obtain information.[45] (d) Universal design considers the needs of all people, including people with disabilities. Universal design can be applied to information technology, such as disabled-friendly website design.[46] (e) Using assistive technology such as electric wheelchairs, walking sticks, and hearing aids can help people with disabilities move and interact with the environment.[47] The existence of disability-friendly information technology is expected to increase accessibility for people with disabilities in accessing information and interacting with technology.[48]

Third, digital 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 of Digital Literacy for Disabilities", in Geneva, Switzerland, on Monday, March 13, 2023. The WSIS Forum 2023 workshop is a series of Ministry of Communication and Information's Indonesia Makin Cakap Digital Program activities. The Indonesia *Makin Cakap Digital* Program aims to provide literacy about digital technology to 50 million Indonesians, including people with disabilities, by 2024. Based on data from the Central Statistics Agency (BPS), in 2022, the number of people with disabilities in Indonesia reached around 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. Kominfo's digital literacy program for people with disabilities aims to increase inclusivity and reduce the digital divide for people with disabilities. Through this program, Kominfo is committed to strengthening collaboration between parties in the digital literacy movement for

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44 "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/.

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

46 Ibid.

47 Mardjianto, "Sudahkah Media 'Online' Memenuhi Aksesibilitas Informasi Bagi Penyandang Disabilitas?"

48 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.

people with disabilities. Kominfo's digital literacy program for people with disabilities aims to increase information and communication technology literacy, as well as abilities and competencies for people with disabilities.[49]

To participate in Kominfo's digital literacy program for persons with disabilities, it can be done by participating in activities or programs organised by Kominfo or related institutions/organisations. Information about digital literacy activities or programs can be found through Kominfo's website or Kominfo's social media. In addition, you can contact the Social Service Office in your area to find out about digital literacy programs available for people with disabilities.[50] 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:[51] 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 inclusive and learning-friendly environment.[52] 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. This could facilitate the development of a welcoming and inclusive atmosphere for those with impairments. 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 in themselves and set an excellent example for others by always appreciating and respecting others. g) Communities must promote diversity in the work environment and attract, recruit, and maintain diverse team members to understand the world and consumers better[53].

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[49] 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.

[50] 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/wsis-forum-2023-kominfo-upayakan-ruang-digital-inklusif-bagi-penyandang-disabilitas/.

[51] Ibid.

[52] 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.

[53] William P. Gipson, "Kesetaraan & Inklusi | Procter and Gamble," accessed 25 Juni 2023, https://id.pg.com/keanekaragaman-dan-inklusi/.

With these efforts, it is hoped that society can create an inclusive environment and view people with disabilities not as objects but as subjects. This can help improve the quality of life of people with disabilities and strengthen social inclusion in society[54]. All of the above leads to the need for a paradigm shift in the way people with disabilities are viewed. So far, the paradigm developed is *charity*. Therefore, to realize inclusive digital in the community, all *stakeholders* must be encouraged to shift the paradigm from *charity* to *human rights-based*.

Conclusion

The digital divide is caused by several factors, namely, legal/policy substance, institutional structure, and community culture that is not friendly to people with disabilities. To ensure that public websites and applications are accessible to people with disabilities, the government can make several efforts, including 1) issue regulations governing digital accessibility. To guarantee that publicly accessible websites and applications are usable by persons with disabilities, the government may adopt legislation controlling digital accessibility, such as digital accessibility standards; 2) Promote the usage of websites that are accessible to people with disabilities: To guarantee that websites are accessible to persons with disabilities, the government can 1) Promote the use of disability-friendly website designs; 2) Train website and app developers; and 3) Use high colour contrast and text replacements for images. The government can train web and app designers on digital accessibility and how to make user-friendly content for people with disabilities; 4) Examining open-source software and apps. 5) Create digital accessibility rules. The government can audit public websites and apps to ensure that impaired users can access them. In this situation, the government can create digital accessibility standards for persons with disabilities in each area of public services so that they can be accessed by all tiers of society, including those with disabilities. These efforts are expected to ensure that public websites and apps are accessible to people with disabilities and improve their digital accessibility. Ultimately, the principle of inclusiveness should be applied across all sectors that the system should follow a person's way of life, not a person following the system. In this case, if the system does not follow the way of life of people with disabilities, there will be exclusion, which Komnas HAM calls discriminatory for its citizens. This exclusion is undesirable because people with disabilities do not prosper, let alone become unable to grow independently.

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