

Connected but still excluded? Digital exclusion beyond internet access

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## Connected but Still Excluded? Digital Exclusion beyond Internet Access

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Connected but Still Excluded?  
Digital Exclusion beyond Internet Access

Sofia Ranchordás<sup>1</sup>

In Ienca, M.; Pollicino, O.; Liguori, L.; Stefanini, E. & Andorno, R. (Eds),  
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Abstract

Digital government has digitized numerous public services, automated decision-making, and improved the openness of the public administration. Nevertheless, for senior citizens, undeserved communities, individuals with low literacy and limited digital skills, the shift to governmental portals, online payments, and smartphone applications are considerable obstacles in their daily interactions with public authorities. This chapter argues that digital inequality denies vulnerable citizens their rights twice: first, their ethnicity and socioeconomic status may be conducive to a ‘negative’ ranking or score (e.g., higher risk of welfare fraud); and second, they are also excluded because they do not have adequate access to technology, are not well informed, and do not have the time and skills required to interact with digital government. This chapter explores one of the paradoxes of the digital society: connected citizens in developed countries are also affected by the digital divide and are increasingly being excluded by the generalized digitalization of public services. Drawing on a review of interdisciplinary literature, this chapter contributes to the legal literature with an account of the underlying causes of digital exclusion and a discussion of its most relevant legal implications through the lenses of fundamental rights (e.g., due process, equal treatment) and the principles of good administration. This chapter reflects on potential solutions for more inclusive digital government policies.

Keywords: digital exclusion; digital divide; digital rights; fundamental rights; unequal treatment; digital government; good administration

**Introduction**

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The Internet is a gateway to the informational world: it has the potential to equalize structural inequalities, democratize speech, and create new economic opportunities (Sylvain 2016). The number of individuals connected to the Internet has never been as high as at the time of writing: roughly half of the world's population (3.5 billion) is online (World Bank 2020; Roser et al. 2015; Arora 2019). Yet, as online services have become more pervasive, the gap between those who have access and can effectively use the Internet and those who only have unstable, sporadic or mobile Internet access (if at all) has also increased (Van Dijk & Hacker 2011; Sylvain 2016). Despite the significant expansion of Internet infrastructure over the last decades, millions of citizens in Western countries remain digitally excluded either because they cannot, do not want to or are not able to engage critically with digital technology (European Commission 2019).

The Internet has revolutionized not only the way in which we communicate with each other but also our interactions with public authorities, resulting in the shift from a paper-based administration to the creation of e-government and digital government tools such as government portals and digital identity systems (McLoughin et al. 2013; Lips, 2020; Davies 2015; Voermans et al. 2015). The automation of government decision-making in varied fields (*e.g.*, eligibility for social housing, welfare benefits, predictive policing) has nonetheless generated numerous legal and ethical concerns (Janowski 2015; Tomlinson 2019; Gantchev 2019). These concerns include the lack of transparency of algorithms used in traffic or law enforcement, the risk of algorithmic biases and discriminatory decision-making (Eubanks 2018, Pasquale 2015, Chander 2017) and the disregard for public values such as fairness and accountability in high-stakes decisions (*e.g.*, child protection) (Veale et al. 2018).

Legal scholars have overlooked the fact that there is an additional and deeper problem underlying these controversies: digital inequality caused by a multitude of socioeconomic factors.

Individuals that are not (digitally) literate, cannot engage critically with digital technology or that do not wish to participate in the digital society are disproportionately at disadvantage in the context of digital government (WRR 2017). Not only can minorities, low-income and low-educated citizens be subject to algorithmic biases but they are also at risk of putting themselves in a worse legal position and being taken advantage of (Leong 2013) due to their limited ability to interact critically with technology (Carmi et al. 2020). Digital inequality denies vulnerable citizens their rights twice: first, because of their ethnicity and socioeconomic status may be conducive to a 'negative' ranking or score (e.g., higher risk of welfare fraud); and second, because they are also excluded by the way in which digital technology is designed and what digital government expects from them in terms of skills, time, and education. Digital inequality is a new type of digital divide, that is, the gap between those who participate in the digital age and those who do not. In this chapter, I argue that digital inequality is highly problematic as it deepens existing structural inequalities and adopts a targeted approach to public resources which is contrary to the conferral of rights to citizens (Redden et al. 2020; Gantchev 2019; Eubanks 2018).

This chapter focuses on the legal position of citizens that are 'digitally excluded' because they cannot use digital technology in a critical and competent way (Pawluczuk 2020; Rogers 2016; Baptista 2005) due to limited digital skills, socioeconomic conditions, psychological problems or the lack of digital capital. This

chapter explores in particular how this phenomenon impacts the exercise of fundamental rights before the public administration (Peacock 2019). Examples are senior citizens that cannot apply for benefits without assistance or individuals with low literacy that cannot fully understand written online communication sent by public authorities. Interestingly enough, these are often the citizens that need automated public services (*e.g.*, welfare benefits) the most (Tomlinson 2019) and will be the most affected by the discriminatory effects of predictive policing, the automation of social security, and algorithmic biases (UN OCHR 2018). This chapter explores one of the paradoxes of our digital times: citizens in developed countries that have access to the Internet are also affected by the digital divide. Digital exclusion in developed countries takes a very different form in the twentieth century than it did in the early days of the Internet (Lutz 2019). The digital divide is nowadays determined by media engagement, digital literacy, and tech-savviness (Carmi et al. 2020). At the same time, the current digital divide is also one that continues to reproduce existing economic, social, and political inequalities in our society (Courtenay et al. 2017; Selwyn 2004).

Drawing on a review of the interdisciplinary literature that has studied digital exclusion for the last two decades, this chapter contributes to the legal literature with an account of the multidimensional causes of digital exclusion, a discussion of its most relevant legal implications and some preliminary insights on how public authorities should rethink their approach to the automation of public services in an unequal information society.

This chapter is structured as follows. The first part delves into the complex concept of digital divides and explores the most common causes of digital exclusion. The second part explores the problematic legal implications of the digital divide vis-

à-vis public authorities in the context of administrative decision-making. The third part proposes new solutions and approaches to digital inclusion and discusses how they can address the problems presented in this contribution. The fourth part concludes.

## II. Digital Gaps

This section distinguishes between the different types of digital divides, discusses the primary underlying causes of digital exclusion, and provides a brief account of the main developments in digital government that require not only Internet access but also digital skills.

### A. Old and New Digital Divides

The emergence of a global information society has permitted the development of new communities, the widespread sharing of knowledge, and the creation of new business opportunities. Nevertheless, it is clear that not everyone is able to participate in this global information society and millions continue to be left behind in different ways (Peacock 2019). The digital divide has been amply studied in the last two decades (Norris 2001; Selwyn 2004; Mossberger et al. 2008; Livingstone & Helsper 2007). Communication science literature has consistently demonstrated the complexity and dynamic character of this phenomenon and the need to distinguish different types of digital divide that encompass not only the lack of access but also

the role played by skills (Norris 2001; Hargittai 2002; Van Dijk & Hacker 2003; Epstein et al. 2011; Helsper 2017).

1. First, second, and third-degree digital divides

The term ‘digital divide’ refers to the study of discrepancies between individuals, businesses, and countries regarding their access to ICT-facilities and communication tools (OECD 2001; Castells 2002). At the very beginning of the Internet age, the first-degree digital divide was primarily associated with the disparity of access to Internet infrastructure (Gunkel 2003; Yu 2002). Despite the existence of different metrics on Internet access and the growing closure of the first-degree digital divide (Sicherl 2018), the literature agrees that ICT growth has drastically reduced world inequalities. The first-degree digital divide persists primarily in developing countries and rural areas and it marginalizes some regions of the world (for example, Africa), preventing them from having access to new forms of wealth production (Fuchs & Horak 2008).

Despite the expansion of Internet infrastructure, the digital divide is unlikely to disappear. Rather, it evolved to a second-degree digital divide (Hargittai 2002) which encompasses unequal interactions with technology have evolved from lack of access to ICT to lack of skills required for meaningful use (Swedish Internet Foundation 2019). Digital technology requires users to have operational, formal, informational, and strategic internet skills (van Deursen & van Dijk 2010): using the Internet requires the ability to take action, interact with other users and information, and make transactions. The so-called second-degree digital divide refers to the gap between

those who can effectively use digital technologies and those who cannot (Hargittai 2002). The absence of digital skills has become a problem with important social consequences in developed countries (Wei & Hindman 2011). This type of digital divide translates itself in a different Internet usage: individuals that fall behind because of low digital literacy are less likely to use Internet for political purposes, for example, to discuss political views, understand political or social realities, and seek further information about it (Min 2010; Swedish Internet Foundation 2019). Digital exclusion affects mostly women, minorities, senior citizens, and low-educated individuals either throughout their lives or in specific life events (e.g., death of a loved one) when they do not have the choice or the motivation to employ the necessary technology or this option is reduced (Ashurst/Venn 2014; Faure et al. 2020).

More recently, the literature has started to distinguish a third-level digital divide that is not only focused on differences in skills but rather emphasizes the way in which technology worsens traditional forms of inequality (Ragnedda 2017; Calderón Gómez 2020). As the online and offline worlds have become indissociable, different sociological theories have been applied to understand the intertwining between offline and online inequality (Calderón Gómez 2020). According to this line of research, digital inequalities are determined by class dynamics, cultural aspects such as status and prestige, group affiliations, and digital capital (Ragnedda et al. 2020). Policymakers are thus asked to take into account different groups' digital capital, that is, the set of dispositions that individuals develop to engage with new technologies (Park, 2017), their internalized aptitude to do so and the externalised resources that can be accumulated by the individual from using digital technology (Ragnedda, 2018; Ragnedda et al. 2020).

Existing scholarship shows that we should depart from simplified and traditional perceptions of the digital divide as a matter of Internet access, the idea of digital ‘haves and have nots’ or digital natives vs. disconnected users (Stevenson 2008; Hargittai 2002; DiMaggio and Hargittai 2001). For lawyers, this means understanding the multidimensional factors that explain the growing inequality between the individuals that can actively participate and understand digital technology and those that cannot. Moreover, exclusion is often grounded on personal characteristics: age (Matthews et al. 2019; Tirado-Morueta et al. 2016), poorer cognitive functions (Elliot et al. 2014), low income (Yu et al. 2015; Gonzales 2016) and low education (Tirado-Morueta et al. 2016; van Deursen & van Dijk 2010) are some of the predictors of digital exclusion. Contrary to the general perception of the public, children and young people in general are not always ‘digital natives’ and may be digitally excluded due to social, economic, cultural, and political factors (Pawluczuk 2020; Harris et al. 2017; Livingstone & Helsper 2007).

## B. Literacy, Digital Literacy, and Data Literacy

As Internet infrastructure expands, having access to and understanding online content has become increasingly important. The content has become more important than the infrastructure (Guadamuz 2005) as full access to online content implicates that individuals are at least able to read and write correctly: low literacy and digital illiteracy or limited digital skills are nowadays key factors behind digital exclusion that deserve additional attention.

Even in the most digitally advanced countries in the world such as Denmark, Sweden, and the Netherlands, there are still citizens who are low literate, do not understand what they read or experience great difficulties when expressing themselves in writing (Stichting lezen en schrijven 2015; Swedish Internet Foundation 2019). For immigrants who do not master the official languages of the countries where they reside, there may be an additional linguistic challenges (Yu 2002). While some countries try to address this issue by publishing information in other languages (for example, in Spanish in the United States; in English and German in the Netherlands), this is not always a common practice.

Illiteracy or low-literacy are in some cases accompanied by the lack of digital skills and digital literacy. Digital literacy refers to the set of skills and competencies required to use multiple media through digital technologies (Carmi et al. 2020). Digitally literate individuals have the critical thinking skills that are necessary to use technology in a strategic way to search, locate, filter, and evaluate information; to connect and collaborate with others in online communities and social networks; and to produce and share original content on social media platforms (Dimitrakopoulou 2018). Communication science research has demonstrated that operational and formal internet skills such as the ability to use social media platforms are insufficient to fully participate in digital society (van Deursen & van Dijk 2010; Min 2010). Individuals with limited digital skills, particularly those with low education, are less able to find information online that they need for their daily life (van Deursen & van Dijk 2010). For example, older individuals tend to use the Internet less frequently than younger generations, even though the ability to use technology competently could help them

throughout later life, particularly given the onset of poorer health (Matthews et al. 2019).

Data literacy and algorithmic literacy are new and important dimensions of the debate on digital literacy and the digital divide. Citizens that are ‘data illiterate’ are unable to fully engage with digital technology, government, and participate in our modern society. The Cambridge Analytica scandal in 2017 exposed a collective unawareness of how much disinformation individuals receive on a daily basis and how it influences their voting decisions, how their data is abused, and the lack of information as to how to protect themselves against both private and state surveillance. Data illiteracy affects a larger number of individuals than other forms of literacy. Digital and data literacy nowadays requires citizens to understand how the platform economy works, how digital platforms are funded, how privacy and content settings are designed and changed (Carmi et al. 2020). The lack of data literacy affects an individual’s ability to participate in social and political discussions and assess data in a critical way. At a time when multiple public and private services are being automated, algorithmic literacy may well be the next layer to be added to digital literacy (Rainie & Anderson 2017). Algorithmic literacy means that individuals are not only aware of how data is gathered and used but also of how it can affect decisions made about them (Rainie & Anderson 2017). Individuals who are not aware of how decision-making processes are automated may experience more difficulties navigating digital government and understanding beforehand how algorithms will process their requests (Gran et al. 2020).

### C. The Digital Divide and Digital Government

The term digital government refers to the “introduction, application, and use of digital technologies and data in government and its external relationships, including citizens, businesses, and society” (Lips 2019). Despite some initial (and still ongoing) setbacks, e-government has contributed to more openness, enhanced citizen participation, and reduced government expenditure (Noveck 2015). In the last years, digital government in developed countries (e.g, the United Kingdom, The Netherlands, and Denmark) has fully embraced the datafication and automation of public services, allowing technology to change the way in which the welfare state operates (Dencik & Kaun 2020) and how public authorities approach decision-making. The algorithmic processing of data for the purposes of automated decision-making has been perceived as problematic vis-à-vis the rule of law, potentially discriminatory, and opaque (Zalnieriute et al. 2019; Cobbe 2019; Coglianese & Lehr 2017).

Digital technologies have the potential to expand access to public services (Tomlinson 2019) but only if digital government is designed with public values in mind, socioeconomic inequalities are taken into account, and citizens’ different attitudes (e.g., fear, reluctance) towards technologies are addressed with personalized solutions. However, digital government services are still developed with the assumption that citizens have average digital skills and are ‘digital citizens’, that is, individuals who have the digital skills required to participate in the information society in a critical, effective, secure and ethical way (Schou and Hjelholt 2018; Mossberger et al. 2008). Part III delves into the legal implications of digital exclusion in the context of citizen-state interactions.

### III. Legal Implications

Digital inequality is entrenched in structural inequalities and while it cannot yet be solved by technology, it can be worsened by it (Carmi et al. 2020). As digital technology becomes increasingly interwoven in a number of settings (education, employment, payment systems, personal life), individuals that were at disadvantage because of their lack of access to technology, will be increasingly excluded. While digital inequality primarily is a matter of exclusion and thus of unequal treatment, this part analyses digital exclusion through the lens of other fundamental rights such as due process, good administration and the right to Internet access (Allmann & Sengupta 2019).

#### A. Digital Rights and the Right to Internet Access

Recent scholarship has debated whether Internet access should deserve human right protection in itself or as a right instrumental to the freedom of expression (De Hert & Kloza 2012; Pollicino 2020). The Internet is not only a ‘medium’ through which individuals communicate and easily disseminate information but it is also part of the message that individuals seek to communicate (Innis 1951). The European Court of Human Rights has decided in a number of cases regarding denial of access to Internet infrastructure that blocking websites was a limitation of the freedom of expression (*e.g.*, *Yildirim v. Turkey*). Nevertheless, as the digital divide shifts and the ability to use and understand digital technology becomes just as important as having

access to it, it is important to expand our legal analysis and see digital rights beyond the realm of freedom of expression (Peacock 2019). Nowadays, there are multiple ways in which someone can feel that she is not included in the digital society even if access to Internet infrastructure is available (Allmann & Sengupta 2019). Digital technology enables citizens nowadays to enjoy many other rights and the lack of Internet access should be interpreted in light of its modern meaning and citizens' needs.

Digital rights and freedoms, that is, human or fundamental rights that allow individuals to gain access to the Internet, use digital technology, create and share content online (Peacock 2019), have political, participatory and society integration dimensions that allow individuals to feel empowered by technology and participate on different levels (Mossberger et al. 2008; Daskal 2018). Digital rights are thus closely connected to the idea of digital citizenship which is regarded as a fundamental concept for the future of democracy (Missingham 2009; Couldry et al. 2014; Mossberger et al. 2008), even though it is not defined by reference to a nation-state but to performance in cyberspace and participation in online communities (Isin & Ruppert 2015).

## B. Fundamental Rights

The automation and digitization of public services, if correctly designed, would not in themselves violate fundamental rights. Nevertheless, technology makes political preferences of governments opaque, less tangible, and more difficult to contest (Tomlinson 2019) and it creates an additional hurdle for citizens who are not

comfortable with technology. In the *Black Box Society*, Pasquale (2015) described extensively the asymmetries of information between the companies gathering data and data subjects and exposed the difficulty for average citizens to interrogate these systems due to a lack of access, resources or specialized knowledge (Pasquale 2015). When these systems are implemented by public authorities in the context of social welfare benefits to inform decision-making (e.g., child welfare data systems throughout the United Kingdom or social security systems in the United States) (Redden et al. 2020; Eubanks 2018), citizens may feel surveilled, powerless as that they do not know how they are being ‘ranked’ and ‘scored’ and reluctant to use potentially discriminatory systems (Eubanks 2018).

Unequal treatment is the primary legal dimension of digital exclusion and inequality. Even though digital government policies may not aim to treat certain groups of citizens unequally, this has become the unwanted result of digital-by-default policies. Moreover, digital inequalities reproduce and deepen existing socioeconomic inequalities and further deprive citizens who are already marginalized from having access to better opportunities and services (Robinson et al. 2015). Furthermore, at the resemblance of other forms of inequality, digital inequality is explained by personal characteristics and is part of a constellation of power relations that determine whether or not an individual will be included in the digital society (Gilbert 2010). When individuals are asked to submit any benefits applications exclusively online or when an offline alternative is considerably difficult, governments may be treating marginalized citizens with limited ability to use the Internet in an unfair and unequal way. Equal treatment before digital government should take into account citizen needs and the existence of groups that are structurally

behind the majority of the population due to their literacy skills, socioeconomic conditions, and digital capital (Park & Humphry 2019). This digital gap may limit the ability of marginalized citizens to navigate online applications for example for welfare benefits more consciously and help citizens predict their eligibility for them (Gran et al. 2020). Thus far, legal scholars, institutions, and courts have not taken this perspective and (with the exception of scholarship focused on algorithmic discrimination), to the best of my knowledge, there are not yet judicial cases that give legal meaning to digital inequality. Instead, the disadvantages of citizens before the digitalization are slowly entering the policymaking and judicial realms through the lenses of other fundamental rights (e.g., due process), the principles of good administration, and the proportionality principle.

Good administration entails that digital government policies should be necessary and adequate to advance the public interest (government efficiency, broader participation, timely decisions) as well as proportionate to their objectives and not excessively restrictive (OECD 2019). While states have considerable appreciation in balancing practical resources and fiscal constraints against the implied duty to provide access to public services, developed countries should take the different needs and skills of their citizens into account (Peacock 2019).

In the Netherlands, the approach to ‘digital-by-default’ has been discussed in the last years as numerous developments in digital government have resulted in the disproportionate increase of administrative burdens for citizens. The National Ombudsman has warned that thousands of citizens in need may have to go to great lengths to be able to claim online all the benefits they are entitled to (Nationale Ombudsman 2013; Stichting lezen en schrijven 2019). Moreover, citizens can easily

lose track of e-mail notifications and miss important deadlines (for example, to submit a statement of objections or appeal an administrative decision). The Dutch Council of State has recently appeared to revisit its strict position ( ECLI:NL:RVS:2017:3419) regarding excusable delays for administrative decisions notified solely through governmental portals. The Administrative Division of this Dutch High Court underlined in a recent case that special circumstances could be taken into account in order to excuse citizens using governmental portals for not respecting the legal delay for a statement of objections (ECLI:NL:RVS:2020:175). This decision may suggest the need to adopt a more lenient and citizen-friendly approach towards the possibility that governmental portals underperform, citizens oversee online information or make mistakes (Drahmann 2020). This position is also aligned with a recent opinion of the Dutch Council of State on good administration and digitalization of government where this institution underlines the need to keep providing meaningful interaction with citizens and limit the growing automation of public services (Raad van State 2018).

The Ombudsman has also dealt with a number of complaints regarding the digitalization of public services and, more specifically, the shift to card payments in a number of municipalities. In 2015, the Ombudsman delved into the principles of good administration in a complaint regarding the requirement of the municipality of Leiden that its residents pay for any service using a card (or request the services online). The Ombudsman underlined that this type of policies was detrimental to senior citizens and a number of groups of citizens for whom payment in cash remained important (Nationale Ombudsman 2015). Moreover, citizens typically do not have alternative service providers for different services so the absence of

alternatives limited citizens' access to the public administration (Nationale Ombudsman 2015). Although the distinction between the public and private realms is increasingly elusive, citizens are not consumers that can switch to offline services when they find digital government too complex to use (Ranchordas 2018; Dutil et al. 2008). Instead, when using digital technologies, governments should ensure that digital platforms are oriented towards citizens and their needs, including those who are 'averse' or unable to use technology (Asgarkhani 2007). The need to maintain non-digital alternatives is visible in the tax legislative framework of many countries despite their online offers of pre-filled and simple online forms (e.g., Sweden, The Netherlands).

A growing number of countries is also seeking to streamline their public services through online platforms and registrations, raising multiple legal questions regarding their accessibility and legal basis. The Irish Public Services Card is an example hereof. This registration system was deemed compulsory to access a range of public services beyond social welfare payments. The Data Protection Commissioner found nonetheless that this system had no legal basis and further violated the principle of transparency. Although data protection and legality issues are here at stake in this case currently under appeal at an Irish circuit court, this is a reminder of the need to question whether the full digitalization of public services is required. The shift of public services to the digital space raises not only issues of proportionality but also of legal certainty. For example, in Mexico, the Supreme Court invalidated a legislative disposition that required companies to upload their accounting on a governmental portal even though parts of the system were in English (Mexican Supreme Court 2016). The principle of legal certainty was at stake because

many citizens would not have been able to fully understand what was being required from them.

To sum up, digital exclusion has important legal implications as the inability to interact technology erodes citizens' ability to have access to the rights they are entitled by law. Digital inclusion can be promoted not only through the reinforcement of digital skills but also by questioning when, why, and the way in which information and services are digitalized and made available for everyone. Moreover, it is important to discuss the proportionality of these policies and the importance of maintaining offline alternatives for users in difficulty (Yates et al. 2020). These offline alternatives should not be regarded as last resorts for users but rather as options with equivalent value to that offered online. A monodisciplinary analysis of digital divide is nonetheless insufficient to understand the causes of this problem and how to design solutions.

#### IV. How to Close the Gap: Solutions

States have different responsibilities when it comes to digital inclusion: first, as providers of public services that are constitutionally guaranteed to citizens; second, as educators; third, as legislators and law enforcers that should ensure that all citizens are equally treated before the law. Access to public services is based on legal entitlements which means that for example citizens with low digital skills should not experience a direct or indirect disadvantage in this context. Moreover, governments should play a leading role in ensuring that citizens are not left behind in the digital revolution, can easily apply online for the benefits they are entitled to, can participate

in different aspects of their national or local public administration processes, and can communicate with public bodies remotely regardless of their literacy levels.

#### A. Digital Inclusion Policies

Digital inclusion is a strategy that aims to ensure that all citizens have equal opportunities and adequate skills to benefit equally from digital technology (Pawluczuk 2020). This strategy encompasses both functional and critical skills. On the one hand, digital inclusion policies require that young individuals are trained to be employable in a world where many traditional jobs will be automated. It is thus important to refocus the debate on education, literacy, and digital citizenship and develop new ways to reduce the digital divide through education (Doppelt 2002). On the other, digital inclusion encompasses critical participation skills in the information society and a consideration of the impact that technology will have on individuals' abilities to exercise fundamental rights.

Access to information is another important element that should be included in the debate on digital inclusion. In the early days of the Internet, free online information was the norm. Despite the advancement of several open-access policies, high-quality information and systems remains in the hands of 'infogopolies' (Drahos & Braithwaite 2002; Guadamuz 2005). These small clusters of tech companies, media, and publishers own vast amounts of copyright that impede the free publication of information, make different public and private procedures less transparent, and limit the ability of citizens to gain further insight into a number of issues. When access to information has a high price tag, the digital divide becomes particularly difficult to

bridge for those living in developing countries where institutions cannot pay for the required subscriptions fees. Intellectual property rights limit not only the access and dissemination of knowledge but also the use of Internet to its fullest potential. In order to solve this problem, it is important to keep making high-quality available online and open-access so that individuals can continue to develop themselves. The 2020 UN-Survey on E-government encourages governments to continue advancing digital government policies particularly in light of the COVID-19 pandemic, design future-proof approaches to digitization of public services, and consider partnerships with private partners (UN 2020).

#### B. Assistance Programmes

Assistance programmes are essential to ensure that citizens with disabilities or limited literacy or digital skills can become acquainted with technology and start uptaking it. In the United Kingdom and Denmark, ‘assisted digital’ policies provide multichannel access to public services and provides additional help to citizens in need. In most cases, institutions providing support are charities, neighbourhood associations, libraries, and other non-profit organizations. Nevertheless, in the United States, some digital-inclusion programs are supported by technology companies which do not have the reputation of protecting the privacy of their users or informing well users regarding the possibility of being profiled (Gangadharan 2017). Many digital inclusion programs designed for marginalised communities bring about privacy intrusions, surveillance, and social control (Viseu et al. 2004; Eubanks, 2011; Gangadharan 2017).

### C. Design and Iterative Learning

Interfaces of ICT and associated programmes and applications can be offputting, challenging, and extremely difficult to use for those with sensory, cognitive, and physical disabilities. However, as Beth Noveck explains, designing good interfaces that are user-friendly and provide the right amount of information to citizens is “hard no matter what the topic or tool. It is especially difficult to know what information about a person is the right information to display” (Noveck 2015). On the one hand, a user should be informed about why a number of results were presented to her. On the other, government platforms should not overload the user with information. Inclusive design is thus one of the key challenges of digital government. The United Kingdom has developed a number of design principles that should guide the design of new digital services. These principles include ‘starting with user needs’, designing with data to allow for data-driven decision-making, simplify as much as possible, promote iteration and accessible design (UK Government 2019). Guidelines for Assisted Digital also include guidance on how to write content for government websites in plain language, use pictures to support the text and increase accessibility to individuals with disabilities.

User-friendly and simple design may nonetheless be insufficient to address some of the more complex issues of digital divide. Even when public authorities try to design technology that is “easy to use”, citizens may remain unaware of the underlying complexity of the system (Doteveryone 2018). The focus on user-friendliness design requires that citizens trust blindly that the simple design does not

mask anything that citizens would not want to use or that it does not gather they would not want the government to have. Unfortunately, many citizens do not realize how their online profiles can affect their professional lives and their position before public authorities. Digital understanding requires citizens to be aware of the role of the Internet in civic and political life (Doteveryone 2018).

While there are no one-size-fit-all solutions and iterative approaches to digital government may be the best option (Noveck 2015). Continuous experimentation within the limits of the law and improving user interaction should be the priorities (Noveck 2015).

## Conclusion

Nowadays it is clear that digital technology is not only the ‘medium’. Instead, the Internet is the most important infrastructure used to apply for benefits, request a service from a public authority and participate in public discussions. When citizens do not have access to it or cannot use it competently, then they cannot speak or participate (Balkin 2014). For the Internet to be an inclusive platform, all users must have comparable Internet access, skills, and digital capital (Sylvain 2016). This chapter has shown that digital inequalities accentuate existing and complex social inequalities (Selwyn 2004) that cannot be reduced to the binary model of a ‘digital divide’. Instead, it is important to understand the different stages or levels of digital inequality experienced by citizens, identify how their legal position is affected by these inequalities, and devise not only digital but also educational and socioeconomic strategies to address them. Inclusive digital technology and inclusive digitalisation as

a strategy for governments entails the promotion of awareness of the benefits and risks of technology, affordable access to ICT and devices, availability of diverse information, reduction of language barriers, and the ability to adapt to the changing technological environment through the advancement of digital and literacy skills (Yu 2002).

Legal scholars and administrative lawyers in particular need to be mindful of the opportunities and risks of digital technology, the existence of groups that are not equally comfortable with ICT, and the need to adapt existing procedures to these new circumstances (Galletta 2019). Future research on administrative should go beyond existing debates on technicalities and privacy implications and engage with fundamental issues connected to the shift of power dynamics and the impact of technology on fundamental rights (Redden et al. 2020). By doing so, administrative lawyers can open the door to new reflections on the meaning of good administration in the digital age and on how to adapt administrative law and procedures to these new challenges.

## References:

K Allmann & Sengupta, A. (2019). Beyond Internet access: seeking knowledge justice online. OpenGlobalRights, retrieved from <https://www.openglobalrights.org/beyond-internet-access-seeking-knowledge-justice-online/?lang=English>

Arora, P. (2019). *The Next Billion Users: Digital Life beyond the West* (Harvard University Press).

Asgarkhani, M. (2007). The reality of social inclusion through digital government, *Journal of Technology in Human Services*, 25:1-2, 127-146.

Ashurst, F. & Venn, C. (2014). *Inequality, Poverty, Education: A Political Economy of School Exclusion* (London: Palgrave Macmillan).

Balkin, J. (2014). Old-School/New-School Speech Regulation. *Harvard Law Review*, 127, 2296-2342.

Calderón Gómez, D. (2020). The third digital divide and Bourdieu: Bidirectional conversion of economic, cultural, and social capital to (and from) digital capital among young people in Madrid. *New Media & Society*. <https://doi.org/10.1177/1461444820933252>

Carmi, E., & Yates, S. J. (2020). What do digital inclusion and data literacy mean today?. *Internet Policy Review*, 9(2). doi:10.14763/2020.2.1474

Castells, M. (2002). *The Internet Galaxy*. Oxford: Oxford University Press.

Chander, A. (2017). The Racist Algorithm? *Michigan Law Review*, 115, 1023-1045

Choi, M.; Glassman, M. & Cristol, D. (2017). What It Means to Be a Citizen in the Internet Age: Development of a Reliable and Valid Digital Citizenship Scale. *Computers & Education*, 107, 100-

Cobbe, J. (2019). Administrative Law and the Machines of Government: Judicial Review of Automated Public Sector Decision-Making, *Legal Studies*, 39, 636-655.

Coglianesi, C. & Lehr, D. (2017). Regulating by robot: administrative decision making in the machine-learning era. *Georgetown Law Journal*, 105, 1147-1223.

Couldry, N., Stephansen, H., Fotopoulou, A., MacDonald, R., Clark, W. & Dickens, L. (2014) Digital citizenship? Narrative exchange and the changing terms of civic culture, *Citizenship Studies*, 18:6-7, 615-629, DOI: 10.1080/13621025.2013.865903

Gunkel, D. (2003) Second thoughts: toward a critique of the digital divide.. *New Media and Society*, 5(4): 499–522.

Harris, C.; Straker, L. & Pollock, C. (2017) A Socioeconomic Related ‘Digital Divide’ Exists in How, Not If, Young People Use Computers’ PLoS One e0175011, 12:3,, doi: [10.1371/journal.pone.0175011](https://doi.org/10.1371/journal.pone.0175011)

Davies, D. (2015). ‘E-Government: Using Technology to Improve Public Services and Democratic Participation’, European Parliament Research Service (September 2015), available at [https://www.europarl.europa.eu/RegData/etudes/IDAN/2015/565890/EPRS\\_IDA\(2015\)565890\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2015/565890/EPRS_IDA(2015)565890_EN.pdf) (last accessed on March 22, 2020);

Dencik, L. & Kaun, A. (2020). Datafication and the Welfare State. *Global Perspectives*, 1:1, 12912. doi: <https://doi.org/10.1525/gp.2020.12912>

van Dijk, J. and Hacker, K.(2003) The Digital Divide as a Complex and Dynamic Phenomenon. *The Information Society*, 19, 315-326. <http://dx.doi.org/10.1080/01972240309487>

van Dijk & Kenneth Hacker (2011) The Digital Divide as a Complex and Dynamic Phenomenon, *The Information Society*, 19:4, 315-326, DOI: [10.1080/01972240309487](https://doi.org/10.1080/01972240309487)

DiMaggio, P, Hargittai, E (2001) From the “digital divide” to “digital inequality”: studying Internet use as penetration increases. Working paper series 15.

Dimitrakopoulou, D. (2018). Digital Literacy’ in Schintler, L. & McNeely, C. (eds.), *Encyclopedia of Big Data*. Springer, Cham. [https://doi.org/10.1007/978-3-319-32001-4\\_72-1](https://doi.org/10.1007/978-3-319-32001-4_72-1).

Doppelt, G. (2002). Equality and the digital divide. *Hastings Communications and Entertainment Law Journal*, 24(4), 601-610.

Doteveryone (2018). People, Power and Technology: The 2018 Digital Understanding Report, available at <https://www.doteveryone.org.uk/report/digital-understanding/>

Drahmann, A. (2020). Case note: Verschoonbare termijnoverschrijding. E-mailservice van [www.overheid.nl](http://www.overheid.nl). *Computerrecht* 2020/86.

Drahos, P. and Braithwaite, J. (2002). Information Feudalism: Who Owns the Knowledge Economy?. London: Earthscan Publications.

Dutil, P., Howard, C., Langford, J. & Roy, J. (2008) Rethinking Government-Public Relationships in a Digital World, *Journal of Information Technology & Politics*, 4:1, 77-90, DOI: [10.1300/J516v04n01\\_06](https://doi.org/10.1300/J516v04n01_06)

Eubanks, V. (2018). *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. New York: St. Martin's Press.

European Commission. 2019. "Digital Inclusion for a Better Society", European Commission- Digital Single Market, 19 June 2019, available at <https://ec.europa.eu/digital-single-market/en/digital-inclusion-better-eu-society>

Faure, L., Vendramin, P., Schuurmans, D. (2020). A situated approach to digital exclusion based on life courses. *Internet Policy Review* 9:2, DOI: 10.14763/2020.2.1475

Fuchs, C. & Horak, E. (2008). Africa and the Digital Divide. *Telematics and Informatics*, 25:2, 99-116.

Galetta, D.U. (2019). Public administration in the era of database and information exchange networks: Empowering administrative power or just better serving citizens? *European Public Law* 25:2, 171-182.

Gangadharan, S. P. (2017). The downside of digital inclusion: Expectations and experiences of privacy and surveillance among marginal Internet users. *New Media & Society* 19:4, 597-615.

Gantchev, V. (2019). Data protection in the age of welfare conditionality: Respect for basic rights or a race to the bottom? *European Journal of Social Security*, 21:1, 3-22.

Gilbert, M. (2010). Theorizing Digital and Urban Inequalities: Critical Geographies of 'Race', Gender and Technological Capital, *Information, Communication & Society*, 13:7, 1000-1018, <https://doi.org/10.1080/1369118X.2010.499954>

Gran, A.; Booth, P. & Bucher, T. (2020). To Be or Not to Be Algorithm Aware: A Question of a New Digital Divide. *Information, Communication & Society*, <https://doi.org/10.1080/1369118X.2020.1736124>

Guadamuz Gonzales, A. (2005) The Digital Divide: It's the Content, Stupid: Part 2. *Computer and Telecommunications Law Review*, 11:4, 113-118.

Hargittai, E. (2002). Second-level digital divide: differences in people's online skills. *First Monday* 7:4, URL: [http://firstmonday.org/issues/issue7\\_4/hargittai/index.html](http://firstmonday.org/issues/issue7_4/hargittai/index.html)

de Hert, P. & Kloza, D. (2012). Internet (Access) as a New Fundamental Right. Inflating the Current Right Framework? *European Journal of Law and Technology*, 3:2, available at <http://ejlt.org/article/view/123/268>.

Innis, H. (1951). *Bias of Communication*. Toronto: University of Toronto Press (chapter 1)

Isin, E. & Ruppert, E. (2015). *Being Digital Citizens*. London: Littlefield International.

Janowski, T. (2015). 'Digital Government Evolution: From Transformation to Contextualization' *Government Information Quarterly* XXXII-3, 221-236.

Leong, N. (2013). Racial Capitalism. *Harvard Law Review* 126:8, 2153-2225.

Lips, M. (2019). *Digital Government: Managing Public Sector Reform in the Digital Era* (Abingdon, Routledge).

Livingstone, S., & Helsper, E. (2007). Gradations in digital inclusion: children, young people and the digital divide. *New Media & Society*, 9(4), 671–696. <https://doi.org/10.1177/1461444807080335>

Lutz, C. (2019). Digital Inequalities in the Age of Artificial Intelligence and Big Data. *Human Behavior and Emerging Technologies*, 1:2, 141-148.

Matthews, K.; Nazroo, J.; Marshall, A. (2019). Digital inclusion in later life: cohort changes in internet use over a ten-year period in England. *Ageing & Society* 39, 1914-1932.

Missingham, R. (2009). Encouraging the Digital Economy and Digital Citizenship. *The Australian Library Journal*, 58:4, 386-399.

Mossberger, K. Tolbert, C. & McNeal, R. (2008). *Digital citizenship: The Internet, Society and Participation*: Cambridge, MA: MIT Press.

Nationale Ombudsman (2013). *De burger gaat digitaal*. The Hague: De Nationale Ombudsman, available at [https://www.nationaleombudsman.nl/uploads/2013170\\_de\\_burger\\_gaat\\_digitaal.pdf](https://www.nationaleombudsman.nl/uploads/2013170_de_burger_gaat_digitaal.pdf)

Nationale Ombudsman. (2015). *Onderzoek naar uitsluitend pinbetalingen aan de balie van de gemeente*. Rapport 2015/172. The Hague: De Nationale Ombudsman, available at <https://www.nationaleombudsman.nl/nieuws/rapporten/2015172>

Norris, P. (2001). *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*. Cambridge: Cambridge University Press.

Noveck, B. S. (2015) *Smarter Citizens, Smarter State: The Technologies of Expertise and the Future of Governing*. Cambridge, MA: Harvard University Press (Chapter 4).

OECD, 'Understanding the Digital Divide' (OECD, 2001), available at <https://doi.org/10.1787/236405667766> (last accessed on March 20, 2020).

OECD, 'Strengthening Digital Government', OECD (March 2019), available at <https://www.oecd.org/going-digital/strengthening-digital-government.pdf> (last accessed on March 12, 2020).

Park, S. & Humphry, J. (2019). Exclusion by Design: Intersections of Social, Digital, and Data Exclusion, *Information, Communication & Society*, 22, 934-953.

Pasquale, F. (2015). *The Black Box Society: The Secret Algorithms that Control Money and Information*. Cambridge, MA: Harvard University Press.

Pawluczuk, A. (2020) Digital youth inclusion and the big data divide: examining the Scottish perspective. *Internet Policy Review* 9:2, DOI: 10.14763/2020.2.1480;

Peacock, A. (2019). *Human Rights and the Digital Divide*. Abingdon: Routledge.

Pollicino, O. (2020) The Right to Internet Access. Quid Iuris?' in von Arnould, A. & von der Decken, K. (eds), *The Cambridge Handbook of New Human Rights* (pp 263- 275) Cambridge: Cambridge University Press.

Raad van State (2018) Ongevraagd advies over de effecten van de digitalisering voor de rechtsstatelijke verhoudingen. Kamerstukken II 2017/2018, 26643, nr. 557.

Ragnedda, M. (2017). *The Third Digital Divide: A Weberian approach to digital inequalities*. London: Routledge.

Ragnedda, M.; Ruiu, M.; Addeo, F. (2020). Measuring Digital Capital: An empirical investigation. *New Media and Society*, 22:5, 739-816, <https://doi.org/10.1177/1461444819869604>

Rainie, L. & Anderson, J. (2017). The Need Grows for Algorithmic Literacy, Transparency, and Oversight. *Pew Research Center* (February 8, 2017), available at <https://www.pewresearch.org/internet/2017/02/08/theme-7-the-need-grows-for-algorithmic-literacy-transparency-and-oversight/> (last accessed on April 20, 2020).

Ranchordás, S. (2018). Citizens as Consumers in the Data Economy: The Case of Smart Cities. *Journal of European Consumer and Market Law*, 7(4), 154-161.

Redden, J., Dencik, L. & Warne, H. (2020) Datafied child welfare services: unpacking politics, economics and power, *Policy Studies*, DOI: [10.1080/01442872.2020.1724928](https://doi.org/10.1080/01442872.2020.1724928)

Rogers, A. (2016). Building the Superhighway for Information and Commerce: How the E-Government Can Save Money by Building Bridges across the Digital Divide. *Michigan Journal Race & Law*, XXII, 163-185.

Roser, M., Ritchie, H. & Ortiz-Ospina, E. (2015) - "Internet". *Published online at OurWorldInData.org*. Retrieved from: '<https://ourworldindata.org/internet>' [last accessed on 10 August 2020].

Schou, J. & Hjelholt, M. (2018). Digital Citizenship and Neoliberalization: Governing Digital Citizens in Denmark, *Citizenship Studies*, 22:5, 507-522.

Selwyn, N. (2004). Reconsidering Political and Popular Understandings of the Digital Divide. *New Media & Society*, 6(3), 341–362. <https://doi.org/10.1177/1461444804042519>

Sicherl, P. (2019) Different statistical measures create different perceptions of the digital divide, *The Information Society*, 35:3, 143-157, DOI: [10.1080/01972243.2019.1582568](https://doi.org/10.1080/01972243.2019.1582568)

Stevenson, S. (2009) Digital Divide: A Discursive Move Away from the Real Inequities, *The Information Society*, 25:1, 1-22, DOI: [10.1080/01972240802587539](https://doi.org/10.1080/01972240802587539)

Stichting lezen en schrijven. (2015). Laaggeletterden: achterblijvers in de digitale wereld. Den Bosch: Expertisecentrum beroepsonderwijs, available at <https://www.lezenenschrijven.nl/uploads/editor/ecbo.15-217-Laaggeletterden-achterblijvers-in-de-digitale-wereld-web.pdf>

Swedish Internet Foundation (2019). Meaningful time online and the pros and cons of digital society, available at <https://svenskarnaochinternet.se/rapporter/svenskarna-och-internet-2019/the-swedes-and-the-internet-2019-summary/>

Sylvain, O. (2016). Network Equality, *Hastings Law Journal*, 67, 443-497.

Tomlinson, J. (2019). Administrative Justice: Assessing the next revolution in administrative justice. Bristol: Policy Press.

Tirado-Morueta, R. Hernando-Gomez, A. & Aguaded-Gomez, J. I. (2016). The Capacity of Elderly Citizens to Access Digital Media in Andalusia (Spain). *Information, Communication & Society*, 19:10, 1427-1444.

UK Government (2012, last updated 2019). Guidance: Government design principles, available at <https://www.gov.uk/guidance/government-design-principles>.

UN OCHR (United Nations Officer of the High Commissioner, Human Rights) (2018) 'Statement on Visit to the United Kingdom', by Professor Philip Alston, United Nations Special Rapporteur on extreme poverty and human rights, 16 November 2019, <https://undocs.org/A/74/493>.

UN (2020). United Nations E-Government Survey, available at <https://www.un.org/development/desa/publications/publication/2020-united-nations-e-government-survey>

Veale, M.; Van Kleek, M.; Binns, R. (2018). Fairness and accountability design needs for algorithmic support in high-stakes public sector decision-making. ACM' 18 Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, 1-14, <https://doi.org/10.1145/3173574.3174014>

Viseu, A., Cement A. and Aspinall J (2004). Situating privacy online. *Information, Communication & Society* 7:1, 92-114.

Voermans, W.; ten Napel, H.M. & Passchier, R. (2015). 'Combining efficiency and transparency in legislative processes' *The Theory and Practice of Legislation*, 3:3, 279-294, DOI:10.1080/20508840.2015.1133398.

Yates, S., Kirby, J. & Lockley, E. (2020) 'Digital-by-default': Reinforcing exclusion through technology'. In *Defence of Welfare* 2, 158-161, [http://www.social-policy.org.uk/wordpress/wp-content/uploads/2015/04/39\\_yates-et-al.pdf](http://www.social-policy.org.uk/wordpress/wp-content/uploads/2015/04/39_yates-et-al.pdf)

Yu, P. (2002). Bridging the digital divide. *Cardozo Arts & Entertainment Law Journal*, 20:1, 1-52.

Wei, L. & Hindman, D. B. (2011) Does the digital divide matter more? Comparing the effects of new media and old media use on the education-based knowledge gap. *Mass Communication and Society*, 14, 216-235.

World Bank. (2020). Data Catalog: Individuals using the Internet (last updated 19 June 2020), retrieved from <https://datacatalog.worldbank.org/individuals-using-internet-population>

WRR (2017). Weten is nog geen doen. Een realistisch perspectief op redzaamheid. The Hague: WRR, retrieved from <https://www.wrr.nl/publicaties/rapporten/2017/04/24/weten-is-nog-geen-doen>

Zalnieriute, M., Bennett Moses, L., Williams, G. (2019) The Rule of Law and Automation of Government Decision-Making, *Modern Law Review*, 82, 425-455, doi:[10.1111/1468-2230.12412](https://doi.org/10.1111/1468-2230.12412).

Case law:

Dutch Council of State, Administrative Jurisdiction Division (ABRvS), 13 December 2017, [ECLI:NL:RVS:2017:3419](https://www.ecli.nl/rvs/2017/3419)

Dutch Council of State, Administrative Jurisdiction Division (ABRvS), 22 January 2020, [ECLI:NL:RVS:2020:175](https://www.ecli.nl/rvs/2020/175).

Mexican Supreme Court (Suprema Corte de Justicia de la Nacion), Num. de Registro 2012921, Libro 35, Octubre de 2016, Tomo I, 699.