Contents

1 What is the Digital Divide?

Introduction: the concept of the digital divide

In the year 2020 both the concept of and the research into the digital divide will be twenty-five years old. In 1995 the term 'digital divide' was first used in a number of newspapers in the United States. It was backed by data in the report *Falling through the Net*, published by the National Telecommunications and Information Administration, which talked about 'haves and have nots' (NTIA 1995). Soon the concept spread to Europe and the rest of the world, and by the millennium both the idea and the problematic of the digital divide were firmly established on the societal and scholarly agenda.

But what does the concept actually mean? It has produced so many definitions, controversies and misunderstandings that several people were in favour of discarding it after a few years (Compaine 2001; Gunkel 2003). The most common definition runs as follows: *a division between people who have access and use of digital media and those who do not*. The term '*access*' was emphasized in the first years of discourse, though later the word '*use*' was highlighted.

A common synonym for digital media is the general term 'information and communication technology'. Access can refer to its devices, connections or applications. The first device to be accessed was a stand-alone computer or a PC, to be followed by a series of digital media, both mobile (mobile phones, laptops, tablets and smartphones) and digitized analogue media (television, radio, cameras and game devices). Connections mentioned were the Internet, mobile telephony and digital broadcasting, with either narrow- or broadcasting capacities. Finally, the applications of most interest were e-mail, search engines, e-commerce, e-banking and social-networking sites.

Before the concept of the digital divide, other terms were used, mostly related to the concepts of the information society and (in)equality: information inequality (Schiller 1981, 1996), knowledge gap (Tichenor et al. 1970) and participation in the information society (Lyon 1988). Access and use became linked to digital skills or literacy, motivation ('want-nots') and such outcomes as a democratic divide and an economic opportunity divide (Mossberger et al. 2003).

Table 1.1. Definitions of the digital divide

Type	Definition
General	A division between people who have access to and use of digital media and those who do not
Specific	• WHO (individuals vs. organizations/communities vs. societies/countries/regions), • with WHICH characteristics (*individuals*: income, education, age, gender; *organizations*: public or private ownership, size, sector; *countries*: developed or developing, urban or rural) connects • HOW (access, skills, usage) • to WHAT type of technology (computer, Internet, phone, digital TV)? (Hilbert 2011a)
Process	Divisions in the access to and use of four phases in the adoption of digital media: motivation, physical access, digital skills and usage

In this book I will offer my own framework of four phases of access and use of digital media in order to understand better the concept of the digital divide: motivation, physical access, skills and usage. A descriptive framework is offered by Hilbert (2011a: 19), who defines the digital divide by answering four specific questions (see table 1.1).

We will see that the focus of digital divide research is, first, on individuals and, second, on divisions between countries or within countries (urban and rural). There has also been attention paid to the individual demographics and characteristics of countries (rich and poor or developed or developing). The short history of the discourse below shows that the emphasis on 'how' runs from access to skills and usage. Finally, the technology in question has moved from PCs and dial-up or narrowcast Internet to hand-held computers, mobile devices and broadband Internet.

The dangers of a metaphor

The term 'digital divide' is a metaphor. A metaphor is a vivid figure of speech applying a word or phrase to something to which it is not literally applicable. In English, a *divide* is both a point or a line of division – a specific term indicating a geographical dividing line, such as a watershed. In other languages, *digital divide* is also defined in metaphorical terms, such as an opening (*brecha* in Spanish), a gorge (*Kluft* in German) or a fracture (*fracture numérique* in French). Thus the digital divide also indicates a social split between people in a divided society. Here the distinction *inclusion in or exclusion from society* is relevant.

The metaphor has also caused a number of misconceptions. The first misunderstanding is that the digital divide is a simple division between two clearly separated social categories. However, because in contemporary societies we exhibit an increasingly multifaceted social, economic and cultural variation, it is more helpful to see it as a range of positions extending across whole populations – from people having no access and use at all to those with full access and using several applications every day. If any delineation is required, a tripartite society might be a better definition than a two-tiered one. At one extreme we perceive an information elite and at the other the digitally illiterate or the fully excluded. In between are the majority of the population, having access in one way or another and using digital technology to a certain extent (see van Dijk [1999] 2012, 2000).

The second misconception is that this gap cannot be closed and that it will lead to structural or persisting inequality. It has been shown that this is not the case in terms of physical access to digital technology – a bridge that has been crossed in the developed countries. Bridging different skills and usage opportunities might be more difficult. However, in this book I will show that these differences can also be mitigated by sensible policies of governments, businesses, educational institutions, and consumers or citizens.

A third misconception is the assumption that the digital divide is about absolute inequality, as it is often framed in the concepts 'inclusion' in and 'exclusion' from society. In fact, all types of access to digital technology discussed in this book are relative distinctions. As different people have different degrees of motivation, physical access, skills and usage opportunities leading to different outcomes, as well as different levels of support, a relational and network view of inequality will be discussed.

A fourth danger of the metaphor is that it suggests a single digital divide. In fact the actual state of digital inequality is much more complex (van Dijk and Hacker 2003) and is linked to existing social, economic and cultural divisions in society.

Finally, the term '*digital*' suggests that the digital divide is a technical issue when, in fact, it is more of a social problem. Technical properties of digital media are important for access and use – they can be complicated or relatively simple – but the causes and effects of (in) equality are social. The digital divide is not brought to an end when everybody owns and commands the technology concerned. In this book I argue that the digital divide is here to stay even when all such problems are overcome.

Is the digital divide special?

Some people question whether the phenomenon of the digital divide is new or special. Society has seen the introduction of many problematical technologies. How is the introduction of digital media different from that of compulsory reading and writing in the nineteenth and twentieth centuries, for example? This question can be answered from several perspectives. We might look to the *innovation*, the acceptance and the development of new technology by individuals and societies. The phenomenon can also be framed in terms of *(in)equality*, when some people have more opportunities to adopt and use new technology than others. A third perspective is the effect of the introduction of this technology for people and society in terms of *participation* (see table 1.2): in which respects are people more or less included in or excluded from society?

In terms of innovation, acceptance and development, information and communication technology created after the Second World War was introduced relatively speedily, in about a generation. It was even called a 'digital revolution'. The majority of the population took to particular media and applications pretty quickly, first of all in the developed countries. The World Wide Web, created in 1993, was already in use in the vast majority of these countries after fifteen years. The uptake of social media, starting in 2004, showed the fastest adoption rate of any mass medium in history. About 2 billion people in the world became Facebook users in only ten to twelve years. The 'digital revolution' happened so fast that it is not surprising that large numbers of people, especially in the developing countries, lagged behind and so led to a digital divide.

The digital divide is framed primarily in terms of (in)equality. The question is whether it is special in this respect in comparison with former technologies or media. This depends on the aspect of (in)equality we are considering: as Amartya Sen asked, 'Equality of *what?*' (Sen 1992: ix). Is

Table 1.2. Perspectives on the digital divide

Perspective	Description
Innovation	Adoption or not of information and communication technology for progress or development
(In)equality	More or fewer opportunities to adopt and use information and communication technology
Participation in society	Inclusion in or exclusion from society by adopting and using information and communication technology

it (in)equality of opportunities, life chances, freedoms, capital, resources, positions, capabilities, skills? Unfortunately, the answer is not made clear in most books and articles about the digital divide. In this book I will refer to all of these aspects or expressions of (in)equality. A special characteristic of the digital divide in terms of (in)equality is that, more than was the case with former technologies, it touches every imaginable part of society. The main reason is that digital media are used in all types of activities in daily life, while for example reading books or newspapers and watching television are only mental activities (see chapter 6).

One of the main aspects of the digital divide is inequality of capabilities or skills. This is often linked to the concept of 'literacy'. We often read about a comparison between digital and traditional literacy. Is digital literacy different from the traditional literacy of reading and writing? There are many similarities between the two, but there also are differences in skills required (van Dijk and van Deursen 2014; van Deursen and van Dijk 2016). On the one hand, digital media simplify the finding of information – for example, using a search engine would seem to be easier than consulting a library catalogue or index cards. On the other hand, digital media are also more complicated: they require new and special skills in the use of search engines.

The third perspective of the digital divide is in terms of participation – whether individuals are included in or excluded from society in such domains as work, education, the market, community, citizenship, politics and culture. Is the access to and use of digital media more important for participation in these domains than the access to and use of print media, television, radio and the telephone? My answer in this book is that they are even more important. ICTs are general-purpose technologies. While older technologies are important for knowledge, entertainment or communication, digital media are used for every act, purpose or need in society. Increasingly, access to and use of digital media is needed to participate as a worker, entrepreneur, student, consumer or citizen, or in any other role in contemporary society. In this respect the digital divide is special too.

Is the digital divide a problem for society?

Nevertheless, it has to be demonstrated that people can no longer play any other role in contemporary society without using digital technology. In many ways, printed media, television, radio and the telephone are still working in apparently satisfactory ways. However, in this book we will see that, increasingly, access to and use of digital media is needed at least to enjoy all benefits in society. In most developed countries governments

Table 1.3. Perspectives of the digital divide as a problem

Perspective	Problem
Innovation and economic growth	Lack of innovation, development and economic growth of a country
Inequality and exclusion	Economic, social and cultural inequality and exclusion of people from society
Security	People without access are a security risk for society because they cannot be kept under surveillance by governments and by businesses.

expect that citizens have an e-mail address and access to the Internet. More and more jobs require digital skills at a particular level. You cannot take advantage of education without being able to use a computer and the Internet. Without using social-networking sites people may lose friends or contacts and miss invitations for parties and the like. A lack of fast digital connections may lead to people finding that concerts and festivals are sold out. So the digital divide is increasingly a problem for society. Here again the perspective is threefold (see table 1.3).

International institutions such as the UN, the International Telecommunication Union (ITU), the OECD and the World Bank frame the digital divide primarily as a socio-economic indicator for growth and development. Their reports reveal strong correlations between the number of Internet connections and ICT use in a country and its rate of development, innovation and economic growth (see a summary in the report of the World Bank (2016), with its telling title *Digital Dividends*). From this perspective, governments and international economic bodies and technical institutions (such as the ITU) see the digital divide primarily as a matter of economic policy and international competition. In developed countries, the digital divide limits the innovative capacity of an economy because a proportion of the population cannot keep up. In developing countries, it impedes economic growth and the capacity to keep pace with the developed countries.

The second perspective, which prevails in social and media or communication science, is a social one: (in)equality and inclusion in or exclusion from society. Here the main question is whether the digital divide is a byproduct of old inequalities or whether it is a new inequality. This is also one of the most important questions I ask in this book. Does the digital divide intensify existing inequalities or does it cause new ones? It is often claimed that inequality changes in the context of the information or network society (Schiller 1996; Castells 1996; van Dijk, [1991] 2001, [1999] 2012). Equality and inclusion are important norms in any social and liberal

democracy and in the perspective of equal global development. This perspective leads to the introduction of social, cultural and educational policies by governments and NGOs.

A third perspective is often ignored: the importance of the digital divide for security in society. However, as early as the first year in which the digital divide was discussed, an appeal was published for so-called universal access for all Americans to e-mail (Anderson et al. 1995). The argument was that those without e-mail access would become a security liability: the government should support e-mail access for all citizens not only to communicate with them but also to keep an eye on them. After more than twenty years of massive government and police surveillance of the Internet and other digital connections, this appeal now seems more urgent than ever. For example, a terrorist who uses only secret face-to-face conspiracy and old technologies such as bombs, trucks, knives and guns to kill people is a nightmare for the security organizations. This third perspective is now part of every security policy. Better a connection for all than no connection at all.

A brief history of the digital divide

The first-level divide: focus on physical access, 1995–2003

This brief history looks at the research or scholarly perspective of the digital divide and the societal perspective of media, politics and policy. Presumably, the *Los Angeles Times* journalists Webber and Harmon coined the term in their article of 29 July 1995 describing the social division between those who were involved in information technology and those who were not (Gunkel 2003: 501). A short time afterwards, the NTIA (part of the American Department of Commerce) popularized the term and supported it with census data, but at that time it used only the terms 'haves' and 'have nots'. The term spread both in the media and in American politics.

In 2001 the first, frequently cited scientific book about the digital divide appeared: Pippa Norris (2001) distinguished a *global* divide (industrialized and developing countries), a *social* divide (access of rich and poor individuals in each nation) and a *democratic* divide (those who do and those who do not use Internet resources for community engagement). Although her theory was much broader, she treated the concept of the digital divide primarily in terms of physical access, which means having a computer and an Internet connection. Norris framed the divide with reference to the diffusion of innovations theory. This theory, best known in the work of Everett Rogers ([1962] 2003), defines a number of groups who take up new