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The Third Digital Divide

A Weberian Approach to Digital Inequalities

Massimo Ragnedda

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Drawing on the thought of Max Weber, in particular his theory of stratification, this book engages with the question of whether the digital divide simply extends traditional forms of inequality, or whether it also includes new forms of social exclusion, or perhaps manifests counter-trends that alleviate traditional inequalities whilst constituting new modalities of inequality. With attention to the manner in which social stratification in the digital age is reproduced and transformed online, the author develops an account of stratification as it exists in the digital sphere, advancing the position that, just as in the social sphere, inequalities in the online world go beyond the economic elements of inequality. As such, study of the digital divide should focus not simply on class dynamics or economic matters, but cultural aspects – such as status or prestige – and political aspects – such as group affiliations. Demonstrating the enduring relevance of Weber's distinctions with regard to social inequality, *The Third Digital Divide: A Weberian Approach to Digital Inequalities* explores the ways in which online activities and digital skills vary according to crucial sociological dimensions, explaining these in concrete terms in relation to the dynamics of social class, social status and power. As such, it will be of interest to social scientists with interests in sociological theory, the sociology of science and technology, and inequality and the digital divide.

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Introduction

This book uses the theoretical framework developed by Weber to analyse the phenomena of the digital divide and digital inequalities in relation to social stratification.

The aim of this book is thus to sketch a concept of stratification and inequalities in the digital sphere, in order to clarify whether the digital divide simply extends traditional forms of inequality, or whether it also includes new forms, which might include counter-trends that alleviate traditional inequalities and/or which form new modalities of inequality. As we shall see, inequalities that exist in the digital sphere are certainly entangled with inequalities present in the social sphere.

The discussion will proceed from a theoretical perspective using Max Weber's theory of stratification in order to clarify how social stratification in the digital age is reproduced online. The main idea is that inequalities in the digital sphere are based on features that, just as in the social sphere, go beyond the economic aspects of inequality. To understand digital inequalities, the discussion should not focus only on class dynamics (economic aspects), but also status/prestige (cultural aspects) and group affiliations (political aspects). As in 'real life', social stratification in the digital sphere is the result of this complex interplay of three factors. These key distinctions Weber identified about social inequality are still significant in a digital age.

Thus, this book focuses on how online activities and digital skills vary according to crucial sociological dimensions, in order to explain these in concrete terms in relation to the dynamics of social class, social status and power. The Weberian approach, as I shall attempt to demonstrate, provides a richer understanding of both digital and social inclusion and exclusion that goes beyond a narrow class-based analysis. Furthermore, I shall discuss how the trajectories of citizens' lives – what Weber defined as 'life chances' – are affected by digital capital and Internet usage. Being on the wrong side of the digital divide may have seriously implications for individuals' lives and life chances. To put it differently, being excluded from the digital realm, or not being able to make a full use of the potentiality offered by information communication technologies (ICTs), may dramatically affect one's opportunities to gain access to valued outcomes.

The capacity, or by contrast the incapacity, to access restricted and limited resources, opportunities, privileged positions and rewards in society is at the base of social inequalities (Grabb, 1990). Such phenomena have always intrigued sociologists from all over the world, and several different approaches might be used to grasp the issue. For instance, a functionalist approach stresses the inevitability of inequalities and then attempts to explain their functionality for the whole of society. This sees a system of inequalities at the base of the division of labour (Durkheim, 1984), based on skills and meritocracy. The approach, often used by the New Right movement (Murray, 1990 and Saunders, 1990), stresses the idea that society is meritocratic and inequalities are necessary (Davis and Moore, 1945). It was also at the base of neoliberal policies in the UK (Thatcher) and in the US (Reagan) in the 1980s. Such policies have dramatically influenced the structuration of social inequalities.

Another common approach used in explaining social inequalities is the Marxist approach, which basically explains inequalities as both a cause and a consequence of capitalism and greed. The focus is on the economic factor and on the division of society into two main macro classes: bourgeoisie and proletariat. The first class will benefit the most from inequality by exploiting the proletariat. This exploitation is supported by the hegemonic process, namely the idea that the values of the ruling class are imposed as ideology upon a whole culture (Gramsci, 1971) or by the Ideological State Apparatus, namely the media, the family and the educational system (Althusser, 1989). Both these approaches might be used to explain social inequalities in the Internet age, and I shall briefly mention both of them throughout our discussion.

However, in order to explain digital inequalities, I shall mainly use the Weberian approach, for several reasons which I will make clear below. Often, Weber is seen in opposition to Marx. However, as noted by several scholars, the Weberian approach could be seen as a positive interpretation of Marx, elaborating a constructive critique and an extension of Marx's view (Gerth and Mills, 1958: 63; Sayer, 1991: 3–4). In the view of some, Weber may have 'spent his life having a posthumous dialogue with the ghost of Karl Marx' (Salomon, 1945: 596). The influence of Marx on Weber's theories is evident. However, the difference between these two authors becomes clear when discussing the theory of class: we may say that the Weberian theory of class is at the same time a distinct alternative to and a departure from Marx's theory. His approach seems more complex than Marx's, for whom economy and materialism comprise the base upon which social life is built. Although Weber is against this Marxist simplification, since he argues that social processes are always complex (Bendix, 1960: 6) and cannot be reduced to only economic factors, he often tends to discuss inequality and the concept of class in a 'Marxian voice' (Wright, 1997: 29–30). As Collins (1986: 37) notes, Weber was 'critically respectful' of the Marxist idea. Based on various sources and evidence, he proposed a modification of Marx and early Marxism.

To return to our theme, why is the Weberian approach appropriate here to understand the digital divide and related issues? I first started to think about

this book during the commemorations of 150 years since the birth of Max Weber (2014). I have always thought that a knowledge of the 'classic' fathers of sociology is important to understand and decode contemporary phenomena. My reasoning has been cleverly expressed by Italo Calvino (1999: 3), who suggests that 'a classic is a book which with each rereading offers as much of a sense of discovery as the first reading'. Weber's analysis of social structure could be seen in this light. Weber must therefore be considered a living thinker rather than an old and dead theorist, and he remains a leading influence in social science. Paraphrasing Calvino (1999: 5), Weber's classical approach has never exhausted all it has to say to its readers. Knowledge of his methodology and theoretical framework is still crucial to interpret and decipher the contemporary society in which we are living.

Weber's thought is a keystone in modern social theory and his thought is a deep reservoir of fresh inspiration. Of course, the social, political, economic and technological world which generated his view was completely different from the one in which we are living today. However, like the work of all classic thinkers, his theoretical analysis is still vividly alive and useful to understand the world today. Max Weber's mode of analysis can be highly stimulating in addressing social inequalities, usually described as the unequal distribution of opportunities, rewards, goods, wealth, education, healthcare and punishments for different socially defined categories of persons within a group or society. Each society exhibits inequalities among individuals and groups, the sedimentation of social history, which give rise to social strata in the practice of social relations, notably regarding access to social rewards such as money (class), prestige (status group) and power (political party). One of the challenges in this present work is to apply Weber's theoretical approach to digital inequalities. The question is how to use this approach to understand digital inequalities, and how to readjust and reinvigorate it in the completely different economic, social, cultural and technological context of our contemporary world.

So, once again, why might a sociological approach be used to study the digital divide? More specifically, why might we use a Weberian approach to study digital inequalities? First, sociologists are adept at examining inequalities as they exist in the world at large (Hadden, 1997); this is relevant for the digital divide because it deals with the inequalities that exist in the digital sphere. Second, the digital divide should be seen as a social rather than a technological issue, and as such should be understood through sociological eyes. What is interesting and odd at the same time is that, although the digital divide and digital inequalities are fundamental aspects of social inequity in the information age, they have received less sociological attention than they should have done. Of course, a lot has been done, for example in the work of DiMaggio *et al.* (2001), Witte and Mannon (2010), Van Dijk (2005), Stern (2010), and Ragnedda and Muschert (2013), but a lot more is possible. Much more, indeed, should be understood and learned about how such inequalities are produced and reproduced in the digital realm. More importantly, much

more should be done to explain how social and digital inequalities are intertwined and how they mutually and reciprocally influence each other.

This book, despite all its limitations, attempts to fill this gap in the literature, proposing a specific approach to study digital inequalities: a Weberian perspective. The key theoretical questions this book is going to investigate are:

- How does the digital divide influence social stratification, and, reflexively, how does social stratification influence the development of the digital divide?
- Is the digital divide creating new forms of social exclusion, such as forms of digital discrimination or digital exclusion?
- Do traditional forms of inequality simply replicate themselves in the digital sphere, or does the digital divide operate under its own dynamics?

In order to attempt to provide answers to these fundamental questions, I think Max Weber's theory of stratification offers the best perspective. Analysing, from a theoretical point of view, how social stratification in the digital age is reproduced not only by class dynamics (economic aspects), but also by status/prestige (cultural aspects) and in group affiliations (political aspects), is useful for a better understanding of digital inequalities. The digital divide should not only be approached from the point of view of economic structure (within the state and between states); we should also consider the broader axes of stratification, such as the social conditions of stratified relations, in order to understand the influence of class, status and power in creating the digital inequalities identified as the basis of digital discrimination. A nuanced approach to digital inequalities might also include aspects of social stratification in the digital sphere which relate to differential rewards experienced by different status groups and individuals in such areas as market influence, political power and social status/prestige. It should reflect also on the fact that Internet use tends to reproduce online particular attitudes towards consumption or other distinctive lifestyle markers. These elements, as we shall see, characterize distinctive status groups, even in the digital realm.

My discussion of how the digital divide influences social stratification, and, reflexively, how social stratification influences the development of the digital divide will reveal the bi-directional nature of influence between social and digital inequalities which mutually and reciprocally influence each other. I shall address the digital divide in broad terms, attempting to explain why online inequalities are reproducing social inequalities, rather than mitigating them.

This is therefore a book about inequalities and how they are reproduced online, what social consequences they have, what patterns they follow, and what relations they have with offline inequalities. More specifically, it is about the multidimensionality and complexity of the digital divide, and the need to go beyond the binary division between those who access and those who do not access the Internet. This polar division is what is called the 'first level' of digital divide. Scholars and researchers, as we shall see, have also addressed

the second level, which includes digital skills and purpose and autonomy of use. These elements make using the Internet a qualitatively distinctive experience, and underline its inherent inequalities. However, this book is focused on what I shall define as the third level of digital divide, namely the benefits that one gets from different access (first level) and different use (second level) of the Internet, and the ability to exploit these benefits in a digital-driven market to improve one's life chances.

As we shall see, individuals' access to and use of ICTs are shaped by the social structure (in Weberian terms) of which they are part. Hence, this book focuses on the third level of digital divide, the life chances that the access to and use of ICTs might give to users/citizens in the offline realm. This book looks at the social consequences of the use of ICTs and the rise of digital stratification. It is less concerned with how we access online resources, and more with the interrelations between online and offline, digital and social inequalities. This approach does not intend to deny the importance of the first level of digital divide, nor that of the more sophisticated second level; however, it holds that the third level is more interesting because it includes both the first and second levels and adds a further dimension. To put it differently, this book is more interested in the vicious circle between social and digital stratification than with digital skills and digital access. The purpose is to explain not only the antecedents of inequality that might affect access to and use of the Internet, but also the opportunities to improve life chances that are provided by such access and use. This analysis will be done through the Weberian lens, applying the multidimensional approach of social stratification to the study of digital inequalities, and analysing how different access to and use of the Internet affect the life chances of individuals.

I think that to broaden the scope of studies in digital inequalities, a new analysis based on Max Weber's would be useful in order to open up a new set of questions about the social stratification of the digital sphere. The goal is to identify digital stratification and digital inequalities, and read them through a Weberian lens. Acknowledging the complexity of the situation, I adapt Weber's perspectives on stratification to the dynamics observed in contemporary digital spheres. Thus, this book clarifies the importance of studying the phenomena of the digital divide from a sociological perspective. The core idea is that social inequalities represent an issue typically studied by sociology, and that the Weberian approach is pertinent and useful in order to shed light on this subject. With this idea in mind, I shall explore from a theoretical point of view the social inequalities prevalent in the age of the Internet, going beyond the economic role of social class to focus on the broader dynamics of stratification described by Max Weber. The key distinctions Weber identified about inequality continue to be relevant in a digital age, although this perspective has thus far remained underdeveloped. My aim is thus threefold: 1) to initiate a scholarly discussion of the importance of class and group affiliation in a postmodern society, specifically in relation to digital inequalities; 2) to explore the importance of status groups in digital participation/exclusion; and, 3) to

explore the influence of group affiliation (relating to Weber's notion of 'party' or political power) on digital participation/exclusion.

Overview of the book

In the first chapter, I shall explain why the digital divide cannot be reduced to a specific, solid or static condition, and should instead be analysed in relation to the social inequalities that exist in the offline world. In other words, I will argue that digital inequalities must be understood in the cultural, social and political context in which they emerge. Indeed, is impossible to analyse the rise and diffusion of the digital divide and digital inequalities without taking into account cultural, social, technological and political processes. Rather, it can be done (and has been attempted by several scholars and researchers), but the eventual picture will remain partial and incomplete. More importantly, the digital divide cannot be reduced to the basic and partial conception of access to digital technologies (Hargittai, 2002, 2010; Van Deursen and Van Dijk, 2009), but should also embrace different ways of using the Internet. There has been a change of perspective in the analysis of the digital divide, shifting from the first level to the second; however, as stated, this book shall focus mainly on the third level of digital divide, which shall be introduced in the first chapter. The shift from the first level to the third level will be described in the first chapter. The chapter shall start with an overview of the evolution of the Internet, evaluating the main theoretical approaches in analyses of the rise of the digital divide carried out by policy makers and scholars in earlier studies.

Once the main issue has been outlined, in the second chapter I shall explain why Weber still matters, and why this book uses a Weberian theoretical framework to analyse the new phenomenon of digital inequalities. In this chapter, I shall attempt to explain the relevance of Weber – who never knew the digital revolution – in understanding contemporary problems. I shall try to explain how the Weberian approach to social stratification, formulated more than a century ago, can be used as a lens to study digital inequalities. Moreover, vital concepts such as power, rationality, the 'iron cage', domination and life chances will be introduced in this chapter in order to orientate the subsequent chapters. All these concepts will be analysed in connection with the digital divide. This core chapter will give the reader a theoretical and empirical grounding in Weber's thought, and describe the application of his theories to the digital divide. Furthermore, in this chapter I shall briefly underline the main differences between Weberian, Marxist and Durkheimian approaches in analysing social inequalities. These approaches have dominated the debate among sociologists (Ashley and Orenstein, 1995), and even beyond the discipline (Adams and Sydie, 2001); I shall briefly outline how these classical approaches (and subsequent scholarly traditions) can be used in order to understand and explain the inequalities of the age of the Internet.

In the third chapter I shall discuss the relationship between offline patterns of social inequalities and digital inequalities. More specifically, I shall apply

Weber's three dimensions of stratification to the digital divide and social inclusion and exclusion among users. As we shall see, several scholars (e.g. DiMaggio *et al.*, 2004; Van Dijk, 2005) have underlined a positive connection between social and cultural factors, digital resources and advantages in using digital technologies. However, what is missing is a more nuanced and comprehensive theoretical approach to investigate digital inequalities. I firmly believe that the Weberian approach provides a deeper understanding of where social and digital inequalities may lie. In this chapter, I shall use the social structure analysis proposed by Weber in *Economy and Society* (1978) (discussed in detail in the second chapter) as the platform to examine digital inequalities. The aim here is to understand the relevance of social class, status group and political party in shaping digital inequalities and creating forms of digital stratification. Furthermore, I shall discuss the relationship between offline patterns of social inequalities and digital inequalities. Weber's three dimensions of stratification provide a framework to analyse social inclusion and exclusion among users. The Weberian approach explains how specific social hierarchies and social stratifications associate with different digital capital and practices to produce new forms of inequality. As we shall see, citizens' cultural, economic and political backgrounds are related to what they do online but also to their digital skills. Does this mean that the digital sphere is structured like the social sphere? Is it possible to argue that the digital sphere is stratified? If so, does this mean that social and digital stratification follow the same patterns and reproduce the same hierarchies? This chapter attempts to answer these theoretical questions.

In the fourth chapter, I shall attempt to investigate the concept of life chances and how these play out in the market situation (whether finances/materials markets or markets of ideas). How do digital relations (or exclusions) affect life chances, and how does digital stratification affect life chances and individuals' possibilities to improve their lives? Weber's concept of 'life chances' was intended to refer to individuals' opportunities to gain access to scarce and valued outcomes (1978: 302); it has been further developed by Giddens, who has called life chances 'the chances an individual has for sharing in the socially created economic or cultural "goods" that typically exist in any given society' (1973: 130–131). Such 'goods' are increasingly produced and reproduced online. Different online experiences provide different capacities and opportunities to produce economic and cultural goods to be invested in the digital-driven market, potentially to improve one's life condition.

The aim of this core chapter is to investigate the extent to which new digital technologies offer new opportunities to improve people's social lives. The Internet's ability to transform lives remains crucial, and access to it can open doors to important societal resources, such as education, healthcare and food, hence improving people's quality of life. Weber argued that it is the market which regulates the life chances enjoyed by individuals; here, however, I argue that, in a society increasingly organized via digital networks, life chances are determined not only by the market but also by digital skills, motivation and

capital resources. We shall see how what I shall define as 'digital capital' strongly influences not only individuals' capacities to use the Internet and find valuable information, but also how they use these capacities in order to improve their life chances. Again, the chapter will make clear the intertwined relationship between social inequalities and digital inequalities, and how they mutually and reciprocally reinforce each other.

Just as Weber moved beyond the distinction between property owners and non-owners to also focus on particular skills, lifestyles and other assets, in a digital society we should set aside the distinction between those who have and those who do not have access to the Internet in order to develop a social theory of digital inequalities integrated in social structures. As Weber stated, all skills and assets only have value in the context of a market; the same is true of digital skills and digital capital, which strongly influence individuals' life chances and their ability to improve their quality of life.

In the final chapter, I want to draw together the threads of my argument regarding the rise of digital inequalities and the analysis of these phenomena from a sociological perspective. Furthermore, I shall give some indications for further research which may be of interest to researchers as well as policy makers seeking ways to tackle the digital divide.

1 The evolution of the digital divide

> 'That our children will never be separated by a digital divide'
> (Al Gore, 10 October 1996, Knoxville, Tennessee).

This sentence, pronounced by Al Gore in Knoxville, Tennessee, at a 1996 conference on the digitization of American society, represented one of the first times the issue of the digital divide was raised publicly. Very soon, the phenomenon acquired a global dimension, going far beyond the American boundaries and becoming a prominent topic on public and private agendas all over the world. With the emergence of the Internet and the network society (Castells, 1996; Van Dijk, 1999), it quite soon became clear that access to new digital technologies was not distributed equally across the population. Access to knowledge quickly became a necessary requirement for the exercise of power in social, political and economic environments. Scholars and policy makers started to realize that not having such access meant being at the margins of a society increasingly based on the exchange of information. Inequalities in access to such information would eventually create a divide across the population.

The term 'digital divide' emerged to describe inequalities in access to the technologies of the so-called information society. While the rise of new ICTs was seen at the beginning as an opportunity for freedom of information, and to level up existing inequalities (Rheingold, 1993; Negroponte, 1995), very soon the other side of the coin became clear, namely that access to and use of ICTs would give an advantage to specific citizens/users (Resnick, 1998; Hargittai, 2000, 2003). Fast-moving technological transformations have involved only a minority of the world's population, effectively excluding those who do not live in the developed world and those who are not part of the global economic elite. According to the World Bank, in 2016 almost two billion people still have no contact with digital technologies and only 15 per cent of the world's population has high-speed Internet access (World Bank, 2016).

This despite the fact that access to the information society and the Internet has been seen as a fundamental human right since the first decade of the 2000s. The World Summit on the Information Society, held in Geneva (2003) and then in Tunis (2005), led the members of the United Nations to take a step forward on the road of the information society to protect and safeguard

human rights. In these summits, communication was defined as a fundamental social process, a basic need of humankind and the foundation of all social organizations. Furthermore, it was stressed that all human beings should have the opportunity to participate in the information society and no one should be excluded from its benefits. The entire spectrum of human activities depends, in one way or another, on how we access, distribute, generate and process information. Therefore, being excluded from the *e-society* means being excluded from *society*.

Access to and use of ICTs in a digital-enabled society represent a prerequisite for economic and social development. They are, to an extent, the equivalent of electricity in the industrial era. Kofi Annan, during his mandate as General Secretary of the UN (1997–2006), several times highlighted the necessity to implement the necessary infrastructure, especially telephone lines, all over the world. In August 2015, the United Nations Development Programme reached agreement on the *Post-2015 Development Agenda*, which included robust recognition of the role played by ICTs in creating a better world. In a report entitled *Transforming Our World: The 2030 Agenda for Sustainable Development*, the UN recognized that the Internet plays a vital role in the overall development context. The outcome document of the United Nations Conference on Sustainable Development, entitled 'The future we want', set out a mandate to establish an open working group to develop a set of sustainable development goals for the UN. Nineteen goals were set, and in goal number 9 we can read: 'Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020' (UN, 2015: 15). It is vital to acknowledge that the United Nations includes the Internet in its goals for resolving the most persistent social and economic challenges of our time, acknowledging its critical role in enabling access to essential public services, creating jobs and opportunities, advancing human rights, ensuring government transparency and accountability, and expanding democracy.

This indicates a 'techno-approach' to bridging the digital divide, mainly based on accessibility and lack of it. As we shall see throughout the discussion in this chapter, however, reducing the digital divide to a simple matter of accessibility means limiting oneself to a superficial picture of a much bigger issue. In such a perspective, gaps and inequalities essentially refer to the difficulties encountered by certain social categories or entire countries to access and use technologies. But even in countries where access to the Internet is relatively widespread and well distributed among social strata, it is misguided to expect the development of equal opportunities among users. As we shall see throughout the discussion in this book, citizens access the Internet not as a *tabula rasa* (blank slate), but on the background of their own social, economic, cultural, political and personal capital; they tend to reiterate online their values, cultural norms and lifestyles, thus reinforcing the existing social stratification.

My aim in this first chapter, however, is to socially contextualize the rise of the digital divide and the advent of digital inequalities by examining the

evolution of research in this area from the first stage to the third. To begin with I shall draw on some of the most important studies that have been carried out on this topic. In the light of their ideas, I shall attempt to clarify the complexity and multidimensionality of the issue, which is often oversimplified by policy makers and reduced to a mere problem of physical access. My research, as we shall see, underlines the necessity to study the digital divide in relation to the social, cultural, economic, political and historical context in which it is generated. Moreover, there is a necessity to study how differences in access to and use of ICTs will in turn influence the socio-cultural framework. In short, what I shall stress throughout the book is the importance of studying the digital divide and digital inequalities from a sociological perspective. Sociology, indeed, more than any other discipline, is designed to address the issue of inequality in society, its pervasiveness and omnipresence. More specifically – and this shall be the focus of the next chapter – I shall use the Weberian lens, mainly because Weber's multidimensional analysis of social stratification is a valuable theoretical tool to understand the digital divide. One of the ideas leading our discussion is that the digital divide is essentially a social issue, and should therefore be analysed using sociological eyes.

In the second section of this chapter, I shall focus on the shift from the first level of digital divide to the second in order to clarify the multidimensionality of our topic. Drawing on a wide range of authors who have analysed this phenomenon in the last two decades, I shall underline the evolution and the complexity of the issue. We shall see how researchers and scholars have moved their focus from inequalities in access to inequalities in use, going beyond the dichotomous division of 'have' and 'have not'. We shall see how the apparently simple matter of 'accessibility' is in reality a complicated and multidimensional phenomenon. Finally, this chapter shall introduce the third level of digital divide, which will be analysed in depth in Chapter 3 and 4.

The rise of the digital divide

It is useful to explore, albeit briefly here, the rise of the digital divide and how it has been approached and analysed by both scholars and policy makers. I shall start by attempting to define the digital divide taking into account its complexity. Second, I shall discuss the rise of this issue as a social and public concern, going beyond questions of technological infrastructure and economic issues. I shall end this section by highlighting some of the difficulties and challenges that those wishing to analyse this phenomenon from a multidimensional perspective might encounter.

Attempting to define the digital divide

The digital divide first gained prominence as a policy issue thanks to reports released by the US Department of Commerce's National Telecommunications and Information Administration (NTIA). The first report was released in July

1995, entitled, 'Falling through the Net: A Survey of the "Have Nots" in Rural and Urban America'; a second was released in July 1998, entitled 'Falling through the Net II: New Data on the Digital Divide', and a third report in July 1999, entitled, 'Falling through the Net: Defining the Digital Divide'. Based on these reports, the issue came to be included on academic and political agendas in the US. They refer to the socio-economic gap between communities with access to computers and the Internet and those without, in one of the first attempts to define the digital divide.

At this early stage of its development, the concept of the digital divide tended to be seen as the gap between those with access to new technologies and those without (Hoffman and Novak, 1998; Katz and Aspden, 1997). Thus, in its most simplistic terms, the digital divide was defined as a form of inequality in access to new ICTs, and in particular to the Internet (Besser, 2004). This approach, taking for granted the availability of a telephone line, distinguishes between those who have a personal computer and a modem, and then can access the Internet, and those who, not having this technology, remain cut off from its possibilities. Such a definition is rather narrow; as we shall see later, this is highly problematic (DiMaggio *et al.*, 2001; Selwyn, 2004), as the definition fails to understand the multidimensionality of what it means to be connected (Warschauer, 2002). It may be useful in analysing the diffusion of the technology, but is inappropriate if the aim is to analyse and understand the social consequences of this diffusion (Jung *et al.*, 2001). In other words, this approach can describe the penetration of a specific technology in a given society at a given specific historical moment, but it is useless to analyse the social, cultural, political and economic inequalities at the base of the differences in using and accessing the Internet. Moreover, it cannot address how such differences influence pre-existing social inequalities.

Before digging deeper into the change of perspective in analysing the digital divide, let me briefly dwell on its historical evolution. Although the digital divide is a recent phenomenon, it involves complex issues linked to the development of computer technology and the Internet. Information distributed by such technology is at the base of political, personal, cultural, social and economic advantages. Accessing, using and managing such knowledge may generate significant advantages. This is in line with Crampton (2003), who writes that the digital divide should be understood as the unequal access to knowledge in the information society:

> There are at least three senses of knowledge: to know with (access to tools), to know what (access to information), and to know how (how to use these tools) … the geography of the digital divide addresses how the relationship between this knowledge and space is uneven across multiple scales.
>
> (Crampton, 2003: 142)

In a short time, research on the digital divide has 'created its own literature and [has] gained the reputation as a legitimate academic field' (Wang, McLee

and Kuo, 2001: 323). However, because of its complexity and multi-dimensionality there is no clear definition of the phenomenon, at least, not one that is commonly accepted. Let us dwell on this problem for a moment, and rethink the object of analysis.

It must be noted that any attempt to define the digital divide must be flexible and versatile, and acknowledge the changes and opportunities brought by new technology and the Internet. This is why there is no commonly accepted definition (Epstein *et al.*, 2011; Stevenson, 2009; Vehovar *et al.*, 2006).

Access to the Internet alone cannot determine how much value users gain from the Internet (Devaraj and Kohli, 2003; Astebro, 2004; Zhu and Kraemer, 2005). What is missing in the earlier research is not only a nuanced theoretical approach, but above all any attempt to analyse digital inequalities and their social implications. Empirical and pragmatic approaches are mainly focused on access (or lack of it) to ICTs. This initial binary approach (access/no access), was and in some ways still is crucial to establish the background of diachronic and synchronic ICTs development in Western societies. The binary approach to the digital divide led to several concerns being raised in society, such as the concept of 'digital apartheid', a term coined by Colin Powell, a former US Secretary of State:

> We hear much today about the 'digital divide' … When I address this issue I use an even stronger term: digital apartheid … This is true in America and in the rest of the world … If digital apartheid persists, we all lose. The digital have-nots will be poorer, more resentful of progress than ever and will not be able to become the skilled workers or potential customers that are needed to sustain the growth of the Internet economy. So the private sector is eager to tear down the wall between the digital haves and have-nots.
>
> (Powell, 2000)

However, as we shall see below, this dichotomy of 'haves' and 'have nots' in this context is ineffective to describe a phenomenon that is no longer based only on the possession of technology or simple access to it. As Min (2010: 24) has rightly observed, users have different ways of accessing ICTs, and 'these multiple layers of access and use are often determined by a variety of factors that include not only socio-economic and demographic elements, but also physical, psychological, cultural, and ecological factors'. Hence, the term digital divide could be misleading, because it suggests a gap-dimensional or a polar division, whereas there exist multiple dimensions of differentiation due to several degrees of technical access, independence in mastering devices and digital skills (Hargittai, 2002). To grasp these differences, sociologists started to focus on the social and political implications of ICTs and how they could contribute towards reducing or increasing social inequalities. In recent years

the theoretical panorama has expanded, increasingly adopting a multidimensional perspective able to consider multiple variables and agents in the structuring of digital inequalities (DiMaggio *et al.*, 2004). This approach, identifying different degrees of inclusion in the information flows based on the ability to access and manipulate resources transmitted by the network, is capable of considering the digital divide as a hierarchical concept relating to different kinds of use of ICTs.

According to Attewell (2001), we have moved from the first level (mainly based on access to the Internet) of digital divide to a more sophisticated and multidimensional second level (based on the disparities in computer and Internet use). In other words, not only the material access to the Internet is taken into consideration, but also the different uses of it. This perspective is now acknowledged also, but not always, by policy makers. One of the most commonly accepted definitions is now that given by the OECD (2001: 5), which defines the digital divide as 'the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities'. This definition clearly includes differences in use of the Internet. Such differences are at the base of the second level of digital divide, which clearly addresses the communication competences and creative and instrumental skills (Correa, 2010; Hargittai and Walejko, 2008; Van Dijk, 2006) that give different experiences of ICTs. However, the OECD's definition still insists on the metaphor of 'the gap', and does not take into account either the influence that pre-existing socio-economic inequalities have on digital inequalities, or, conversely, how digital inequalities influence the social structure.

The evolution of the digital divide

It is impossible to identify with any certainty the person who coined the term 'digital divide', or even used it for the first time. Reconstructions of the term's use often refer to very different situations and meanings. For instance, Moore, in 1995, used it to distinguish attitudes of euphoria or pessimism towards technology. Gore, in 1996, used the term to indicate the different opportunities for students to access and use personal computers at school. Stewart (1997) and McRae (1998) referred to the digital divide in relation to technical problems linked to the incompatibility between analogue and digital networks of mobile phones, television and satellite broadcasting.

In the meantime, the concept has been used to discuss other possible distinctions based on the different abilities of individuals to use this innovative information tool in an effective manner. This has widened the term's possible meanings, beginning a shift away from its first definitions. The digital divide has started to be seen as 'a moving target', acknowledging the difficulty of studying such a flexible and fluid phenomenon and the necessity of a constant process of reconceptualization in this context (Gunkel, 2003: 505).

Researchers have realized that the phenomenon of the digital divide does not relate to a single type of 'gap', but instead is intertwined with a constellation of social, economic and technological issues, and, in turn, its own definition changes continuously, depending on the evolution of technology with which it is inexorably linked. Differences in accessing and using ICTs, and specifically the Internet, are not merely technologically or economically contingent, but are also based on different cultural, social, personal and political capital. That is, such differences not only mirror the social strata, but also produce different outcomes (in terms of knowledge and life chances) that reinforce the pre-existing social strata.

The idea underpinning this book, as we shall see, is based on a third level of digital divide: the social and cultural benefits deriving from accessing and using the Internet. In other words, the book's main purpose is the analysis of the offline returns of accessing and using digital technologies, attempting to understand who gains the most advantage from the Internet. This analysis will follow the Weberian approach in analysing social stratification.

As we have seen, the term 'digital divide' was used initially by both scholars and policy makers to refer simply to the dichotomous distinction between those who had and those who had no access to the Internet. However, access to computers and the Internet should not be confused with inclusion in the information society (Servon, 2002). Soon after the fading of the initial euphoria surrounding the rise of ICTs and specifically the Internet, which was seen as a tool to reduce inequality that could help people to find a job and gain capital (Anderson *et al.*, 1995), it become clear that users with more information skills, more resources, and more social and economic capital would gain greater advantages than others, despite the potential democratic features of the Internet (Norris, 2001; DiMaggio *et al.*, 2001; Castells, 2004; Rogers, 2003). These inequalities opened up new dimensions of social segmentation, interwoven with traditional cultural and social inequalities and potentially reinforcing them. It soon became clear that the digital divide is a phenomenon relating to complex issues that involve all aspects of community life, in economic, political, cultural and social arenas.

Consequently, scholars attempted to analyse the potential social and economic consequences of lack of access. May *et al.* (2004: 7–8) describe the first emergence of concern among social scientists and public administrators around 1995, when only about 3 per cent of Americans had never used the Internet (according to estimates by the Pew Center, 1995). It was at this time that the digital divide started to be analysed in more depth in the United States, and policy makers started working on improving universal access to information. The data were showing that some social strata tended to use the Internet more than others. Such social strata advantaged in using and adopting ICTs were mostly correlated with the social segments that had higher incomes and better access to education and other resources (Hoffman

and Novak, 1998, 2001; Benton Foundation, 1998; Strover, 1999; Bucy, 2000). As Hilbert (2010: 7) notes, 'it is inevitable that incessant technological processes will continuously reintroduce new inequalities that are caused by new technologies. Each new technology diffuses through the social network once again, creating a new divide every time'.

This view is related to the concept of 'technological repercussion', as introduced by Max Weber. In Weber's words, 'technological repercussion and economic transformation threatens stratification by status and pushes the class situation into the foreground' (1978: 938). Some researchers (Kuttan and Peters, 2003) have suggested that technological repercussions may affect equal opportunities in social, political, economic and even educational fields, thus further increasing social inequalities. These unequal opportunities, determined by the different degrees of use and appropriation of technologies, influence the stratification of society, as I shall discuss in the following chapters.

The telephone approach

The telephone approach mainly focuses on the cost and diffusion of technologies, reducing the phenomenon of the digital divide to a technological and economic issue. The main problem with this is that the focus is limited to the techno-economic variable, such that the overall socio-cultural, personal and political framework is missing. The result is a partial and unclear picture of what is a complicated issue. However, initial approaches to the problem were influenced by this technological approach, reflecting the influence of traditional public policies on the universal spread of the telephone. In the US, for instance, the federal agency responsible for monitoring the spread of access to the online network was the National Telecommunications and Information Administration (NTIA), the same body that was responsible for the telephone network. The goal of universal access, enunciated in the Communications Act of 1934, was echoed in the Telecommunications Act of 1996, which mandated the FCC (Federal Communication Commission) with the same objective of high levels of penetration for new advanced telecommunications services (Neuman *et al.*, 1998; Leighton, 2001; Di Maggio *et al.*, 2004).

It was precisely on the basis of the 'telephone approach' to the spread of the Internet (May *et al.*, 2004) that the NTIA supported a series of 'Current Population Surveys' in 1995, 1998, 1999, 2000, 2002 and 2004. These studies served to trace the most important intergroup differences related to the spread of access, seen as 'the process by which an innovation is communicated through certain channels over time among the members of a social system' (Rogers, 2003: 5). These intergroup differences at the base of Internet diffusion were: geographic location, employment status, income, education level, membership ethnicity, age, gender and family structure. The studies showed that low-income people, elderly adults, women and racial minorities had the

lowest rate of computer ownership and Internet access. Other research has also revealed that broadband subscription in the US is strongly correlated with education, household income (Chaudhuri *et al.*, 2005) and gender (Horrigan and Rainie, 2002). Also in the UK, the adoption of new ICTs has been associated with socio-economic variables (Yogesh and Banita, 2007). However, the adoption of ICTs is more likely to be associated with an unequal demographic profile in its early stages (Horrigan and Rainie, 2002; Chaudhuri *et al.*, 2005; Yogesh and Banita, 2007).

The mentioned research underlined a clear correlation between social inequalities and the digital divide (at this stage mainly seen as a gap in access to the Internet). The studies were among the first attempts to analyse how social strata influence access to the Internet.

However, it is important to stress that research has now moved beyond the dichotomous approach in analysing the digital divide. The next section shall discuss this in detail.

Digital inequalities: Beyond the binary division

Approaches to analysing the digital divide have been reformulated and addressed in different ways over time (Sparks, 2013; Van Dijk, 2006). The Internet 'means different things to different people and is used in different ways for different purposes' (Selwyn *et al.*, 2005: 7). The literature went beyond the simple binary divide between Internet haves and have-nots (Hargittai, 2000, 2002; Norris, 2001; DiMaggio *et al.*, 2001; Castells, 2004; Rogers, 2003; Barzilai-Nahon, 2006), including other variables that may exacerbate digital inequalities and digital exclusion. Indeed, the initial dichotomous approach to the digital divide has become obsolete in an era characterized by widespread use of the Internet (Tondeur *et al.*, 2011). It seems more appropriate to analyse the phenomenon in relation to the quality of usage (Benkler, 2006), the capacities and digital skills of citizens with different socio-economic backgrounds (Hargittai, 2002, 2010; Van Deursen and Van Dijk, 2009), and the different ways in which ICTs are used (Hargittai and Hsieh, 2010). Inequalities in using the Internet are influenced by several factors, which Warschauer (2003) has grouped into four categories: human, physical, digital and social resources. These resources, according to Warschauer (2003), shape the way users engage with technology. It is on these resources, rather than only the technological aspect, that the analysis of digital inequalities has begun to focus. While the gap in access to the Internet has progressively declined in the course of the last decades (in Western societies, at least), the benefits derived are not commonly experienced by all users (Attewell, 2001; Howard, Busch, and Sheets, 2010; Ono and Zavodny, 2008) and technological usage results in an increasing divide (Hilbert *et al.*, 2010).

Van Dijk (2005) and Van Deursen and Van Dijk (2013), for instance, focus on numerous divides, including in ICT skills, physical aspects, motivations and purpose of use. These should be seen in addition to the 'simple' access (or

lack thereof). As Van Dijk (2005: 3–6) writes, the metaphor of the digital divide suggests a division between two dichotomous groups that can be clearly determined, while in reality it is possible to observe different degrees of e-inclusion and use of ICTs. The digital divide is a complex problem that is interwoven with existing processes of social differentiation. Such a complex and sophisticated phenomenon cannot be analysed only from one point of view (access), reducing it merely to technological and economic factors. The risk in using such an approach to bridge the digital divide is that the focus is restricted only to structural problems related principally to the diffusion of this technology, which could be solved (albeit not perfectly) through cheaper and faster access for everyone.

As already underlined, analysis of the digital divide must involve several aspects related to social strata. Scholars have disaggregated several aspects of online access and uses (DiMaggio *et al.*, 2004; Selwyn, 2004; Van Dijk, 2005; Witte and Mannon, 2010), underlining that the digital divide is a multi-dimensional and multifaceted problem, and that a polarized vision cannot encompass all the social implications and variables involved. Van Dijk (2005) analysed the confusion between absolute and relative inequality as one of the most significant clichés around the concept of the digital divide. Rather than an absolute divide between those who can access and those who are excluded from the digital realm, Van Dijk (2005: 4) states that:

> most inequalities of access to digital technology are of a more relative kind. This means that some people are earlier or faster than others in accessing new technologies; that some people possess more hardware, software, and skills than others; or that one group uses the technology more or in different ways than another.

The digital divide was first presented as a matter of absolute inequality, in black and white terms, although different sizes of differentiation with different intensities exist in the digital realm. We should remember that not all technological innovations are equal, since some citizens/users may have more capacity/skills/motivation/interest than others in accessing and using such technologies. As several studies have suggested, digital inequalities, in terms of political participation, healthcare and education, are intertwined with already-existing social inequalities (Bimber, 2000; Cavanaugh, 2000; Fox, 2001; Guillén and Suarez, 2001; Schmid, 1996; Schneider, 1996; Skinner, 1997; Tambini, 1999; Tate *et al.*, 2001; Warschauer, 2003). Approaches that go beyond the dichotomous division therefore tend to tie digital inequalities to social inequalities (DiMaggio *et al.*, 2004; Sparks, 2013).

Furthermore, digital inequalities not only reproduce but also exacerbate social inequalities. Thus, unequal access to economic, social, cultural and personal resources affects engagement with ICTs (Helsper, 2012; Van Dijk, 2005). Since such inequality might limit or enhance citizens' social, economic, political, personal and cultural capital, it might also affect their ability to

access fundamental sources of information and to participate in society (Van Dijk, 2005; Witte and Mannon, 2010; Ragnedda and Muschert, 2013).

The digital divide, therefore, has become a social problem rather than a merely technological one. It should be discussed, understood and approached as a social issue, and all its social consequences should be properly investigated, 'since the digital divide is directly associated with users' characteristics [and] the potential ICT adoption depends on and embodies to some extent the society's disparities' (Stiakakis *et al.*, 2010: 43). We need to understand society's inequalities in order to fully appreciate the complexity of this issue. Here, the sociological approach in general, and the Weberian approach in particular, is vital, placing the focus on the disparities that give rise to social strata. The approach can be used to address not only how social strata influence access to (first level of digital divide) and use of (second level) the Internet, but also how such access and use influence (reinforce or mitigate) these social strata. This is what I define here as the third level of digital divide. I shall discuss this in detail in the third and fourth chapters.

To return to the second level of digital divide, some scholars, such as Cuervo and Menendez (2006), describe the concept in terms of the 'consequence of the economic and social disparities'. Reynolds and Stryszowski (2014) and Van Dijk (2005: 15) have stressed that in a society increasingly dependent on digital technologies for everyday activities, digital inequality has become a significant form of contemporary inequality. Since not everybody gains the same advantages from accessing and using ICTs, researchers have started to analyse the range of activities performed online as well as individuals' online engagement (Quan-Haase, Martin and Schreurs, 2014; Witte and Mannon, 2010).

However, although understanding of the digital divide has begun to focus on a broader picture, taking into consideration the multidimensionality of the phenomenon (Van Dijk, 2005; DiMaggio *et al.*, 2001; Hargittai, 2003; Lenhart and Horrigan, 2003; De Haan, 2003), policy makers have continued to look at it in terms of lack of access or infrastructure (Servon, 2002). Little seems to have changed over the years. The idea of bridging the digital divide has led many policy makers to increase investment in the telecommunications infrastructure. For instance, in the US, the head of the FCC, Tom Wheeler, recommended in 2015 that the government agency increase a phone-funding programme to include socially disadvantaged classes in the digital arena. As he rightly pointed out, the Internet is a vital component of everyday life, affecting key aspects of every individual's existence, such as education, finding jobs, administrative services and leisure. His idea was to reduce the digital divide by expanding the existing 'Lifeline' phone programme to include Internet service. This deterministic and economistic approach, mainly based on physical access to the Internet, does not take into consideration skill, autonomy, equipment, support and scope of use. Without these elements, the risk is to replace the digital divide with greater digital inequality, something much more complex and difficult to resolve. This inequality could further reinforce inequalities in the social realm.

Can the gap be closed?

Not everybody thinks that the digital divide can be closed. Simplifying, we can say that in the literature there are two main theoretical approaches to the phenomenon: that of 'normalization' and that of 'stratification'. The first approach believes that the initial differences in access to ICTs gradually disappear as a result of socio-economic processes: the levelling of access will be possible thanks to the reduction of costs and simplification of interfaces. The first approach, known also as *standardization*, stresses the idea that the current gap will be gradually overcome as the technology is made available at lower cost and with much simpler interfaces, which will lead to a general levelling. Although the gap in access to the Internet has started to be seen as a potential cause of social exclusion (Chinn and Fairlie, 2006; Fairlie, 2004; Fox, 2005; Hoffman and Novak, 2001), several scholars and, and more importantly, politicians have not seen, or have underestimated, the social consequences associated with the rise of the digital divide (Compaine, 1988, 2001; NTIA, 2004; Thierer, 2000). They argue that as with other technologies in the past, so the gap between those who have access to the Internet and those who do not will eventually vanish, in a kind of historical circle. The technological gaps will gradually disappear thanks to the decline in cost of technology, thus erasing the problems surrounding the digital divide (Compaine, 1988, 2001); this is just a matter of time, because technology will adapt itself to the market (Thierer, 2000).

Many of the differences that can be detected in use of and access to ICTs should not necessarily constitute grounds for social concern. Some authors have argued that the problem of inequality in using ICTs is overemphasized. Compaine (2001) argues that certain segments of the population do not use the Internet like others. This is part of a difference in the time of adoption that characterizes the initial stage of introduction of any technology. These delays are typically cyclical and are usually overcome when technological improvement means the mechanisms of the market no longer have to bear the cost and the knowledge techniques of the first users can be spread (Compaine, 2001). The rate of diffusion of the use of the Internet is much higher than that, for example, of radio and television. However, similarity with what happened with the use of television, refrigerators, washing machines and cars means it is expected that the initial inequality in access will be remedied over time. In essence, the current gap is only temporary and will tend to cancel out over time. Framing the digital divide as a technological problem, as we have seen, suggests that access to the technology is able to fix existing social problems, such as social inequality and issues relating to democracy, freedom, social relationships and community building. This view can be seen as a remnant of the Internet hype of the 1990s; however, giving someone a computer and an Internet connection does not solve any of the mentioned problems. It might be more correct to say that this is when they begin (Van Dijk, 2005: 5).

The second hypothesis, that of stratification, argues that inequalities born with the introduction of new ICTs will add to those already existing, in a circular and cumulative process. Groups slower in adopting the new technology will never be able to bridge the gap with the fastest, with the consequent growth of differential access and use. It is likely that over time the problem of the gap in access will tend to decrease; however, the existence of a different level of inequality related to differences in the mode of use of ICTs suggests that the condition of 'normalization' is not reached, but rather a reconfiguration of social stratification. This hypothesis refers to the possibility that the digital divide will form part of an already polarized social structure based on different economic, cultural and social backgrounds, and then accentuate existing inequalities. It provides that those who find themselves in a position of relative advantage consolidate, and possibly increase, these privileges to the detriment of the categories slower to adopt new technology; thus, it will never be possible to bridge the differences.

However, over the last years, an attitude equidistant between the two hypotheses has grown dominant, according to which both are partially valid and neither completely exhaustive. Faced with the multiplicity of the differences highlighted, it is possible to imagine that the gap in access might be at some point filled, but in the meantime other gaps in terms of skills, motivation, digital capital and capacity to gain advantages from the Internet will perpetuate. It is worth remembering that although differences in adopting ICTs between different social categories are partly diminished, some social strata, such as the elderly, citizens with lower incomes, some ethnic groups and citizens with a low level of education still struggle to access (in the broader sense of the term, i.e. not merely physical access), use and gain advantage from the Internet. There is a tendency among more privileged social strata to accumulate the advantages deriving from a different level of access to and use of ICTs. Even if the gap seems to be closing (in the industrialized societies, at least), it is clear that in order to exploit the full potential of ICTs it is necessary to reach certain levels of digital capital that depend on one hand on the characteristics of the technology in use, and on the other hand on social, economic, personal, cultural and political capital possessed by the citizens/users.

In this way, digital capital (I shall discuss this concept later) produces inequalities that in some way mirror social, cultural, economic and political inequalities already existing in societies. Users and citizens are continually asked to enhance, update and improve their skills in order to be able to 'move' into an overload of information (Van Dijk and Hacker, 2003: 316) and, more importantly, to become full citizens. Since critical infrastructure vital to the proper functioning of the society is moved online, it becomes crucial for citizens to be able not only to physically access, but also to move confidently in the cyber world. It is not only a matter of digital literacy or digital skills – i.e. a set of skills needed to operate computers and networks, search and select digital information, and use this information to achieve objectives (Van Dijk, 2005) – but also of having the

capacity to feel part of the e-community, to be e-citizens and to be included in a digital society.

Regarding the effects of the digital divide in reducing or increasing social inequalities we may find three main approaches that can be summarized as follows: techno-optimist; techno-sceptic; and techno-pessimist (see Table 1.1).

Table 1.1 Does the Internet reduce or reinforce social inequalities?

Techno-optimists	*Techno-sceptics*	*Techno-pessimists*
The advent of new technologies of communication will reduce inequalities in society by increasing life chances	The advent of new technologies of communication will not change the scenario of social inequalities	The advent of new technologies of communication will reinforce inequalities already existing in the social sphere

These three approaches are ideal types (*Idealtypus*), constructed abstracts or hypothetical concepts, on which social science depends, or to use Weber's words 'one-sided accentuation of one or more points of view' according to which 'concrete individual phenomena … are arranged into a unified analytical construct' (*Gedankenbild*) (Weber 1949: 90). As we shall see, the assumption here adopted is closer to the third hypothesis, namely that the advent of new technologies is reinforcing inequalities already existing in the social realm. The reasons behind this hypothesis shall become clear throughout the discussion.

The digital divide concerns not only the availability of computers and the possibility to access the World Wide Web, but also the skills and motivation and digital, social and cultural capital required for using it. The spread of the Internet does not reduce digital inequalities or social inequalities, but rather the reverse. While the spread of the Internet happens according to the traditional models of technology diffusion, reaching more and more citizens/users, this does not reduce digital inequalities. Let me dwell on this issue for a moment by considering several related dimensions of online inequality, and by explaining how this process has accelerated over the past decades.

Dimensions of inequality online

In the previous section we have seen how users, once online, may experience different levels of e-inclusion. In this section, I shall focus on the multi-dimensionality of *access(es)* and seek to explain how this apparently simple variable in fact conceals a tangle of problems.

Evidently, access to the Internet is a prerequisite to overcome inequality in a society whose functions and dominant social groups are increasingly organized around it. Without access to the Internet, other factors will be irrelevant (Castells, 2001: 232). Lack of network infrastructure and Internet access are clear obstacles to enjoying the benefits of online activities (Hassani, 2006).

This is one of the reasons why, at the early stage of research on the digital divide, access to the Internet and ownership of ICTs was seen both by scholars and by policy makers as the most crucial factor (Correa, 2010; DiMaggio *et al.*, 2004; Hargittai and Walejko, 2008). The possibilities for an individual to access and use the Internet are at the base of the first level of digital divide. As we have seen, this is the genesis of the original basic concept. This concept is still useful today to provide an overview of the spread of digital media in a society. However, the picture provided by measuring the digital divide based on physical access, while useful in giving an overview of the adoption of the Internet, is insufficient to inform the second and the third levels of digital divide. Variable access should be seen not in a static or binary way (access vs. no access) but multidimensionally, since it identifies different degrees of inclusion in the network society. The recent spread of ICTs and their penetration into the advanced societies have made the issues connected to inequalities in the effective use of ICTs (second level), and the capacity to reinvest into the social realm the valuable information and resources found online (third level) increasingly important.

Table 1.2 The three levels of digital divide

First level	*Second level*	*Third level*
Based on access to the Internet	Based on the different uses of the Internet	Examines social benefits in the different uses of and access to the Internet
Gap in access	Gap in digital skills and digital capital	Inequalities in reinvesting in the social realm, valuable information and knowledge acquired online
Dichotomous division	Multidimensional	Multidimensional

The concept of 'access' should be deeply analysed and seen as a sophisticated set of issues that produce and even reinforce differences between social classes (Goldfarb and Prince, 2008; Hilbert, 2011). Kling (1998), for instance, outlined differences in social access (skills and knowledge to gain benefits from using ICTs) and technical access (the material availability of the technology). Van Dijk (1999: 179) stated that we may distinguish four kinds of access: mental access, material access, usage access and skills access. The first kind, mental access, is mainly based on lack of interest in using ICTs, which generates a lack of elementary digital experience. It is the motivation to use a technology that influences the choice to purchase a device through which to access the Internet. Material (or physical) access is the most widely known and the concept that has attracted the most attention from policy makers; it is based on people's lack of possession of digital devices that connect to the Internet. Usage access is related to the unequal distribution or lack of usage opportunities. Several scholars have focused on the different uses of new technologies, specifically the Internet, as key in creating digital inequalities in terms of

different economic, social, cultural or political advantages among users (Van Deursen and Van Dijk, 2009; DiMaggio and Bonikowski, 2008; Hargittai and Hinnant, 2008.). This form of access, in my point of view, is related to social strata. I shall discuss this point later in Chapter 4, but I anticipate this form of access is tied to life chances and social/cultural/economic and digital capital. Finally, Van Dijk (2005) analysed access skills, related to the lack of digital skills necessary for use of the Internet. All these forms of access can create or reinforce the digital divide.

According to the trajectory put forward by Van Dijk (2005) we can see how access is related both to personal factors (such as gender, intelligence, ability, ethnicity, age, health and ability) and to the availability of material, cultural, social and mental resources. Access is also bound to the conditions in which it is made available: the autonomy of use, the conditions of hardware and software, the bandwidth and the possibility of assistance. Wilson (2006) has described eight similar factors related to access to the Internet. In addition to *physical access* to ICTs, Wilson identifies *financial access*, which allows people to bear the costs of connection; *cognitive access*, or the ability of a worker to properly manage the instrument and the information obtained; *production access*, the production of online content, verifying sufficient supply to meet user needs; *design access*, which mainly refers to usability; *content access*, referring to the availability of relevant information or applications online; *institutional access*, which is increasingly important as certain services are moved online, and which in its basic terms means the availability of institutions that enable access; and finally *political access*, i.e. the possibility for the user to interact with the institutions that regulate the technology they are using.

The cost of equipment and/or Internet access is highly correlated with ICT penetration. This factor is mainly based on the economic possibility to access and use ICTs. It illustrates the extent to which a user can afford the cost of Internet access, PCs, peripherals, etc. The OECD states that household and/or individual income is a key determinant of the presence of a personal computer (PC) at home. Higher income positively affects ICT adoption. Much empirical research has focused on economic wealth, both within countries (between individuals) and across countries (between states and/or territories) as one of the key factors in disparities in ICT penetration (Andonova, 2006; Chinn and Fairlie, 2010; Crenshaw and Robison, 2006; DiMaggio *et al.*, 2004; Fairlie, 2004; Hargittai, 1999; Dewan, Ganley and Kraemer, 2005; Norris, 2001; Pohjola, 2003).

The issue of access will be deeply analysed and reworked in the last chapter, in relation to the so-called 'MAD's wall', advancing three main reasons (Motivation, Access and Digital capital) at the base of the digital divide.

In the meantime, let me dwell on these elements and dimensions which characterize access to and adoption of ICTs, and which further increase inequalities as an 'information elite' gains access sooner, along with more advantages from the use of the Internet and digital devices. Individuals in

privileged social positions are the first to become aware of the advantages of the Internet. They are also those that can sustain the initial costs, thanks to higher income levels. Moreover, they are equipped with a broader educational and cultural background and are able to develop acquired information effectively and efficiently. Thanks to more sophisticated cognitive capacity, they gain greater return in terms of greater knowledge. More importantly, thanks to their social capital and status groups, they can reinvest such information and knowledge in the market, further reinforcing their privileged position in society.

At a macro scale, a different problem concerns the developing world, where not only segments of the population but entire geographical areas are still excluded from digital networks, mainly because of inequalities in the system of the global economy. Manuel Castells (2001) and Pippa Norris (2001) define this issue separately under the category of 'global digital divide'. Norris (2001) distinguishes between the global digital divide, the social divide, and the democratic divide. The global gap focuses in particular on inequalities between regions and between countries in access to the network, using a macro lens. Digital inequality essentially means the difficulty encountered by certain social categories or entire countries to take advantage of technologies. The digital divide is in fact only one aspect of globalization; there are multiple relationships between its spread and the spread of information technology.

Access to and use of information and communications technology in our society are a prerequisite for economic and social development. Adoption of ICTs can open new development opportunities with enormous potential to eliminate poverty, to promote economic growth, to help the weak to enter the world markets, to spread distance learning affordably, to improve power centres and consolidate democratic institutions. It is an established conviction that ICTs can be exploited to enable the poorest countries to skip some of the steps leading to development.

However, the idea of the global digital divide is mainly based on economic factors, reducing it to an issue merely of technology and access. The global gap, which refers to differences between industrialized countries and less developed countries, mainly focuses on the first level of digital divide. But different levels of access (in all its forms) and usage further increase the inequalities between countries. There is a need to go beyond simple economic determinism. Evidently, the level of wealth is an important factor, but it is not sufficient to explain the spread and adoption of new technologies. Next to income, the role of factors such as education, spending on R&D, number of researchers, investments in the ICTs sector, the cost of Internet connections, the motivation in using ICTs, and the beneficial return on their use must be considered. The level of wealth of a country is an initial macro condition associated with the use of the Internet. However, countries with the highest levels of access are characterized by substantial investment in R&D, in ICTs, and in the education sector. Furthermore, the overall discrepancy tends to shrink both among developed countries and between geographical areas that

are underdeveloped, but at different rates, reflecting countries' diverse paths in the adoption of the Internet. But this overall gap is reduced mainly in terms of access; the same equalization does not occur for digital inequalities. According to James (2003: 23), the global digital divide is to be seen from one side as 'the unequal distribution of computers, Internet connections, fax machines and so on between countries' and from the other as 'the strikingly differential extent to which rich and poor countries are enjoying the benefits of information technology' (2003: 45).

To return to the analyses presented by Norris (2001), the social divide relates in particular to inequalities between individuals and families in different institutional settings in terms of access to and use of the Internet, using a micro-social perspective. There are signs of substantial differences among 'the connected', determined by the different levels of use, motivations and backgrounds of the different social groups. The divide relates to social inequalities 'traditionally' present in the social structural division in national societies. Access to and use of the Internet reinforce social inequality already present in society (DiMaggio *et al.*, 2004; Norris, 2001; Van Dijk, 2006). However, not all scholars agree on this point. Authors such as D'Alessandro and Dosa (2001), Jenkins *et al.* (2009) and Katz *et al.* (2001) have in different ways pointed out the advantages of the Internet, mainly in terms of participation in political and civic life. However, even in terms of participation we may distinguish different levels of civic engagement that might be tied to pre-existing social structures and different capital possessed by users. This will lead to what Norris has identified as a democratic gap, associated with participation in the democratic life of a country: being excluded from the digital realm means also being excluded, or marginalized, in terms of democratic engagement. Socio-economic variables influence how we access and use the Internet, and there are concerns over the ethical consequences of unequal participation in society (Rooksby and Weckert, 2005), highlighting issues such as social inclusion or justice (Warschauer, 2004; Brennan and Johnson, 2005).

Concluding thoughts

It is increasingly clear that we are dealing with a very complex phenomenon, which should be studied going beyond the simple yes/no measure of access. To these basic elements we have to add several indicators, including the following: the *technical* means available and their quality; competence, or *digital capacity*; the *support of social networks*, which is the ability to count on and ask for help and information from friends, family or colleagues using the Internet; *autonomy of use*, namely the place of access and the ability to use the Internet to pursue personal interests; and finally *variety of uses*, which is the range of activities available across the network (work, leisure, community, email, etc.). These five dimensions of digital inequalities (DiMaggio and Hargittai, 2001) are important in analysing the ways in which the Internet is used and the advantages gained from it.

In the past years the skills aspect in particular has attracted scholars' attention (Van Dijk and Van Deursen, 2014). In their basic form, digital skills may be defined as the ability and capacity to use the network once we have access to it. Beyond the necessary skills for navigation and management of basic computer activities, some others are less immediately measurable but still extremely important, such as the ability to search for information, select mission-critical content, manage social and professional contexts online, be aware of potentialities offered by the Internet, engage in self-promotion and increase social and cultural capital. What I shall argue in the forthcoming chapters is that all these elements are tied to social strata as identified by Weber and, consequently, tend to influence social inequalities in the offline realm.

The different uses we make of the Internet lead to completely different roles of the network in people's lives, even on equal terms of access and skills. Research on bridging the digital divide has highlighted many differences in how individuals use the Internet and how these relate to inequality in the digital age. Since physical access is rapidly increasing and the gap in advanced societies has almost been overcome, skills, competence and abilities to use the Internet have become more important in the second level of digital divide (Correa, 2010; Hargittai and Walejko, 2008; Van Dijk, 2006), as well as in the third level. Indeed, one of the leitmotifs of this book is that the digital divide is not only another form of social inequality, but a *new* form of social inequality.

As some studies that use the theoretical approach of the knowledge gap have underlined, the gap between the 'information rich' and the 'information poor' has been widened further by the new media (Bucy, 2000; DiMaggio *et al.*, 2001; Hindman, 2000; Kingsley and Anderson, 1998; Van Dijk and Hacker, 2003). As is well known, the knowledge gap theory first formulated by Tichenor, Donohue and Olien (1970) suggested that:

> as the infusion of mass media information into a social system increases, segments of the population with higher socio-economic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between these two segments tend to increase rather than decrease.

This theoretical approach, formulated before the advent of new media and the Internet, stresses the idea that 'socio-economic status influences the way in which we acquire information and knowledge and thus [that] the gap, in terms of knowledge, between high socio-economic status and lower status will increase' (Ragnedda and Muschert, 2016: 30).

Taking a further step along these lines, it can be argued that knowledge acquired in the digital realm that in turn is influenced by socio-economic status may be relevant in the third level of digital divide and influence people's life chances. However, it would be wrong to assume that individuals' access to

and use of the Internet can convert and automatically transform digital skills into other social outcomes. At the same time, we can argue that in a digital-enabled society capacity (skills), motivation, education and the 'quality' of information acquired online have consequences for life chances in the social realm. Being excluded or only partially involved in the online realm may influence digital capital, in turn influencing life outcomes. Since the Internet is evolving and becoming more and more vital in our daily life activities, forms of exclusion (both social and digital) also tend to flourish. In analysing these forms of exclusion or disadvantage the cultural, social, economic and political context cannot be excluded. What I will be arguing in the forthcoming chapters is that socio-economic and cultural backgrounds affect the access to and the use of the Internet (first and second level) and that this online experience influences people's life chances and the opportunities they have in the offline world (third level).

It might be argued that the digital divide and digital inequalities tend not only to reinforce social inequalities already existing in the offline society, but also to enlarge the gap between the less advantaged and the most advantaged individuals. Social strata that in the social realm tend to obtain more valuable resources are the same that tend to exploit ICTs most advantageously. The Internet is not a medium, but a platform that opens up a series of opportunities; it cannot be seen as a cause of inequalities, but its use (influenced by socio-economic, cultural and political variables) does help determine inequalities, both in the social and the digital realm. While all these opportunities and valuable resources are in theory there for everybody, the opportunities are invisible to some. In other words, the possibilities that the Internet offers to citizens in economic, political, social and cultural areas are not exploited by everybody in the same way. Social strata that already enjoy social advantages become further privileged. The Internet influences possibilities for citizens to improve their life chances, but in a vicious circle, based on their original social position. This is what I define as the third level of digital divide: the divide in the interaction between offline socially advantaged positions and digital inequalities, in relation to the socially valuable resources we stand to gain from the Internet.

Since social and digital inequalities are so strongly intertwined, an analysis of digital inequalities should take into consideration the cultural and social system within which technologies are embedded. Sociology, as underlined earlier in this chapter, has a long and rich tradition in analysing the systems of inequalities in society, how such systems are reproduced and which social strata are more privileged, in terms of rewards, than others. The present issue can therefore be fruitfully analysed from a sociological point of view. As the next chapter is going to argue, the Weberian lens is particularly useful in 'reading' and understanding inequalities in the digital realm and how they are affected by and affect inequalities in offline society. The challenge here is in using concepts and methods that were elaborated more than a century ago in order to analyse problems that Weber could never even have imagined.

2 Why does Weber still matter?

Although Weber barely discussed technology and mass communication, his theoretical framework is still useful to read and decode inequalities in the digital age. Indeed, it can be highly beneficial to read Max Weber to understand the dynamics of the current social and digital inequalities both in Western and in emerging societies. As we shall see, the Weberian theoretical framework and his methodological approach are crucial tools to grasp the new forms of inequalities in the digital age. Indeed, much of his analysis does not seem to have been written over a century ago, and his writing on the rise and persistence of social inequalities in particular is extremely valuable in the present context. In the first chapter I have introduced the phenomenon of the digital divide; we have seen how sophisticated the issue is and why it might be useful to analyse it from a sociological point of view. In this chapter we shall see how we can apply the Weberian analysis in this context. In order to do this, we shall first analyse some of Weber's most popular concepts and insights, which will lead our discussion. The choice of a Weberian perspective as the theoretical framework of the analysis undertaken in this book was made mainly because it offers a more comprehensive approach to an analysis of digital inequalities than alternatives such as Marxist and neo-Marxist or Durkheimian perspectives.

My aim in this chapter is to demonstrate how the theoretical framework elaborated by Max Weber more than a century ago might provide us with a greater sense of direction and purpose in understanding how inequalities are reproduced in the digital realm, the patterns that influence them, and how they are related to social inequalities.

However, any attempt to understand the importance of Max Weber in decoding and reading contemporary issues must begin by providing an introduction to this great social scientist. Therefore, first of all, a brief overview of Max Weber as a social scientist will be provided, along with an introduction of some of his leading concepts. The following two sections argue first that Weber's interpretivist method (*Verstehen*), his concepts such as the 'ideal type' or the 'iron cage', his rationalization, and more importantly – as we shall see in the following chapter – his multidimensional approach to analysing social stratification are valid instruments to understand the rise of inequalities in a

network society. These sociological and theoretical tools must evidently be recontextualized in light of the new technological and digital scenario, but Weber's theoretical strengths and enlightening insights are still vital in elaborating any constructive approach to digital inequalities. Next, I shall examine in detail the process of social stratification as described by Weber. In doing so, I shall draw out some of the distinctive aspects of his theoretical framework and set out how they could be applied to analysis of inequalities in the digital age.

As we shall see, Max Weber saw class, status and power as different but at the same time intertwined forms of stratification within any given society. Class, seen as 'unequal access to material resources', is not seen as the ultimate factor. Here, as the first section of this chapter shall argue, the main difference to Marx and Marxist approaches becomes clear. Such approaches see class as the supreme factor in the process of stratification, while according to Weber class determines only individuals' economic position in society. In Weberian terms, economic factors play a key role in determining one's individual position within society, but are only a part of a bigger picture. As we shall see, social groups' and individuals' positon in society must be valued also in terms of status, prestige and honour. Finally, political power (the third element of the stratification model) is not defined merely by economic aspects, but also by status groups and individuals' affiliation with other members of the political arena. This is relevant for the increasingly important role of the Internet in expanding and reinforcing membership in a network society. Capacity and skills in interacting with other members of particular status groups through ICTs play a key role in the digital arena and are further factors that influence digital inequalities.

In this chapter, and indeed throughout the rest of this book, I shall try to show what the study of the digital divide and digital inequalities through a Weberian lens might involve and work out the benefits we might expect from this approach.

Concepts and methodology: A brief overview of Weber

Weber is traditionally recognized as one of the fathers of sociology, although he also made important contributions to the growth of other disciplines such as history, economics and political science. He worked as a philosopher, sociologist, and political economist, but also as a historian and lawyer (Coser, 1977: 217–219). He was a very complex personality, often represented as a classic intellectual, continually inquisitive, rigorous and attentive to the evolution of the world around him (Mazlish, 1989: 217–240). His work is pervaded by a sense of unease and the perception of a structural crisis of European society, and many critics have caught in his sociological theories and historical reflection an influence of the philosophy of Nietzsche (Stauth, 1992; Turner, 1992, 1999). Despite Weber's importance for sociology and social science in general, his thought is still controversial (Gouldner 1954; Lukacs, 1972;

Parsons 1934; Runciman 2002). However, Weber may justly be considered as one of the fathers of sociology, even if it is quite complicated to find a coherent theoretical perspective on his work or draw firm conclusions about it (Schroeder 1992). One cannot ignore the implications of Weber's research for the fields of history, economy and political science. All these fields are indebted to Weber, in various ways. He is an important and authoritative figure in philosophical debates on modernity and its ambivalence (Freund, 1968). Numerous theoretical schools have been directly influenced or challenged by him, especially in European and North American sociology. Some of the more important sociologists whose analysis has been heavily influenced by Weber include Giddens (1973), Parkin (1979), Marshall *et al.* (1987), Bourdieu (1985), Murphy (1988), Breen (1997), Prandy (1999) and Florida (2002, 2005). Even sociologists like John Goldthorpe (1980, 2000), who has denied being a Weberian class analyst, seem to have been influenced by the Weberian approach, particularly in analyses of social stratification and social mobility (Erikson and Goldthorpe, 1992; Breen and Goldthorpe, 2001; Goldthorpe and Marshall, 1992). Weber's analysis of social strata, one of the main topics in sociology, has dominated this discipline up to the present day (Turner, 1992). Indeed, it is almost impossible, from a sociological point of view, to discuss social strata, social stratification, and connected topics without mention of Weber's approach.

Why does his biography matter?

To provide a full picture of Max Weber's theoretical framework, it will be useful to briefly discuss his biography and the social and cultural environment that influenced his thought. Weber (1864–1920), born into a wealthy upper-middle-class family (Nehring and Plummer, 2014: 115), saw 'both the decline of liberalism in an emerging power-state and the threat to the individual in the bureaucratization in modern society' (Bendix, 1960: 30). This perception, as we shall see, became crucial in his analysis.

In 1890 he began engaging in political activity in the Social Christian Party, but his career in this area remained without success. Early in his work as a scholar Weber was in contact with the so-called 'Social Policy Association' (*Verein für Socialpolitik*, a society of economists in the German-speaking areas of Europe). He carried out research on the living conditions of the farmers of East Prussia (Derman 2012: 24), and was able to compare the system of farm property with the capitalist system. Born into a wealthy, cosmopolitan and highly cultivated family milieu (a 'high status' group, he would have said), he was soon immersed in the intellectual climate of the so-called 'German historicism', whose protagonists used to visit his mother's house (Bendix 1960: 26). (This can be seen as a classic example of how status groups, as I shall explain later, can influence our worldview and lifestyle, and, in turn, our choices in everyday life.) The intellectuals who used to frequent Weber's mother's house insisted on the importance of historical and

hermeneutical aspects that make humans essentially different from the objects of the hard sciences. According to this approach, it was fundamental for social sciences to explain and understand, rather than describe and measure. These ideas eventually influenced Weber's theoretical approach. Reacting to the tradition of positivism, Weber tried several times to clarify the objects social science in general and sociology in particular should address, distinguishing between social and natural sciences (Swedberg and Agevall, 2005: 173). In fact, in the wake of Dilthey's historicism, Weber denies it is possible to analyse social and political phenomena using the same conceptual categories that the natural sciences use for physical phenomena, as positivists attempt (Collins 1986: 34–35). He argues that social sciences should investigate, analyse and give meaning to social action and human behaviour (Cohen 1996); sociology was the science that seeks to comprehend the phenomena of human action (Weber 1978: 4). Sociology differs in its approach from the natural sciences, because of the complexity of these social phenomena; it has to deal with phenomena such as social inequalities and social exclusion that are much more complicated than physical and natural phenomena. The discipline is not necessarily interested in reconstructing the causes of social phenomena, since determining conditions or influences cannot be reproduced in any laboratory and are unpredictable and changeable.

Sociology has a long tradition in analysing social inequalities and this is one of the reasons this book adopts a sociological lens in analysing, describing and understanding digital inequalities. The book is in line with the idea of sociology as expressed by Weber, as a science interested in explaining and understanding, rather than measuring phenomena. However, central in Weber's thought is the need for thorough reflection on methods, not only in sociology, but also in all the historical and cultural sciences in order to claim a genuine scientific approach (Collins, 1986: 38–42).

Value-free science

Weber opposes both positivism and objectivism, with their illusory claim to possess scientific methods because they are based on the analysis of facts; what they attempt to capture about individuals is in fact unique. By contrast, according to Weber, there is a necessity to develop robust logical structures that allow the historical and social sciences to achieve results that are valid and verifiable. For this purpose, however, it is first of all necessary for these structures to be 'value-free', otherwise they cannot decide anything about values. Weber says that empirical sciences cannot make value judgements because they are based on certain ideals and are therefore subjective in origin. Thus, an empirical science can never teach anyone what he or she *should do*, but only what he or she *can do*, according to the resources at their disposal and the historical conditions in place (Boudon, 2001). As we shall see in Chapters 3 and 4, Weber's perspective in this regard is important in understanding digital inequalities, showing how the cultural and historical context

in which we are embedded determines and influences our social activities, including our online activities. We are evidently free to do whatever we want (of course respecting the law), but it is naïve to believe that our choices, ideas and actions are not determined, somehow, by our position in society, the prestige we have, our level of education, our social capital and so on.

Thus, the specific task for sociology, according to Weber, is to understand why people believe in what they believe and do what they do (Boudon, 2001: 31). Clearly, this is true also for online activities. What I shall argue is that Internet use, what individuals search for, the type of information accessed and the activities carried out in the digital realm are not 'unmotivated', but are 'grounded in the eyes of actors themselves' (Boudon, 2001: 31). In other words, what people do online is influenced by what they think is right for themselves. This is in line with what Bourdieu (1985) described as 'habitus'. As Sam Whimster notes (Swedberg and Agevall, 2005: 109), Weber uses the term 'habitus' in the sense of 'a disposition [*Eingestelltheit*] to behave and view the world in a particular and distinctive manner'. As I shall further discuss in Chapters 3 and 4, social, cultural and historical contexts are therefore good predictors of one's online activities. Predictors, not objective rules, because, as Weber underlined, the objective reality is only chaos, without universal laws, in which only hypothetical laws are applicable to specific cases. Therefore, I shall not argue that social stratification is a universal law that unequivocally determines why we go online and what we do, but rather that patterns of social inequalities based on the stratification model proposed by Weber are replicable online and further reinforce the already-existing inequalities.

Methodology

Following a rigorous methodology, historical and social sciences can be used to create an analysis that fully corresponds to the contemporary situation. Let me briefly dwell on this issue.

The investigation of social issues, including digital inequalities, involves various and sometimes unpredictable patterns, and cannot be objective. However, this does not mean that social phenomena like the digital divide and digital inequalities cannot be studied. Weber states that the objectivity of the social sciences is guaranteed by the method (Weber, 1989/1904: 50–112). He states that every social-historical phenomenon is determined by a number of reasons, but that social scientists can accentuate unilaterally 'specific factors', which in practice are never found isolated and in a pure state. In this way, the researcher can build a model that serves as an interpretation of reality from a particular and unilateral point of view. This is what Weber called the 'ideal type' (Cahnman, 1965): a heuristic interpretation of reality that extrapolates from the historical-social reality one portion (found concretely inserted in this reality) that is conceptually accentuated so as to form a pattern by which reality can be interpreted. This ideal type is utopian in the sense that, in its conceptual purity, it can never be traced empirically in reality (Adams and

Sydie, 2001: 175–177). It serves as a frame of reference with respect to which reality must be measured and compared in order to illustrate certain significant elements of its empirical content. Thus, ideal types are general concepts of certain historical and social conditions that are not representations of the real, but emphases of certain aspects of it which aid our understanding of it. In this sense, ideal types have a character that is necessarily utopian, because they use limited rational concepts against which to compare reality (Adams and Sydie, 2001: 175–177). However, the inevitable subjectivity of the assumptions of science is redeemed by the logic and coherence of the conceptual tools with which the data are analysed in their inexhaustible multiplicity (Pressler, and Dasilva, 1996: 11–26) Weber's ideal type method is not a completely new instrument of analysis, but rather explains and refines what social scientists and historians actually do, in order to improve the self-consciousness and rigour of the social sciences (MacRae, 1974: 63–65). Thus, ideal types are constructs of thought which the social scientist uses to generalize the phenomena analysed; they are abstractions through which the social scientist can address the infinite variety of categories of reality in a more manageable way.

Furthermore, Weber placed great store by *Verstehen*, interpretivist methods, which became 'a basic point of his methodology' (Boudon, 2001: 31). *Verstehen* (literally 'to understand') is central to a rejection of positivistic social science, and in its basic terms means understanding actions from the actor's point of view. According to this method, the vital cause of social action (also in the digital realm) lies in people's motivations, which are what social scientists should attempt to understand. Furthermore, Weber believes that in their research social scientists should not impose their own value judgements on the phenomena being analysed. The conclusions of such investigations must always be double-checked and continually evaluated. Social scientists should always bear in mind that they are always involved, albeit at a different level, in their study, and, therefore, its conclusions may be affected by their point of view. More importantly, they should always remember that socio-historical reality is infinite, and thus inexhaustible from any single point of view. Any presumption that views taken and subsequent methods adopted are the only valid choices, when in fact the same socio-historical reality can be studied with equal legitimacy and equally scientifically from different points of view, is a mistake. When analysing digital inequalities, for example, we cannot claim that there exists only one reality and one point of view, and we cannot reduce the analysis of the digital divide to a matter of material access or wealth of resources. Weber's ideal type and *Verstehen* are the methodological approaches here followed.

Key concepts

At this stage, in order to give a better picture of Max Weber and the reasons this book adopts his theoretical framework, we should briefly introduce some of the other crucial concepts and insights that characterized his thought. The

key concepts Weber develops for sociology can also be applied to analyses of the rise of digital inequalities and the digital divide, in particular the concepts found in *Economy and Society*, his *magnum opus*, posthumously published in 1922, and *The Protestant Ethic and the Spirit of Capitalism*, a collection of essays published between 1904 and 1905. Weber's studies also have great relevance for understanding of modern capitalist society and the social structure in general. It might be argued that the new spirit of capitalism at the turn of the last century embraced inequality, and that these old inequalities might not only be reproduced online, but also reinforced in the digital realm. This argument shall be analysed and discussed throughout the following chapters.

Weber considers capitalism as an economic system in which individuals act peacefully using exchange. In particular, modern Western capitalism is characterized by 1) the rational organization of formally free labour, that is, wage labourers who are legally free; 2) the development of open markets; 3) the separation between family and business; 4) the development of a formally established law. The origins of Western capitalism are identified by Weber in specific forms of European culture in the early centuries of the modern age; in particular, he sees a link to the development of Protestant religion. In his view, the frugal lifestyle promoted by Protestantism has to be considered as one of the main causes of the rise, in the Western world, of the rational-legal nation state and market-driven capitalism (Weber 1989: 23). Protestantism has a number of characteristics favourable to the spirit of capitalism, such as the emphasis on the individual before faith and the idea of the profession as a vocation (expressed by the German word *Beruf*). But above all the inscrutability of divine judgement for Protestants led to the centrality of work and professionalism: success in practice could be interpreted as a sign of divine favour. In this context, Weber talks about a worldly asceticism: the Protestant engages in worldly concerns to carry out his or her *Beruf*, but at the same time engages in ascetic renunciation of all enjoyment and flees every temptation. However, these were not the only factors determining the rise of capitalism (Weber, 1905: 91; Löwith, 1982: 103). Weber's analyses helped improve understanding of the social issues that are at the base of the rationalization of Western civilization in modern society (Landis, 1947: 517–518).

There are two other concepts that should be mentioned: bureaucracy and rationalization. These two concepts are meaningful for an analysis of the rise of the digital network society and the growth of the digital divide.

The concept of bureaucracy can be considered to refer to the most typical form of rational-legal power. With the concept, Weber means any form of rational organization in general, as typical of large and complex modern societies. In the current context, the Weberian tradition can be used to question the effect of the Internet on bureaucracy and economic institutions (Di Maggio *et al.*, 2001: 309). For instance, in her empirical research Wessels (2015: 2815) found:

> an emerging trend, whereby societies confer status through digital credentials and profiles … a new social dynamic that is shaping how much

> power people have to influence their own life chances as well as affecting their feelings of shame and lack of social honour in a networked status order.

Finally, let me briefly introduce two more interrelated concepts, both valid in understanding Weber's contribution to sociology and beyond: the rationalization (*Rationalisierung*) process of modernity and the disenchantment of the world (*Entzauberung der Welt*). These themes run through several of Weber's works. The rationalization process consists in the increasing dominance of the logic of efficiency and productivity and confidence in the fact that things can be dominated by reason (Eliæson, 1984). The development of this confidence entails the disenchantment of the world, as individuals gradually expel from their attitudes and behaviour explanations relating to magic or metaphysical and religious beliefs (Carroll, 2011). The consequence is a split between rationality and values, between culture and nature, which is typical of the modern world. Weber sees a tendency of the rationalization of life to revolt against man, thus turning into irrationality. He was concerned about the increasing reliance of humankind on technology, which increasingly removed from individuals understanding of how the world operates. Weber argued that:

> Unless he is a physicist, one who rides on the streetcar has no idea of how the car happened to get into motion. And he does not need to know. He is satisfied that he may 'count' on the behaviour of the streetcar … but he knows nothing about what it takes to produce such a car so that it can move. The savage knows incomparably more about his tools … The increasing intellectualization and rationalization do not, therefore, indicate an increased and general knowledge of the conditions under which one lives.
>
> (Weber, 1978: 139)

The rationalization of the world looms more and more as a process that encloses man in an 'iron cage' (*stahlhartes Gehäuse*) by himself: profit becomes capital and an end in itself, with its own laws. However, according to Weber, these contradictions and crises caused by the rationalization of the world typical of modern European civilization cannot be escaped or eliminated; instead, individuals must become aware of it in order to move with greater awareness. The rationalization process is seen as an irreversible fate of the Western world.

The extreme rationalization of capitalist societies has created an impersonal and specialized economy: people have become cogs in a machine (Schroeder 1992: 114). The iron cage is, thus, 'the result of the combined tendencies of modern bureaucracies and modern individuals' (Hoogenboom and Ossewaarde, 2005: 601) and relates to 'the great institutional structures of modern society – the bureaucracies of the market and state in which we are destined to live but over which we, as ordinary citizens, have little control' (Maley, 2004: 69).

However, the institutional structures comprising the iron cage are at the same time an instrument of social order; increasing militarization of social institutions and enterprises, leading to rigidity of duty and workplace management, is at the same time a force for social integration. The iron cage, to use Sennett's (2006) insight, is at the same time a prison and a house. Today, the advent of ICTs as a fundamental infrastructure for the state and private economy has made the digital arena a vital space for surveillance and monitoring of citizens. Management of the population, as Ogura (2006: 287) states, 'has been extending from urban space to cyberspace'. The capacities of the Internet to collect, elaborate and interconnect in real time a huge amount of personal data has created 'new electronic cages' that are more all-encompassing and complete: 'The new iron cages are able to produce in real time a complete photograph of the consumers/citizens and could be used by corporate surveillance agents … and used by the marketers in their labour to predict, influence and direct consumer behaviour' (Ragnedda, 2011: 183–184). In this context, Wessels (2015: 2815) has found that 'status authentication plays a vital role in an emerging digital networked status order. The distinctions between people who are thin-filed and those who have sufficient credentials for financial inclusion are created through status formation, which reproduces existing forms of inequality'. 'Those lacking an online profile become thin-filed and therefore excluded from many online services' (Wessels, 2015: 2801).

After this presentation of some of Weber's main concepts that are leading our discussion, it is now necessary to dig deeper into the process of social stratification, as identified by Weber, in order to set the path for the discussion in the digital context. This will be addressed in the next section.

Social stratification

In the previous section we have seen some of Weber's main concepts and outlined the methodological approach that will be used to analyse the digital divide and digital inequalities. We have seen, for instance, how Weber's *Verstehen*, or interpretivist method, could be applied in this context. We have also seen how the concept of the iron cage has evolved into an electronic cage, with the increasing role of surveillance in our everyday life. We shall see in the next chapter how the new concept of digital capital plays a key role in reinforcing digital inequalities, specifically in relation to surveillance-related issues such as protecting personal data online. Furthermore, we have also seen briefly how the ideal types model could be applied in analysing theoretical concepts such as digital inequalities and digital stratification.

Inequalities, as already stated, exist in any given society. What this book is arguing is that inequalities exist also in the digital realm, and that they follow the same or similar patterns as in the physical world. The social contexts in which digital inequalities are embedded are therefore vital for an understanding of this new phenomenon. Weber deeply analysed social contexts, and although socio-historical and economic aspects are much changed many of

the characteristics of social inequalities he highlighted remain pertinent in explaining social strata in a digitally enabled society. Inequality is not a new concept, but has always been present since the most archaic societies. However, before the Industrial Revolution, inequality was based on social extrapolations of physical differences. During the nineteenth century the concept of inequality became a theme in sociology, remaining a main topic of the discipline up to today. It was during the Industrial Revolution that the oppression and exploitation of the workers by factory owners made the concept pivotal. Inequality is not a static phenomenon, but a fluid and dynamic issue, and requires ongoing analyses and conceptual reformulation. It is vital here, since one of the purposes of this book is to understand whether or not physical inequalities are reproduced in the digital realm and, in turn, which consequences this could have in the social realm. The topic of inequality is rather complicated. In analysing it, this book assumes a triadic relationship at the base of the process of social stratification: class, status groups and power. This triadic relationship still seems relevant in the digital age.

My goal here is to see how these three elements may be reproduced or mitigated in the digital realm. As I have already stated, each society shows some form of inequality, whereby people are unequal in terms of all three of the above-mentioned elements. In smaller and simpler societies, there is little variation between low and high levels of all three kinds of inequality, while in more complex urban and industrial societies there is greater variation. The three categories are not always aligned, which may create some inconsistency in social positions. One of the most common examples is a charismatic politician who may not be rich but has a great deal of prestige, or a very rich businessman who is despised.

Obviously, the Internet is a complex system, and there is great variation in all the kinds of inequality among users/citizens. The Internet opens up several possibilities for people to gain visibility and increase their power and prestige, but this does not always translate into a better economic position.

The process of stratification through the Weberian lens

The process of social stratification is the process by which groups and individuals are ranked in hierarchical classes. This social hierarchy produces differences and inequalities in the distribution of rewards, rights, privileges and responsibilities among the population of any given society. Sociology and sociologists have always paid attention to this process, elaborating different theoretical approaches to attempt to better define and understand it. The fathers of sociology, namely Weber, Marx and Durkheim, proposed different approaches. Their analysis and insights are still debated among contemporary sociologists and beyond the discipline. In this section, I shall follow Weber's ideas closely and outline ways in which they are still valid to explain social stratification in the digital age.

Weber understood social stratification in terms of the triadic relationship between class, status and power. Similar to Marx's concept, Weber saw a class as comprising people in a similar economic position with regard to their chances to acquire economic rewards within the society.

Class is seen by Weber (1978: 927–8) as an aggregate of people sharing a common situation in the market and with similar 'economic interests' and 'life chances'. Property and lack of property have to be considered basic categories of all class situations (Weber, 1978: 927). However, in Weberian terms, the situation is much more complicated, and we should further differentiate classes based on the 'kind of services that can be offered in the market' (Weber, 1978: 928).

Perhaps one of the most complicated and controversial aspects of the Weberian model of stratification is the distinction between class and status group (*Stand*). Class is a simple category, a set of individuals in similar economic circumstances and with similar economic interests; in Weber's own terms, 'class does not in itself constitute a group' (Weber, 1978: 930). He argued that:

> Classes are not communities; they merely represent possible, and frequent, bases for communal action. We may speak of a 'class' when (1) a number of people have in common a specific causal component of their life chances, in so far as (2) this component is represented exclusively by economic interests in the possession of goods and opportunities for income, and (3) is represented under the conditions of the commodity or labour markets.
>
> (Weber, 1978: 132–133)

Class is, then, reduced mainly to an economic factor; it emerges 'simply' from the 'unequal access to material resources' and denotes an economic situation within a given society. However, class is vital in the Weberian approach, since 'it is the position of individuals in the market that determines their class position. And it is how one is situated in the marketplace that directly affects one's life chances' (Hurst, 2007: 203).

By contrast, in a status group an individual has a common sense of membership and a group awareness that is relatively well defined (Weber, 1978: 932), with a distinctive 'style of life' that separates them from the rest of population (1978: 305, 932). Status groups (*Stände*), thus, are 'made up of people who have similar cultural and social interests and common consumer patterns'. Intensive social interaction, a high sense of belonging, a common lifestyle and life choices, a common worldview (*Weltanschauung*) and similar consumption patterns tend to create a homogeneous status group. This adds complexity to the social system, and should be combined with class distinctions that, as we have seen, are mainly based on economic assets. Status groups are not based on people's position in the process of production (labour or bourgeoisie), but rather on their lifestyle. They are closed groups, subject to a precise hierarchy, often comprising families.

However, embracing a specific lifestyle and accepting a distinctive view of the world is not enough to belong to a particular status group. 'Membership' of a specific status group must be awarded by other members, 'accepting' one into the group by communicating a recognized sense of belonging through social interaction. As we shall see later, the Internet can play a key role in this process of social acceptance by increasing reciprocal social interaction. Status is not a personal matter, but is influenced by group affiliation and based on self-affirmation of an individual's social group. Belonging to a high-status group, for instance, will benefit members, increasing their social prestige. By contrast, those who are perceived as members of low-status groups may incur disadvantages in terms of prestige, money or occupation, producing and reinforcing inequalities in society.

In digging deeper into the Weberian distinction between class and status, we should bear in mind that these two concepts are related, but at the same time distinct. Some status groups may result from the classes themselves, originating from the division of labour, while others may transcend this economic aspect. While Marx was interested primarily in the social relation between bourgeoisie and proletariat, Weber limited class to an economic category that tends to develop human interaction in a market (Weber, 1978: 82). In Weber's conception of social stratification, occupation and status can improve one's life chances even without ownership of the means of production. Status, as mentioned, refers to differences in prestige and honour that come from a specific lifestyle, not merely from economic factors. Status and class are usually closely related, and those who enjoy high status tend to occupy a similar economic position. Although Weber was motivated by the theoretical framework that had already been established by Marx, he also challenged it, attempting to go beyond Marx's analyses. As we have seen, Weber believed that the sources of inequality and the fundamental principles of social stratification should be sought not only in the economy but also in the sphere of culture and that of politics. While in the economic sphere individuals come together on the basis of common material interests, forming classes, in the sphere of culture they follow common interests and ideals, giving rise to status groups; in the political sphere, meanwhile, individuals associate in parties or power groups to control the apparatus of domination. Therefore, according to Weber not only class but also status groups and group domains (parties) are essential for understanding the processes of stratification. In these terms, adopting the three-component theory of stratification for the study of digital divide means going beyond economic patterns (such as having or not having a device, the speed of connection, the quality of broadband, and so on) and analysing lifestyle, consumer patterns, prestige and abilities of groups or individuals to achieve their goals despite opposition from others (i.e. power).

Unlike Marx, who assumed that the classes would oppose each other, leading to the eventual demise of capitalism, Weber believed that the capitalist society would engender ever more classes. His model provides for a plurality of types of class. Almost every individual in a complex economic system

could represent a distinct class; thus, the concept of class starts to have very little meaning (Giddens, 1973: 78–79). Weber was not quite as direct as this; he is better positioned somewhere between Marx (only two main classes) and Giddens (pluralism of classes).

Status groups entering the sphere of culture with the same style of life and a strong sense of belonging are distinguished by the different degrees of prestige which they possess; each status group requires a particular way of life. Individuals who are members of a status group tend to share a common lifestyle. Weber, in contrast to the merely 'economically determined "social situation" designate[s] as "status situation" every typical component of the life fate of men that is determined by a specific, positive or negative, social estimation of honour' (Weber in Gerth and Mills, 1958: 186–187). This point is particularly interesting for analysis of some of the phenomena present in the digital realm that have repercussions in the offline world. Indeed, more and more research on the impact of the Internet focuses on the status group in order to analyse cultural consumption patterns (Van Eijck, 2001; Chan and Goldthorpe, 2007) or better understand Internet usage (Willoughby, 2008). As we have seen in the first chapters, earlier research on Internet usage focused on different status groups defined for example by age and gender. This point will be discussed in detail in the next chapter, since it is vital for the understanding of digital stratification.

Power

In the previous section, I described how in *Economy and Society* (1978) Weber emphasized that class is only one part of the distribution of power in society. Weber also pointed out that status groups and parties should be seen as a part of the distribution of power, construed as 'the probability that one actor within a social relationship will be in a position to carry out his own will despite resistance, regardless of the basis on which this probability rests' (Weber, 1978: 53) within a capitalist society. Certainly, class continues to reflect functional interests in the economic order, while status plays a functional role in the social order by providing honour and lifestyle; finally, parties are involved in the distribution of power and able to force action within any order of life. To find the source of power, according to Weber, we must look at the sociocultural and historical context in which the power is embedded; we cannot rely only on the economic sphere, as Marx suggested. Power, construed as the chance that we have to realize our own will, enables us to participate in social (or digital) activity and improve the quality of our life (or life chances). The result of being excluded – or having our participation limited – from social (or digital) life shapes our social status, and the excluded are confined to lower-status and disadvantaged groups. I shall discuss this point further below.

First, I will discuss the concept of power, as articulated by Weber. Power is a pervasive phenomenon in all societies and social relationships, and of course is also present in the digital realm. It is one of the most difficult and

complicated ideas in Weber's thought. Some of the difficulties emerge from misleading translation. For example, in his translations Parsons failed to observe that Weber distinguishes between power (*Macht*) and domination/authority (*Herrschaft*), which has resulted in some controversy (Clegg, 2011: 216). Parsons also used 'domination' (*Herrschaft*) and 'authority' (*legitime Herrschaft*) interchangeably. According to Szelényi (2016: 2) 'power (Macht) is the probability that one actor within the social relationship will be in a position to carry out his own will despite resistance [while] Domination (Herrschaft) is the probability that a command … will be obeyed … Hence Macht (power) + legitimacy = Herrschaft (domination).' The differentiation between the terms is important, since Weber's theory of domination (the core of *Economy and Society*, as he stated in the introduction) 'assumes that those subjected to domination do have some degree of "belief" in the system' (Szelényi, 2016: 2) and follow orders without being coerced; meanwhile, power means that individuals will obey orders, even against resistance. Furthermore, it must be noted that several types of power and domination are present in social life, which adds difficulty to the study of both social and digital inequalities.

It is vital to understand how the three elements of stratification (party, class and status) pertain to the distribution of power (Wenger, 1987: 44). For Weber, power, in all its manifestations, is an expression of relations between those who exercise it and those who are bound to obey, rather than an attribute of the leaders. Weber accepts the pervasiveness of power and domination (in a similar way to Foucault later). In a metaphorical way we may say that power is a kind of lubricant, a fluid oil, essential to the functioning of the social order and able to take on varied and unpredictable modes. The concept of power is not static or rigid, but depends on the features of the social context within which it operates and is shaped by the structural conditions and the specific historical moment. Power is, therefore, at the base of social stratification.

Weber distinguishes three forms of legitimation of power: the traditional, the charismatic and the rational-legal. Traditional power is based on legitimacy through continuity of effectiveness over time. This is the case with sovereign dynasties, for example, transmitted by inheritance (e.g. the English monarchy). Charismatic power rests on the moral, religious or heroic ability of those who claim obedience. In other words, power is determined by the personal qualities of a particular individual. Finally, legal-rational power functions as a collective, legitimized by certain procedures which are verifiable and socially shared. This is seen in the popular election of political representation or in authority-codified bureaucratic procedures, and administrative careers. This is the power that increasingly tends to characterize the hierarchical relationships in modern society, specifically with the rise of nation states, which claim a monopoly on the legitimate exercise of power.

In the digital realm it is difficult to argue that the nation state still has a monopoly on the legitimate exercise of power. Social media, like Facebook or Twitter, are often seen as a new public sphere (Bruns, 2008; Webster, 2013),

forums which 'tolerate the public discussion'; the monopoly on the legitimate exercise of power, however, is mainly private and often entrusted to mathematical algorithms that censor 'inconvenient' posts or tweets. Thus, the Internet is a private space that acts as a public space, in which public discussion is 'tolerated'.

A central sociological problem arises here, as identified by Dahrendorf, namely the social recognition of authority and its visibility in a post-industrial system. This relates to a central aspect of Weber's theorization about power: the concept of legitimacy. Anyone who aspires to hold any form of power must enjoy a form of legitimacy that facilitates the exercise of authority and, if necessary, force. As Weber points out, 'every genuine form of domination implies a minimum of voluntary compliance, that is, an interest … in obedience … customs, personal advantage'. He continues: 'purely effectual or ideal motives of solidarity do not form a sufficiently reliable basis for a given domination. In addition, every such system attempts to establish and to cultivate the belief in its legitimacy' (Weber, 1978: 212–213). In other words, all political regimes and all forms of leadership need to justify themselves for self-preservation, which may temporarily be expressed through physical violence or threat. All power seeks to cultivate faith in its legitimacy. Domination thus implies the possibility of using tools to impose decisions on a group of people, usually through an administrative apparatus that is more or less developed, serving as a bridge between those holding power and the recipients of it. Bureaucracy, as we have seen, is the typical administrative apparatus for the exercise of legal power, based on standards and rules.

With the technological revolution and the emergence of the knowledge economy, the biggest challenge faced by bureaucratic organizations is how to evolve their systems of rules to keep up with the changing environment. Unlike Marx's more positive view of the future, Max Weber tended to see in the rise of modern society an increased role played by rationality and bureaucracy, which in turn would increase inequality and alienation. Rationality and bureaucracy would eventually increase the number of classes related to the different qualifications and educational skills of individuals. The rise of new skills and kinds of expertise would redistribute power within the labour market. This idea is particular relevant in the digital society, where new competences, knowledge and skills are increasingly important elements in the process of stratification.

In the triadic analysis of social stratification, party has received less attention than the other two elements, class and status. However, parties are vital, because according to Weber, organizations and groups formed by individuals in order to look after their own interests tend to reproduce and sustain inequalities. The notion of parties is vital also in the digital realm, as individuals with a similar background, lifestyle and vision of the world often use the Internet as a political platform to reinforce their position in society. As rightly underlined by Wessels (2013: 23), 'politics and cultural life [are increasingly] organized via flows of information within networks shaped by status, class and power'.

More and more political power can be exercised through the Internet (González-Bailón, 2013); this has been advanced by some scholars (D'Alessandro and Dosa, 2001; Jenkins *et al.*, 2009; Katz *et al.*, 2001) as evidence that the advent of new technologies of communication may improve citizens' capacity to contribute to political and civic life. However, this techno-enthusiastic position (Selwyn, 2004: 342) tends to overestimate the democratic potentiality of the Internet and ICTs in general.

The position here assumed is more in line with Blank and Groselj (2015: 2776), who conclude from their research that 'people voluntarily choose to do online that which replicates the offline stratification system. Offline inequalities in participation in politics and society are duplicated online … The Internet seems to amplify and support existing stratification'. In other words, theoretically the emancipatory features of the Internet are valid, but in practice citizens tend to replicate online the offline stratification system. This will be analysed in the next chapter.

Concluding thoughts

The Weberian approach in analysing inequalities in society is characterized by the idea of the multidimensional nature of inequality. This approach differs from the Marxist analysis because it is broader and more flexible. This theoretical flexibility allows Weber to analyse a multiplicity of classes and a more dynamic mobility between classes.

Weber identified class as a set of individuals who share a certain socially recognized status. This social recognition of status is vital, because without it status necessarily coincides with economic position. As we have seen, Weber did not disagree with Marx's perspective on the importance of social class, but elaborated and went beyond it, developing a 'multidimensional model'. In it, people's class positions are based not simply on their relation to the means of production but also on a number of interdependent variables, namely class, status and party. While Marx's concept of class highlights the existence of objectively structured economic inequalities in society, Weber assumes that the basic principles of social stratification should be sought not only in the economic sphere but also in the spheres of politics and culture. Weber, in other words, argues that social stratification relates to the access of different groups and individuals to social rewards, such as money, power and prestige. We can analyse inequalities online in a similar way. Thus, digital inequalities are not only based on economic factors, but also related to consumption patterns, lifestyle, power and prestige.

The concept of status group acquires fundamental importance in Weber. A status group consists of individuals who share the same lifestyle (speak in a similar way, choose the same type of clothing, attend the same events, spend holidays in the same type of resorts, visit similar websites or download similar applications, etc.) and is an expression of the degree of individual participation in social prestige. This prestige, once again, is not given only by the

wealth – the possession of material goods – but also by other factors. For example, academics or priests may enjoy greater prestige than restaurant owners, even if their income is sometimes lower.

In conclusion, Weber's general approach can be useful in analysing digital inequalities. The next chapter will deal with social stratification and the rise of digital stratification.

3 Digital stratification: Class, status group and parties in the age of the Internet

In the previous chapter I introduced some of the most important concepts and analyses proposed by Max Weber, which will lead our discussion on digital inequalities and the digital divide. In this chapter I want to analyse the process of social stratification and its relevance to the study of digital inequalities. As has been mentioned several times, the Weberian approach to the digital divide offers the potential for a fresh account of how specific social hierarchies and social stratification are associated with different digital skills and practices, and tend to produce new forms of inequality. Digital inequalities cannot be reduced to specific, solid or static conditions and should instead be analysed in relation to the social inequalities that exist in the offline world. They must be understood in the cultural, social and political context in which they emerge and cannot be reduced to basic and partial conceptions of access to digital technologies (Hargittai, 2002, 2010; Van Deursen and Van Dijk, 2009). As digital inequalities are influenced by the social structures in which they emerge, they are influenced by individuals' economic position in society (class), the level of prestige individuals have (status group) and their influence on the decision-making process (power).

What I shall try to argue in this chapter is that citizens' cultural, economic and political backgrounds are related both to what they do online and to their digital capital. Does this mean that the digital sphere is structured like the social sphere? In other words, is it possible to argue that the digital sphere is stratified? If so, do social and digital stratification follow the same patterns and reproduce the same hierarchies? This chapter will attempt to shed light onto these complicated issues, proposing a nuanced theoretical approach. In doing so, the chapter will adopt a Weberian perspective and seek to recontextualize some of his concepts in the new scenario created by the digital revolution. What is missing throughout neo-Weberian analysis is the attempt to use the Weberian approach to take social stratification and class analysis as a platform to examine digital inequalities. This chapter attempts to fill this gap. Therefore, the aim here is to understand the relevance of social class, status group and power in shaping inequalities in the digital sphere and how these factors are creating forms of digital exclusion which, in turn, affect social exclusion as well. Thus, this chapter will mainly focus on the process of

social and digital stratification and the ways these two processes are strongly intertwined.

In the second section of this chapter I want to explore critically why digital inequalities should be analysed also from a sociological point of view. I shall also examine and discuss some of the key issues which are currently being considered in debates concerning social inequalities.

Against the theoretical background of the first two sections of this chapter, I shall argue that although inequalities in the digital realm follow their own paths, such inequalities are inevitably tied with social inequalities already established in the social structure. I shall explain how, in a society where knowledge activities are increasingly important in our everyday life, the process of digital discrimination is a vital element of social inequality. I shall then go on to conclude this chapter by discussing critically the argument that it is possible even in the digital sphere to observe a form of stratification.

Towards a renewal of social inequalities in the digital realm

How can we apply the described concepts of social stratification in the digital sphere, and why are these concepts useful to understanding digital inequalities? Importing Weber's analyses into the current research, we shall see that status, lifestyle and class are useful conceptual categories in analysing the digital divide and digital inequalities. So far, I have mainly been engaged in putting theoretical flesh on the analysis of social stratification from a Weberian point of view. Now I want try to demonstrate that such analysis can be placed in the service of analyses of inequalities in the digital realm, providing a greater sense of direction and purpose in our understanding of the rise of digital stratification.

According to Weber, within any given society people or groups can be divided into three independent but interrelated categories: individuals aggregate into social classes, based on common economic positions; they form status groups, based on common interests and lifestyles; finally, individuals associate in political parties, on the basis of political interests and struggles for power. In a neo-Weberian perspective we may assume that this is valid also in the online realm, which may be considered as a complex social system and an essential part of the socio-economic fabric. As we have seen in the first chapter, inequalities present in the social structure are not disconnected from inequalities present in the digital sphere. In this section I want to consider how digital inequalities are embedded in social structures (Van Dijk, 2005; Helsper, 2012), and dig deeper into the idea that digital and social inequalities are deeply intertwined. Bonfadelli (2002), for instance, argues that previous social inequalities not only affect digital divides but reinforce and exacerbate pre-existing social inequalities. Both social scientists and policy makers should pay particular attention to the already-existing social inequality among people who access the Internet. Helsper (2008), analysing the relationship between social and digital disadvantage in the UK, brought together evidence

from three major datasets – the Oxford Internet Institute (OII), the UK Office for National Statistics (ONS), and the Office of Communications (Ofcom) – to argue the existence of 'a strong, statistically significant association between the social disadvantages an individual faces and their inability to access and use digital services' (Helsper, 2008: 9). She underlined that 'those who are most deprived socially are also least likely to have access to digital resources [and] are up to seven times more likely to be disengaged from the Internet than are those who are socially advantaged' (Helsper, 2008: 9).

Furthermore, numerous studies have shown how several patterns which characterize and shape the social structure, such as in education, skills, income, occupation and gender influence the access to and the use of the Internet (Rice and Katz, 2003; Van Deursen and Van Dijk, 2014). For instance, both Van Deursen, Van Dijk's (2014) study in the Netherlands and Blank and Groselj's (2015) study in England have proven that use of the Internet for personal development is related to educational level, while leisure activities are related to income.

On this background, I shall argue that there exists a kind of recurring cycle between social and digital inequalities. That is, social inequalities are the root of digital inequalities, and at the same time digital inequalities increase and reinforce social inequalities already present in a stratified social sphere. As pointed out by DiMaggio and Garip (2012), digital inequalities can reinforce and exacerbate existing social inequalities because they carry over pre-existing differences. From this perspective it seems that already-existing social inequalities not only influence the digital divide, but tend to reinforce social inequalities.

Putting it differently, not only are social inequalities useful in understanding digital inequality, but also vice versa. Indeed, digital inequalities are increasingly important in understanding social inequality since more and more aspects of social life are migrating and expanding into the online environment, including the functions of key institutions. Many aspects of the following social domains are increasing handled in the digital sphere: education at all levels, economic relations, social interactions (including social networking), political participation, employment, leisure activities, communication, news media, and entertainment media. These social domains produce and reinforce social inequalities, and this is why it is important to investigate how new digital technologies are embedded into the complex society and how they tend to generate forms of disadvantage (or advantage) for specific social groups. The Weberian approach to the variety of economic factors relevant to the formation of class relations is important here. In addition to access (or lack thereof) to the means of production, skills and credentials can become dominant features of many professions. Those with access to and control over such qualifications enjoy a market situation more advantageous than that experienced by those without such control. The new skills and credentials required by the digitally enabled networked society may function to facilitate or suppress digital divides. A person with great skill in navigating the Web would be at a

comparative advantage in accessing information, as would a person with greater resources of time to spend online. Different capacities to access the Internet could be seen a fundamental form of digital stratification. Of course, these capacities should be seen not only in terms of physical capacity, as we have seen, but also in terms of different kinds of access (usage, material, skills, motivational).

Thus, the digital divide may be measured in a variety of ways, and along a continuum including the following aspects: access vs. non-access (the first level of digital divide); number of sites of access; varying skills using digital tools; the amount of time spent online; the variety of activities accomplished online; how frequently a person goes online; why people do and do not go online; and their capacities to re-use content acquired online in their social context. Different ways of experiencing digital life give rise to digital inequalities, which are drawn from the social structure. These digital inequalities are not simply the 'fruit' of social inequalities, but also help in reinforcing inequality already existing in the social sphere. These patterns are related to the triadic social stratification process. This is why it is useful to investigate 1) the importance of social status in relation to social and digital inequalities, 2) the influence of social class and political affiliation upon the digital divide, and 3) the importance of prestige in digital participation or exclusion. Let us now briefly examine the evolution of social inequalities in the last years.

Social and digital inequalities: an intertwined process

As we have seen in the previous chapter, in Weberian terms the dimensions of social stratification are threefold: class, based on the market position and possession of the means of production, plus capacities and professional credentials (e.g. qualifications); status, based on social differences related to honour or prestige, and recognized through lifestyle (clothing, housing, way of speaking, etc.); and finally parties, groups of individuals working together on the basis of origins, objectives or interests. All these three elements play a key role in the rise both of social and digital inequalities. At this point, the issue of social inequality should be discussed in detail, along with a description of its emergence in Western societies.

The concept of social inequalities is highly stimulating and has been much discussed. Disciplines such as sociology and economics have extensively analysed this issue and it is impossible to give an account of all the leading scholars who have contributed. They range from the fathers of sociology (Durkheim, Weber and Marx) to contemporary sociologists such as Giddens, Beck and Bauman. Giddens, in his work *Fundamentals of Sociology* (2006), heavily influenced by Max Weber, argues that social stratification is a structured system of inequalities between social groups. In his perspective, it is possible to conceive of society as consisting of layers arranged hierarchically, where the privileged and the underprivileged are in a top-down relationship. Social stratification can be determined by several factors: economic resources,

ethnicity, gender, age, religious affiliation, prestige or power. All these factors are also reproduced in the digital realm, as several empirical studies have demonstrated.

Social inequalities are here meant as the clear differences in the systematic ability of individuals to obtain rewards and privileges to influence the behaviour of others (power, in Weberian terms), to produce benefits for themselves and their reference group (political party or status group), and in people's ability to choose their own individual destinies and daily lifestyles (status group). It is interesting to analyse the connections between the general notion of digital inequality and some specific manifestations of inequalities, such as poverty, health and housing. This is relevant to what in this book is defined as the third level of digital divide, relating to the social benefits of using the Internet. We shall examine this further in Chapter 4. Here, it is important to note that the phenomenon of social inequality in our society takes an increasingly extensive variety of forms, in which the various elements of digital inequality are often intertwined.

First of all, social stratification means that society is organized in a structured system of inequalities between different classes and social groups. Society is made up of layers arranged hierarchically, where the privileged and the underprivileged are in a top-down relationship (Giddens, 2006). Social stratification would be determined by factors such as: economic resources, gender, age, religious affiliation, prestige and power. Several studies have shown how access (first level) and inequalities experienced online (second level) are determined by factors and features at the base of the process of social stratification. To simplify, we may argue that the ways in which we access (or do not access) and use ICTs are heavily influenced by inequalities previously present in society. Different uses and degrees of digital capital can generate different form of reward (social, personal, economic, political and cultural) and tangible outcomes to reinvest and use in the social realm (third level). These elements at the base of the digital stratification tend to give different benefits in accessing and using the Internet, reinforcing inequalities already existing in the social realm.

Social inequalities produce unequal distribution of resources and rewards, which is reflected in the social structure and social hierarchy. Such unequal distribution of resources influences unequal access to the Internet (first level). As several studies have pointed out, broadband adoption and home access, just to mention two areas of difference in quality of physical access, are related both to income (class) and to occupation or family education (status group). Unequal access to ICTs in addition to different socio-cultural and economic backgrounds (based on different positions in the social strata) tends to produce unequal use of these technologies. These inequalities in adoption and use of ICTs also cause unequal access to resources and valuable information that individuals could use in the social realm to improve their social position (third level), thus increasing and reinforcing social inequalities.

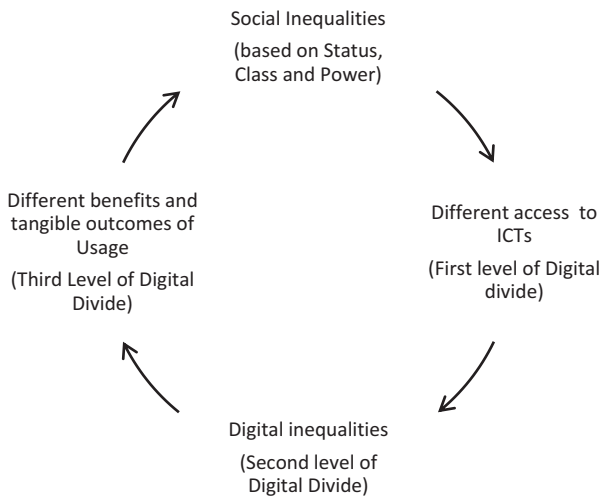

Figure 3.1 The intertwined relationship between social and digital inequalities

Certain groups take more advantages than others from accessing and using the Internet and ICTs. The effect is seen not only in the use of the Internet, but in the social realm. Status groups may positively or negatively influence how we access and use the resources in the digital realm, and consequently may further reinforce their status position. Having particular skills, a specific family background, or being a member of specific professions with a privileged position in society influence Internet experiences. A member of a group privileged either in economic or social terms is most likely to use the Internet to reinforce this privileged position, influencing other social groups and political bodies in line with the Weberian idea of the party. The importance of families emerges, through which the status is often passed down, as well as occupations often associated with prestige. These two distinctive Weberian concepts determine individuals' status positions and lifestyle choices. More importantly, they play a key role in determining the different uses of the Internet and the different benefits users gain from it. Furthermore, since more and more aspects of our daily life are moving into the digital realm, the capacity, motivation and cultural ability to determine which kind of information we need will also influence life chances and social mobility. This becomes the basis for digital and, consequently, social differentiation. It should be noted that cultural level, education, and general skills have always been at the base of social differentiation. However, patterns in these areas become more and more vital in a digital-enabled society and constitute a path to inequality, both in the social and the digital realm. These preconditions have far-reaching consequences for individuals' well-being and for the ways they construct their identity and attempt to move in the social system.

While examining social mobility, seen as changes in position within the social hierarchy, we should bear in mind the vital difference between

individual mobility and structural mobility. In the first case, we are discussing the chances for an individual to move up and down the social scale. Structural mobility, by contrast, is related to structural changes in the stratified hierarchy itself, rather than individual attempts to move within it. Effective use of the Internet and the capacity to embed information and knowledge developed online into a social network is likely to facilitate individual mobility rather than to influence structural mobility. The Internet is less likely to promote structural mobility, since the use of the Internet relies on the existing social structure. For this reason, while favouring individual mobility, the Internet nevertheless tends to support stratified inequalities, restricting changes in the stratification hierarchy.

The importance of the socio-economic and cultural context

The socio-economic context in which individuals are born and grow up, the kind of education they undergo, and the opportunities that their family give to them all influence the ways in which digital technologies are used. Class and social status tend to channel individuals in one direction, giving an imprint and input to which direction should be followed. These social preconditions, at the base of social inequalities, also set the path for digital inequalities. Digital inequalities affect the social benefit individuals gain from using ICTs. As noted by Van Deursen, Van Dijk and Klooster (2015: 260), 'The intensive and extensive nature of Internet use among well-to-do and well-educated people suggests an exclusive lifestyle that is not accessible for those with less capital (Van Dijk, 2005; Witte and Mannon, 2010). By differentiating users' chances in life, use of the Internet can contribute to reproducing social inequalities'.

At the base of social stratification, as I have already extensively outlined, according to Weber there are several aspects to group belonging. Of course, this does not mean that the economic aspect is not important; rather, it is not the only one that determines individual status and life chances. A wide range of studies (e.g. Goldfarb and Prince, 2008; Livingstone and Helsper, 2007; Pearce and Rice, 2013; Ono and Zavodny, 2007; Van Deursen and Van Dijk, 2014; Zillien and Hargittai, 2009) have proven that aspects of group belonging affect digital inequalities. In other words, the pre-existing differences in social life, at the base of social stratification, are relevant predictors (not objective rules) for digital engagement and online activities, which determine individuals' opportunities to have success in housing, health, education, employment and education; in short, they affect people's life chances. Social and digital inequalities, while distinct, are always mutually and reciprocally influencing each other, both reflecting different life chances in the market. Digital inequalities tend to reinforce pre-existing differences in society (Helsper, 2012; Van Dijk, 2005; Witte and Mannon, 2010), but online activities also offer chances to improve economic, personal and social capital (Hargittai and Hinnant, 2008; Hassani, 2006; Shah *et al.*, 2001). As several studies have proven, online capital-enhancing

activities are more likely to take place among relatively high social classes, while subordinate classes tend to use the Internet in more recreational ways (Hargittai and Hinnant, 2008; Livingstone and Helsper, 2007; Pearce and Rice, 2013; Van Deursen and Van Dijk, 2014; Zillien and Hargittai, 2009). Research in this area is vital in showing how online activities carried out in the digital realm have direct consequences for social life. Online capital-enhancing activities tend to increase opportunities and social benefits in the social realm, as shown by White and Selwyn (2013: 1), who concluded that the use of the Internet tends to 'remain structured along socio-economic and educational lines that work against already disadvantaged groups.' Moreover, the research shows education and occupation are vital variables in determining the use of the Internet for financial or governmental services or to exploit employment opportunities. In short, socially and economically disadvantaged groups are further disadvantaged in their level of access to valuable resources that could improve their life chances.

In relation to the socio-economic benefits that derive from specifically oriented use of ICTs, we should bear in mind the lessons of the knowledge gap hypothesis (Tichenor, Donohue, and Olien, 1970). This theory should be recontextualized in the digital age, but its main idea is still valid, namely that even in a society that has equal access to technologies, the information gap will not decrease. Earlier adopters of technologies, often coming from the higher status groups, tend to make better use of technologies, further increasing inequalities. An interesting example of this new form of knowledge gap, which has clear social consequences, comes from the Netherlands, where 97 per cent of the population has Internet access (Eurostat data, December 2014). This figure suggests the divide, as understood in the first level of digital divide, has been closed, since almost all have access to the Internet. Some specific divides, such as the age divide documented in earlier studies of the digital divide (Bimber, 2000; Lorence and Park, 2006; Xie and Jaeger, 2008), are narrowing, particularly in societies such the Nordic countries, where there is high Internet penetration.

For the sake of clarity, it should be noted that, in the case of the age/gender divide, the component of motivation has played a crucial role since the beginning. One study conducted by Morrel *et al.* (2000) has shown how middle-aged citizens tend to use the Internet to look for information related to health. Individuals with any particular interest hobby or passion will tend to use the Internet (and media in general) to get the information required. The Internet will be used more and better as a result of these independent cognitive needs. Information inequalities based on education can be compensated or reversed – at least partially – by interest and curiosity (Ettema and Kline, 1977; Dervin, 1980; Viswanath *et al.*, 1993). Bonfadelli (2002: 69) outlines the effect of the combination of education level and interests in producing forms of digital knowledge gap. Interest and education are not always independent factors; they may be correlated and reciprocally influence each other. As education increases, there is in many cases an increase in topic-specific interest, too (Bonfadelli, 2002: 69).

The first wave of research on this topic also included much research on the divide in terms of gender, which has now almost been closed through high Internet penetration. Such research has shown that females in high school are less likely to use the Internet than boys (Willoughby, 2008), or that men tend to use the Internet more intensely than women (Ono and Zavodny, 2003). These two socio-demographic groupings of males and females are less and less important (in terms of access) in a society where the Internet is widely used. However, differences persist in terms of use and capacity to access information required.

The research carried out by Van Deursen, Van Dijk and Klooster (2015) on a representative sample of the Dutch population shows how the opportunities offered by the Internet are fully exploited by individuals who belong to a higher status group or higher economic class. Thus, the capacity to improve life chances using the Internet is determined by class and status group. The Internet is still an open and democratic platform; however, not everyone is in the same position to enjoy the opportunities offered. This aspect represents the second level of digital divide, which I have discussed at many points above. In addition, the results of this research show another and more interesting aspect related to the third level of digital divide: that the Internet increases social inequalities (Van Deursen, Van Dijk and Klooster, 2015), because it tends to benefit specific groups. At least in the Netherlands (however, we may hypothesize that the results are valid to a certain extent everywhere there is high Internet penetration, since the Internet can be expected to reproduce inequalities present in the social system) different uses of the Internet (second level) reinforce the pre-existing economic (class), social (status), and political (power) divides.

Services, information, applications and opportunities offered by the Internet are more likely to be fully exploited by well-educated individuals, especially those belonging to socially advantaged classes, who will use these chances to improve and reinforce their position in society.

Digital inequalities

As we have seen in the first chapter, the digital divide is one dimension of a broader system of inequalities. Inequalities in access to the Internet continue to exist, corresponding to the social stratification and determining the areas of social exclusion. Digital inequalities seem to be increasing rather than decreasing. Universal access, eliminating the first form of digital divide, is far from being achieved, since 55 per cent of the world population in 2016 has no access to the Internet (Internet live stats, 2016a); however, even if we reach a saturation point, this will not be enough to bridge digital inequalities. As we have seen in the first chapter, different forms of inequality will be perpetuated and different levels of inequality reinforced. As already noted, the clear-cut characterization between those who have and do not have access to the Internet, known today as the early digital divide, has produced more problems than advantages (Gunkel, 2003; Van Dijk 2005; Van Dijk and Hacker,

2003). Despite its egalitarian potential, we may argue that the Internet has reinforced inequalities. Individuals from different classes and status groups may have equal access (in terms of physical access) to the Internet, but only a privileged few are able to turn such physical access into a social benefit; this further increases social inequalities.

As already noted, the digital divide indicates not a gap in terms of a binary division, but rather a continuum based on different degrees of possession and level of use of technologies of information. The technological determinist position, which sees access to technology as being able to solve social problems, including problems of social inequality, democracy, freedom, social relationships and sense of community, is misleading (Van Dijk, 2005). Reducing the gap between those who connect and those do not by offering cheaper and faster physical access does not automatically translate into closing the gap in terms of digital inequalities. As we have already seen, other dimensions and patterns can generate and reinforce inequalities, further increasing the distances between citizens/users. The higher the level of Internet penetration the more important are the inequalities experienced online. This is why, as anticipated in the first chapter, the term 'digital divide' is misleading, because it suggests a one-dimensional gap, mainly based on the economic factor. In fact, there are gaps in multiple dimensions – technical access, autonomy, social support, skills, and types of use – that go beyond the simple access to or possession of resources. These dimensions include patterns related to social strata. As the analysis of social stratification provided by Weber is intended as a multidimensional approach, the analysis of digital inequalities and digital stratification should also adopt a multidimensional approach. We should, then, underline the risks and opportunities of a digital society characterized by the increasing importance of knowledge and by the incessant rise and pervasiveness of ICTs. Moreover, digital convergence (Jenkins, 2006) between the computer, telecommunications and media industries has made it necessary to rethink ways to avoid forms of digital exclusion or digital discrimination. Although the features of inclusion and openness that have characterized the Internet since its inception have fuelled the myth of a democratic and egalitarian network, significant forms of inequalities not only persist but are increasing. Such inequalities cannot be deleted or underestimated, either by social scientists or by policy makers. The techno-enthusiastic idea that the Internet can bridge the inequalities between people seems not to take into consideration the inescapabilty of social inequalities and their migration into the digital realm.

For the sake of clarity, I do not want deny the importance of the revolution wrought by the advent of the Internet. I believe that the Internet has made possible new kinds of social relations, has revolutionized access to information, and has even allowed some areas of the world to fight for democracy (even if the effect in this regard has often been overestimated, such as in the case of the Arab Spring). A number of studies have emphasized the role of the Internet in promoting both collective action (Tarrow, 1998; Frantzich, 1999; Diani, 2000; Leizerov, 2000; Elin, 2003) and new democratic, participatory

and open spaces (Sproull and Kiesler, 1991; Kapor, 1993). The democratic vocation of the Internet would seem to be confirmed in the rapid growth, unprecedented in the history of the media, that the network has known since 1994, when only 1 per cent of the world population had Internet access, compared to 45 per cent in 2016 (Internet live stat 2016b). When Clinton and Gore launched the idea of an 'information superhighway', the Internet was still a marginal phenomenon in American life and in the world in general, and the analysis that predicted its widespread distribution and its role in the twenty-first century was considered a figment of the technocratic imagination. Its development fuelled the hope that the revolution wrought by the development of ICTs would help solve some of the most pressing problems of contemporary society. These expectations concerned the democratic potential of ICTs and their tendency to promote inclusion and participation, envisaging a reduction of the distance between rich countries and underdeveloped nations. These utopian discourses on the Internet are part of a broader phenomenon, always integral to human civilization, which has been defined by Vincent Mosco (2005: 22, 29) as the telling of myths, or 'seductive tales containing promises unfulfilled or even unfulfillable [that appeal to] some important part of the collective mentality of a given age, and … render socially and intellectually tolerable what would otherwise be experienced as incoherence'. Specifically regarding the advent of the Internet, Mosco (2005, 117–127) underlines three myths of so-called cyberspace, corresponding to the ability to transcend space (the end of geography), power (the end of politics) and time (the end of history).

The utopian visions remain unfulfilled, however. The Internet's rapid growth has not been uniform, either at global level or within single states. Less developed areas of the world have been unable to participate in this growth, because of the poverty of the population, the lack of infrastructure, political restrictions, and the lack of technological culture and motivation to adopt new technologies of communication. Thus, the dissemination of ICTs is redrawing the maps of poverty and wealth, increasing the differences existing between the Global North and South and creating new areas of exclusion, even within the most developed nations. Even within single countries, there are differences in adoption and use of the Internet, as well as in capacities to reinvest online gains (in terms of valuable information and resources) to enhance social position. These inequalities determine important differences both between nations (global digital divide) and between people within individual states (democratic digital divide). Social inequalities amplify in the digital arena, based on the traditional mechanisms of social stratification. Inequalities in using the Internet (second level) mirror social inequalities and tend to affect quality of life and opportunities to undertake professional and cultural activities in a wide range of fields (third level). These include job searching (both in terms of looking for new job opportunities and developing skills to be invested in the market); online shopping (finding better deals and opportunities to purchase); entrepreneurship (promoting one's own business in a local or

global context or opening up new opportunities for small and big companies); access to healthcare (looking for valuable health information and finding better and cheaper options to cure illnesses); consumer lifestyles (attitudes towards consumption or other distinctive lifestyle markers that characterize a distinctive status group); political engagement and power (both in terms of exploring different points of view and taking action to protect one's interests); socializing (reinforcing one's sense of belonging to a social group and enhancing social capital); learning (enhancing formal and informal learning); leisure (finding better deals for travel, concerts or online gaming); cybersecurity (different attitudes in protecting one's own personal data and contrasting surveillance); housing (capacities to look for better accommodation or promote accommodation to sell or rent out); and tax and relationships with bureaucracy (avoidance of queuing to pay tax or finding services and facilities offered by public institutions). This list does not claim to be comprehensive, but is indicative of the different uses of the Internet and their links to concrete and tangible outcomes in improving life chances.

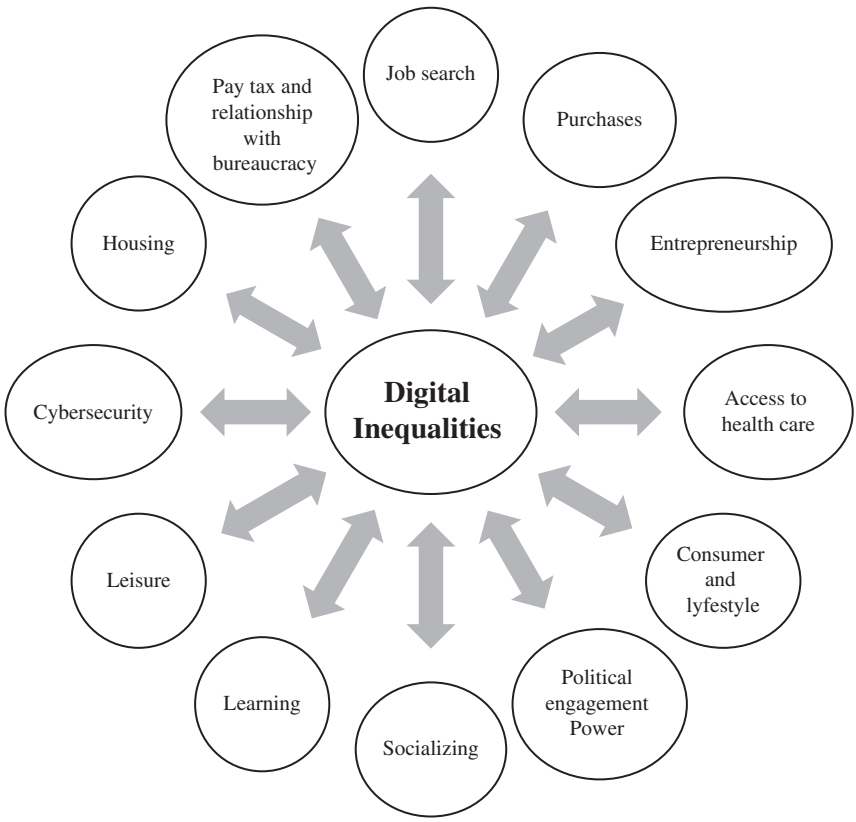

Figure 3.2 How digital inequalities affect quality of life

Social stratification in the Information Age

In this section, I will seek to develop an approach to inequality that acknowledges the process of digital stratification. I shall try to show how we might open up debate on this issue by approaching social groups in a digital-enabled society. As we have seen, studies have shown that access to ICTs is unequal along lines of socio-economic status, gender, age, race and geography (e.g. Mossberger, Tolbert and Gilbert, 2006; NTIA, 1995, 1999, 2000). The digital divide is an important social problem, because unequal access to and different uses of ICTs may cause additional disadvantages for already-marginalized groups in society. It cannot be analysed separately from the process of social stratification and the structural forms of inequality. As we have already outlined, the digital divide is not only a technical problem that can be solved through the possession of devices (computers, tablets, smartphones, and so on) that allow connecting to and use of the Internet. It should be (in my point, must be) analysed in relation to the wider socio-economic, political and cultural context in which it is generated. In this section, I shall discuss the digital divide in relation to social strata. I shall first discuss how social stratification based on socio-economic and socio-demographic variables influences access to and use of the Internet. Then, I shall dig deeper into the process of social stratification from the Weberian perspective, and explain how it fits into the digital realm.

Social strata

At this stage of the discussion, it should be clear that the digital divide is a very wide issue, which brings into play a host of interrelated aspects: lifelong learning (Warschauer, 2003; Mark *et al.*, 1997; Merrifield, 1997); technological illiteracy; the environment in which individuals access the Internet (Mark *et al.*, 1997); the importance of social networks (Katz and Aspden, 1997; Conte, 1999; Benin and Keith, 1995; Hogan *et al.*, 1990; Jayakody *et al.*, 1993; Wiles, 2003, 2005; Johnson and Roseman, 1990; Jewel, 1988; Oliver, 1988); intellectual abilities and practices of individuals; informal peer learning and group support (Paul and Stegbauer, 2005: 1); minorities and race (Servon and Nelson, 2001; Warschauer, 2003; Chakraborty and Bosman, 2005; Mossberger *et al.*, 2006; Ono and Zavodny, 2008); disablement; the production of content (Blank, 2013); quality of life; the expansion of specific communities; the transition into the working world; the ability to actively participate in the new economy; the development of areas of public interest, i.e. government social services; and research and development. All these factors lend the digital divide a broad appearance, showing that social and digital inequalities are strongly intertwined.

Let me dwell, for a while, on some of the studies that have demonstrated that socio-demographic variables such as age, education, gender, and income classifications are connected with individual differences in online activities.

For instance, Wilson (2006) describes how access to the Internet is shaped by six categories of stratification, namely income, gender, education, occupation, geography and ethnicity. Similarly, DiMaggio *et al.* (2004) showed how access is influenced by eight demographic variables: family structure, education, ethnicity, age, gender, income, employment status, and region and place. These socio-demographic variables at the base of social strata and social inequalities shape how we access and use the Internet. Among the many studies that have analysed the relationship between online activities and socio-demographic variables, much research has focused on race/ethnicity (Hoffman and Novak, 2001; Mack, 2001; Fairlie, 2003, 2004; Mesch and Talmud, 2011), age/generation (Loges and Young, 2001), education (Clark *et al.*, 2001; Attewell, 2001; Clark and Gorski, 2002a), gender (Bimber, 2000; DiMaggio *et al.*, 2001; Ono and Zavodny, 2008) income and social class/caste (Bucy, 2000; Zillien and Hargittai, 2009; Witte and Mannon, 2010; Ragnedda and Muschert 2013) and countries (Chen and Wellman, 2004; Chinn and Fairlie, 2006). Remarkable differences are still being observed in terms of differential skills, Internet usage and benefits obtained (Brandtzæg, 2010; Chen and Wellman, 2004; Hargittai and Hinnant, 2008; Selwyn, 2004; Van Dijk, 2005; Zillien and Hargittai, 2009). Such research, even though using different methodological and theoretical approaches, shows how digital inequalities tend to be tied to socio-economic status, gender, ethnicity, education and country contexts. All these patterns, at the base of social inequalities, influence Internet usage and proficiency (Stern, Adams and Elsasser, 2009).

An important factor influencing the rise and persistence of the digital divide is education. Indeed, as several studies have pointed out, the higher the level of education, the more likely it is for a person to have access to and use ICTs (Van Dijk, 2002, 2005; Di Maggio *et al.*, 2004, Hargittai, 2002, 2004, Bonfadelli, 2002). Among individuals with the same income level, those with a higher-level educational background have higher rates of access. In other words, the level of education is linked to the ability to use the Internet and ICTs strategically for information purposes. Users/citizens with a higher level of education are more likely to enjoy the possibilities offered by ICTs (Blank and Groselj, 2014; Van Deursen and Van Dijk, 2014). This has social implications beyond the use of the Internet. Education is a constitutive element of social strata and social inequalities; it influences not only the way we access and use the Internet (first and second level) but also its social, economic and prestige returns. Education is significantly tied to the benefits we gain from the Internet.

Another important factor that influences the rise and perseverance of the digital divide is age. Several studies have shown that Internet access and PC use tend to be higher and different for younger people in comparison to older people (Soker, 2005; Palfrey and Gasser, 2008; Hargittai, 2010; Lenhart *et al.*, 2008). Gender also has a considerable impact on access to and use of ICTs (Clark and Gorski, 2002b; Cooper and Weaver, 2003; Losh, 2003; Hiroshi and Zavodny, 2003; Cooper, 2006: Ono and Zavodny, 2008). Some earlier

research suggested that females were less likely than males to engage in diverse Internet use, such as 'banking/financial management, downloading software, music/films/music or images, and web authoring' (Selwyn *et al.*, 2005: 12). While the gender divide has narrowed greatly in some advanced countries such as the UK (Dutton, Blank and Groselj, 2013), difference still persists in terms of range of online activities (Haight, Quan-Haase and Corbett, 2014) and intensity of use (Hargittai, 2010). Furthermore, Hargittai and Shaw (2015) have shown that women tend to underestimate their digital skills more than men. The evidence indicates inequalities continue not necessarily in terms of access, but in terms of usage.

Differences and inequalities in the online activities carried out in the digital realm are not simply related to socio-economic or socio-demographic dynamics; they are visible also in terms of motivation, skills and lifestyle. Hargittai and Hinnant (2008), for instance, have shown how the use of the Internet for capital-enhancing activities is related to education. Helsper and Galacz (2009) note that, in the UK, individuals with a low level of education tend not to use the Internet for educational or economic purposes. Thus, we may assume that the use of the Internet further increases, rather than reduces, previous inequalities in terms of education and income. Educational patterns are vital in predicting online activities, as Robinson, DiMaggio and Hargittai (2003) and Van Deursen and Van Dijk (2014) have shown. Both economic and educational factors are related to classes, in Weberian terms. Fuchs (2009: 47) states that the 'the reason for gaps in access, usage/skills, benefit, and participation concerning ICTs is the multidimensional class structure of modern society that creates structural inequalities'. He concludes his analysis by remarking that:

> people with high income, far-reaching and influential social relationships, good education and high skills are much more likely to have access to ICTs, to be capable of using them, to benefit from this usage, and to be supported in political participation by ICTs than people who are endowed with only a little amount of economic, political, or cultural capital.
>
> (Fuchs, 2009: 47)

It has been clear since the earliest studies on digital inequalities that economic and educational factors have a deep influence on users' online activities. However, following the multidimensional approach to social stratification as identified by Weber, it can be argued that inequalities in using the Internet tend to reinforce social stratification, based not only on economic patterns but also on group status, prestige or honour. Digital inequalities and digital stratification are reproduced not only when factors such as income and education are exploited by advantaged socio-economic classes to gain disproportionate benefit from ICTs, but also through the influence of factors such as prestige, occupation, honour and family background. In the next

section, I shall attempt to analyse social stratification following the Weberian triadic relationship at the base of the process of social stratification.

Digital stratification: A Weberian analysis

Social stratification has a strong influence on most Internet activities (Blank and Groselj, 2015: 2773). For instance, Blank and Groselj (2015) conclude from their research that class has a positive effect on economic activities, and that social status has a positive effect on cultural consumption. They underline that political participation is affected by political power (ibid.). These data are in line with those of several other researchers, in that social status tends to influence the use of the Internet. That is, citizens with higher social status are more likely to access and use the Internet (ibid.) than citizens with lower social status. Status group is also seen as an accurate predictor of cultural consumption patterns (Graham, 2008), indeed even more accurate than economic-related variables (Van Eijck, 2001; Chan and Goldthorpe, 2007). According to Schroeder (2015: 2824), a Weberian view 'might be that there are bounded status groups that distinguish themselves (among other things) by reference to their media consumption. [The] sociological relevance of these distinctions is mainly as a motor of consumption. Further, a Weberian approach to consumer culture is not that lower groups emulate or try to catch up with elite groups, but rather that there is a constant push by higher-status groups to consume more or differently to maintain their distinction'. Thus, analysing digital inequalities adopting a Weberian perspective means also focusing on issues of lifestyle and observing how consumption influences status and vice versa.

It might be argued that certain uses of different technology and information sources could be aligned with status:

> while 'elite' media uses may promote status emulation, consumer culture or popular cultures are also plural, so in the realm of culture it is difficult to regard media uses as contributing to how domination is exercised by elites (as Marxist and constructivist media theories claim).
>
> (Schroeder, 2015: 2824)

As noted above, Weber drew a clear distinction between class, seen in relation to ownership of property or skills, and status, mainly related to specific lifestyles and world views. Prestige, instead, is often associated with occupation, while status often comes from family. The importance of families, skills, education and jobs in determining our access to and use of the Internet is clear. Witte and Mannon (2010) note that certain forms of access to and use of the Internet might be seen as characteristic of the middle and upper classes, acting as a cultural boundary marking a class divide. Higher social status gives better access to power in the political and economic order. It may also give better and quicker access to technologies, thus increasing inequality.

As mentioned, status groups are aggregates of individuals who share a language, moral code and culture, and have similar lifestyles, indicating collective bounds. Status groups are characterized by a sense of solidarity and cohesion, and tend to organize politically to protect their cultural and social privileges. Status group and economic class may coincide, but not necessarily. One example of a group using the Internet to protect and reinforce its own social and cultural benefits can be seen in 'a qualitative study of two neighbourhoods in the UK, [carried out by] Crang *et al.* (2006) [who] find evidence for the development of a multispeed urbanism, where higher educated people were using communication technology as means to keep their fast-paced life cohesive' (Graham, 2008). The Internet, often seen as an instrument of social inclusion (Warschauer, 2003), can play a role in creating new communities based on similar interests. In other words, the Internet can reinforce status groups while transcending economic class. It might therefore be argued that the Internet facilitates the process of networking within and outside the Internet (Castells, 2001), based on similar psychological dispositions (Morahan-Martin and Schumacher, 2003) or common interests among social movements (Diani, 2000; Adams and Roscgino, 2005). Although such networking will not automatically generate status groups in Weberian terms, it may help in forming new status groups through articulating common interests or reinforcing the sense of belonging.

Not only the status group but all three dimensions of the concept of social stratification as elaborated by Weber are reproduced online, giving rise to what I would define as digital stratification (see Table 3.1). For the sake of clarity, the stratification in the digital realm should be seen in Weberian terms as an 'ideal type', serving to stress some point of reality in order to make it more intelligible. Let me dwell, briefly, on this concept. By digital stratification I mean a form of stratified digital inequality based on the stratification model proposed by Weber. As we have seen in the previous chapter, class, i.e. the belonging to a specific economic group, is determined only by an individual's position in the job market. This element of the triadic model of social stratification in the social realm is evident in inequalities in wealth, goods, external living conditions and personal life experiences, in access to material resources, and finally, in the use of goods or skills to accrue income in a given economic order. Belonging to a low class means having limited capacities to use the Internet for capital-enhancing activities that link users to the world of the economy or the job market; it also means impossibility of or limited capacities for using ICTs to reduce inequalities that have their source in the workings of capitalism and the marketplace. Finally, belonging to a low economic class means limited or lack of capability to obtain economic advantages using ICTs. Class position therefore affects the digital divide by structuring inequalities in users' access to, use of and gaining of advantages from the Internet. In other words, class influences all three levels of digital divide.

Regarding the second element of the triadic social structure, we have seen how status groups 'are made up of people who have similar cultural and

Table 3.1 Digital stratification

	Class	*Status group*	*Power*
Social inequality	Inequalities in wealth, goods, external living conditions, and personal life experiences Unequal access to material resources Inequalities in using goods or skills for the sake of income in a given economic order	Inequalities in the way in which people judge and relate to each other Group awareness relatively well defined, with a distinctive 'style of life' that separates them from the rest of the population (Weber, 1978/1922: 305) Status groups are 'made up of people who have similar cultural and social interests and common consumer patterns' (Weber, 1978/1922: 932)	Lack of political involvement Lack of capacities in imposing will upon the behaviour of other persons Lack of participation in decision-making bodies Limited capacity to determine needs, make decisions and maintain independence
Digital Inequalities	Limited capacities to use the Internet for capital-enhancing activities that link users to the world of the economy or the job market Impossibilities or limited capacities to use ICTs to reduce inequalities that have their source in the workings of capitalism and the marketplace Limited or absence of capability to obtain economic advantages using ICTs	Limited capacity to use ICTs to interact with and reinforce status group membership Lack of capacities and/or opportunities to use the Internet to improve communal ties Limited capacities to enhance status position in society through online consumption	Lack of digital engagement for political purposes Limited capacity to influence digital society Limited capacity to preserve and protect personal or group interests Lack of or limited capacities to use ICTs to control the apparatus of domination

social interests and common consumer patterns' (Weber, 1978/1922: 932). They determine a group awareness that is relatively well defined with a distinctive 'style of life' that separates them from the rest of the population (ibid.: 305). Finally, they influence inequalities in terms of the ways in which people judge and relate to each other. Again, let me draw a parallel with the digital realm in order to better understand how status groups affect the digital divide. An individual of a low social status will suffer more from the digital divide, for example because he/she has limited capacity to use ICTs to interact with and reinforce status group membership; he/she will also lack capacities and/or opportunities to use the Internet to improve communal ties, as well as limited capacities to enhance his or her status position in society through online consumption. Belonging to a low status group thus has consequences both in the social and the digital realm. Again, status group influences all three levels of digital divide, in terms of how individuals access and use online resources to improve their social position.

Finally, the last element identified by Weber is power. We have seen how, in the political sphere (in broad terms), individuals associate in political parties or groups in order to control the apparatus of domination. Inequalities in exercising power, often understood as lack of political involvement, are evident in lack of capacities to impose will upon the behaviour of other persons, lack of participation in decision-making bodies, and finally limited capacity to determine needs, make decisions and maintain independence. How does this produce inequalities in the digital world? The influence is clear in limited capacity to influence digital society, limited capacity of individuals to preserve and protect personal or group interests, and finally, lack of or limited capacities to use ICTs to control the apparatus of domination.

In the light of this, it might be argued that stratification, seen as the sedimentation of practice and social history, exists in any form of society, including the digital sphere. The assumption that has led this section is that even in the digital realm it is possible to identify a sort of stratification that has its own rules and dynamics, but which is nevertheless tied to and draws upon social stratification. It is possible to argue that a highly unequal society tends to reproduce the offline axes of inequalities in the digital realm, and that such digital stratification further reinforce social inequalities.

Digital skills and social stratification

At this stage of the discussion, I want to acknowledge more fully the importance of digital skills in reinforcing digital and social inequalities, and how such skills are related to status and prestige as well as education and class. Scholars have provided several definitions both of the broader concept of 'digital literacy' and the more specific term 'digital skills' (Buckingham, 2007; Gillen and Barton, 2010; Hague and Williamson, 2009; Lankshear and Knobel, 2008; Litt, 2013). Although the exact definition of digital skills may depend on the author, this concept tends to include a variety of informational, social,

creative and technical skills in using ICTs (Helsper and Eynon, 2013; Eshet-Alkali and Amichai-Hamburger, 2004; Van Dijk, 2005). Why is this concept important? First of all, because it relates to the variety of activities an individual engages in online (Litt, 2013; Van Dijk, 2005; Van Deursen and Van Dijk, 2011). As several studies have demonstrated, those who are more skilled are more likely to be more digitally included and use the Internet for a wider range of purposes, including learning and capital-enhancing activities as well as broader aspects of daily life (Cheong, 2008; Hague and Williamson, 2009; Hargittai and Hinnant, 2008; Zillien and Hargittai, 2009). Furthermore, digital skills are crucial for the attainment of better jobs and higher incomes (DiMaggio and Bonikowski, 2008; Reynolds and Stryszowski, 2014), which can be related to the exacerbation of inequalities. In their research on the US labour force, DiMaggio and Bonikowski (2008) positioned inequalities in using technologies as a crucial aspect of social stratification studies. However, since many individuals, and young people in particular (the so-called 'digital natives'), now have significant competences in using ICTs (Boyd, 2014; Davies and Eynon, 2013; Hargittai, 2010; Ito *et al.*, 2008; Van Deursen and Van Diepen, 2013), it is worth investigating the influence of proficiency in using technology. Beyond personal and innate competences in using technology, motivations to learn digital skills are related both to informal (supportive networks, friends, family and peers) and formal learning (Cilesiz, 2009; Eynon and Malmberg, 2012; Ferro, Helbig, and Gil-Garcia, 2011; Selwyn, 2005; Sinclair and Bramley, 2011). In relation to informal learning in particular, the importance of the status group, defined by Weber as a community, in contrast to the purely economically determined class, is clear (Gerth and Mills, 1958: 186). Family (through which status group is often inherited), supportive networks and other community members are vital in the process of acquisition and development of digital skills. Individuals with parents with a higher level of education tend to develop better digital skills (Gui and Argentin, 2011).

It is possible to find in the literature two more factors that influence the level of digital skills: amount of time spent online (Livingstone and Helsper, 2007; Hasebrink *et al.*, 2011; Wei, 2012) and quality of Internet access (Hargittai, 2010). Both these factors are tied to class, as several studies have shown (Hargittai, 2010; Robinson, 2009). Several studies (Reynolds and Stryszowski, 2014; Van Deursen and Van Dijk, 2014; Van Deursen, Helsper and Eynon, 2014) have concluded that level of digital skills is related to higher income (class) and occupational status (status group), which in turn produce a better education and greater access to resources, further reinforcing previous social inequalities. Since education is positively and significantly related to more frequent participation in all kinds of online activities, except for vice activities (Blank and Groselj, 2014), and since, as we have seen, more frequent use of the Internet creates higher levels of digital skills, a vicious circle emerges which tends to increase inequalities. Without a concrete policy, as I shall argue in the concluding chapter, this trend will only get worse.

Differences in accessing and using the Internet are visible also in terms of content produced and political participation. Also in terms of content creation online, we can observe differences related to income and education. A study carried out by Blank (2013) on a representative sample of the UK population found that the production of political content is positively related to education; such content is mainly created by a status elite. Furthermore, he found that entertainment and social content creation are negatively related to income. In other words, variables such as income and education have an influence on the type of content users tend to produce online. Thus, the type of activities carried out online, the motivation in using technologies and the purpose of such use are shaped by the wider social structure of which users are part.

Other previous research on the role of class in Internet use has also found a positive link with inequality. Schradie (2011), for instance, shows how forms of inequalities related to class persist among Internet users in the US. Zillien and Hargittai (2009: 280) find that capital-enhancing activities are positively influenced by higher social status. However, most of these studies do not take into account the Weberian division between class and status, but rather include these categories in one macro category. One of the few attempts to investigate empirically how status, power and class influence Internet use has been made by Blank and Groselj (2015), who investigated a representative sample of British citizens. Operationalizing complex concepts such as class, status, and power in order to 'measure' them, they found that power and status 'are more important for activities that involve formal links to the larger society: classic media use, information seeking, work and school, and political activities [while] the dimension of class is more important in informal, often personal links such as blogging, content creation, or infotainment' (Blank and Groselj, 2015: 2774). In other words, they showed empirically that, at least in the UK, online activities are stratified by power, status and class, and that the triadic analysis of social strata proposed by Weber can be applied also to the digital realm. Furthermore, as Blank and Groselj (2015: 2776) remarked in their conclusion, 'the Internet seems to amplify and support existing stratification'. We may therefore conclude this section by reminding ourselves that digital skills, so vital in understanding the different activities individuals use the Internet for, are tied to social stratification, that is, they are connected with class (income), social status (occupational status), and power.

Concluding remarks

My aim in this chapter has been to deal with the process of social stratification and how it influences access to and use of the Internet. I have drawn heavily on Weber's concept of social stratification, based on the triadic relationship between class, status and power. I believe that such an approach can help us to understand how Internet use is conditioned by the social structure in which it is embedded, and that we can apply it to the digital realm as long as the Internet's uniqueness is acknowledged. I have discussed the stratification of

the Internet and the argument that such stratification, as in social reality, is shaped not only by economic factors, but also by status, prestige and power. Digital inequality becomes structural – this is why I have used here the expression *digital stratification* – when certain segments of the population systematically and regularly use technology, specifically the Internet, and draw benefits from it, reinforcing their privileged position in society. Digital stratification is, then, a form of structured inequality in the digital realm based on patterns similar to those that influence and determine social inequalities. Such inequalities and different uses of the Internet and online knowledge are based not only on class (economic factors) but also on status and power.

Weber is pessimistic about the elimination of social inequalities in the future. So am I, especially in the digital age. Just as social stratification is based on factors other than economic factors, so must digital stratification deal with factors such as knowledge, skills, motivation, technical capabilities, and so on. According to Parsons (1951), social stratification tends to reflect social stability and consensus. The most functional role in society (the role of greatest importance) is ranked most highly. This is in line with the Durkheimian perspective. Using this perspective to analyse the rise and diffusion of inequalities in the digital realm, we might argue that inequalities in rewards (money, prestige, occupation) are associated with Internet use. The Internet produces social functions that justify the unique reward system, enabling those with greater Internet skills to be rewarded with higher earnings. This inequality, based on meritocracy, has been crucial for the development of the information economy, and this is often used by neo-functionalist theories and right-wing thinkers as justification for it. In this perspective, this structured inequality is not a negative phenomenon, but functional for the 'right' growth of the society. Functionalist approach sees social stratification as necessary for the development of different skills, talents, training and capacities, with each role being rewarded differently. Using this approach to 'read' digital inequalities, we might find that the digital divide is mainly based on digital skills and, more importantly, that it may be useful in relation to the emergence of new talents and capacities, each of which is differently rewarded. In the Durkheimian perspective, all societies require inequalities, some of which are legitimate and some of which are not, depending upon how they are interpreted within the relevant social context. These inequalities are, in some sense, also 'required' in the digital sphere in order to create this 'functional' digital stratification. Rewards based on merit tend to produce inequalities that, as we have seen, form the basis for the division of labour. In turn, such division of labour determines a social order without which society is not possible. In other words, according to Durkheim, inequalities are not only inevitable but also useful in creating social order. Specialization is a means to facilitate productive coexistence, rather than a cause of destructive division (Durkheim, 1984: 267). Particular divisions of labour require individuals to play specialized roles in society. Both families and social institutions may also channel children into specialized roles. Channelling children for an 'expected' role in society (in the sense that a

riverbed channels water in a specific direction) helps maintain social order and society to run smoothly. Thus, inequalities are structural and do not necessarily follow a meritocratic path. This model rings particularly true when we apply it to digital inequalities. Inequalities online tend to follow some of the patterns that characterize and determine inequalities offline, generating what we have here defined as digital stratification. In turn, such digital inequalities at the base of digital stratification tend to reinforce (third level) inequalities in social life.

Hence, individuals already suffering the social consequences of a low position in the social strata are further discriminated against digitally because they lack the access, opportunities, and skills to make their activities online satisfactory and valuable. As I have discussed above, those who are digitally discriminated against are not only penalized in terms of rewards in the social system, but are also excluded from a digital world where many activities now take place.

4 Life chances and the third level of digital divide

The aim of this core chapter is to investigate the extent to which new digital technologies offer new opportunities to improve people's social lives. The Internet's ability to transform lives remains crucial, and access to (or exclusion from) it can open (or close) doors to important societal resources, such as education, healthcare, food and money, hence improving people's quality of life. Weber argued that it is the market which regulates the life chances enjoyed by individuals. My main aim in this chapter is to focus on the opportunities to improve the life quality of citizens/users offered by ICTs and these opportunities' links to pre-existing forms of social stratification. I shall begin by examining the concept of life chances as presented by Weber and further explained by Giddens (1973). The approach which I develop here will allow us to think more rigorously about the issues set up above and to pose more focused questions.

This chapter argues that in a society increasingly organized via digital networks, life chances are determined by motivation to access and use the Internet, and by the digital capital that users can invest in the digitally mediated market. Just as Weber moved beyond the distinction between property owners and non-owners to also focus on particular skills and other assets, in a digital society we should set aside the distinction between those who have and those who do not have access to the Internet in order to develop a social theory of digital inequalities integrated in social structures. Once again I shall make use of Weber's concepts and ideas and extend them to an analysis of digital inequalities and the extent to which these inequalities affect life chances. I shall conclude this chapter by reflecting on the reciprocal effects that social and digital inequalities have on each other, emphasizing once again that digital inequalities tend to reinforce the social inequalities upon which they are based.

Life chances

According to Weber, the life chances of an individual shape the choices he or she can make, determining their capacity to pursue and obtain specific goals (Fitzpatrick and LaGory, 2000: 90). In Weberian terms, life chances are seen

in terms of 'the typical chance for a supply of goods, external living conditions and personal life experiences, in so far as this chance is determined by the amount and kind of power, or lack of such, to dispose of goods or skills for the sake of income in a given economic order' (Weber, 1978: 133). In other words, life chances may be seen as the chances of success that each individual has in housing, health, income, education, occupation and so on. In a capitalist society, individuals without property may rely for their success on the skills they can offer on the market. Weber argued that such skills determine an individual's class position in the society. Breen (2005: 32) rightly stated that life chances are distributed by the market 'according to the resources that individuals bring to it'. That is, it is the capacities to use resources, including skills, in the market that determine life chances, rather than the simple possession of these. What gives individuals better chances to improve their position in society is not the mere possession of better qualifications and better (digital) skills, but above all their capacity to offer and use these. As we shall see later, this is related to the third level of digital divide. Proper access to and use of ICTs can give citizens/users a wide array of opportunities to improve their life chances. ICTs, and the Internet in particular, make available information-enhancing options to enable hitherto unknown actions. Weber's theory of lifestyles can be useful in analysing how and why individuals use new digital technologies to enhance their life chances. This approach firmly put the choices people make against the (socially) structured sets of opportunities and restraints they use to make them. In an over-sophisticated and hyper-specialist society, highly qualified individuals will clearly have greater life chances than others. This may result in an increasingly complex differentiation between groups that contrasts with the Marxist polarization of society into two main classes.

Life chances, life conduct and lifestyle

Giddens has further developed the concept of life chances, which he calls 'the chances an individual has for sharing in the socially created economic or cultural "goods" that typically exist in any given society' (1973: 130–131). What I have been assuming throughout the discussion is that when we use the expression 'any given society', we may include the Internet, not as a society per se but as an extension and integration of the social system. Before examining this issue more closely, we should clarify some misleading interpretations of the lifestyle concept as intended by Weber. As pointed out by Abel and Cockerham (2005: 551), in the two major English-language translations of *Economy and Society*, by Gerth and Mills (1958) and Roth and Wittich (1978), Weber's concept of *Lebensführung* is wrongly translated as 'lifestyle'. The result of this, according to Abel and Cockerham (2005: 551):

> is that Weber's distinctly different terms 'Lebensführung' (life conduct) and 'Lebensstil' (lifestyles) have the imprecise and singular meaning 'lifestyle' in Anglo-American literature. Translated literally, Lebensführung means

> life conduct and refers to choice and self-direction in a person's behaviour, not lifestyles. Consequently, Lebensführung is the element of choice within Weber's overall concept of Lebensstil (lifestyles) and joins with Lebenschancen (life chances) as one of Lebensstil's two basic components. To use Lebensführung to mean simply lifestyles overlooks the depth of Weber's thinking on the subject.

In other words, for Weber lifestyles (*Lebensstile*) should be considered as ways of life created in the interaction between life chances (*Lebenschancen*) and life choices (*Lebensführungen*) (Weber, 1978; Abel and Cockerham, 2005).

Consequently, we may say that individuals' actions are guided or channelled within a range of opportunities that are available to them in a specific historical moment. Our lifestyle is, then, determined by the interaction between our life choices and our life chances. To use a metaphor, we may paint whatever pictures we want (we can choose to do in our life whatever we wish), but only within a specific frame, provided by the social system in which we are embedded (life chances, influenced by our social class). This social system delimits our choices. The Weberian idea of lifestyles shows its naturally dualistic face, since individual actions are the result of individual choices made within a structured set of available options. The implications that this could have on the Internet are clear. In order to seek out the ways in which the social system in which we live and interact may influence the way in which we access, use and gain benefits from the Internet, we need to connect the Weberian idea of lifestyles (Lebensstil) to the use of the Internet. In so doing, two important points emerge that deserve to be discussed: 1) the Internet increases our life choices, and 2) the Internet can be seen as a form of individual behaviour.

The Internet increases our life choices (Lebensführung). First of all, it might be argued that the Internet can increase our panorama of choices. This is hypothetically true. The Internet certainly opens up a wide range of opportunities and information that can be accessed by almost all users. However, there at least two objections to this enthusiastic vision. The first is related to the fact that not all the information and valuable resources are available in the same manner for all users. There are economic barriers, linguistic barriers, literacy barriers and cognitive barriers. Second, despite its egalitarian potential, Internet use seems to mirror lifestyles in the social environment and follow social structures present in the social system, as I have discussed in the previous chapter. Thus, despite the Internet's lack of barriers, citizens are not equal in front of the screen; rather, their unequal points of departure mean they have completely different experiences. These differences are visible both in terms of the purpose of the Internet journey (i.e. goal-oriented activities: what users look for online, and what obstacles they encounter) and in terms of 'rewards', namely the tangible benefits deriving from different uses of the Internet.

This consideration brings us to the second point: *the Internet can be seen as a form of individual behaviour*. Accessing the Internet and searching for specific

content depends on individual choice. However, this choice is not completely disconnected from its social, cultural and economic environment. Individuals' online choices are guided by the opportunities available to them in that specific context. As several studies have pointed out, it is the social group and individuals' social environments that shape these choices (Blank, 2013; Schradie, 2011). Individuals do not have complete control over their environments, and their life chances are strongly influenced by their occupational group, family background and education. All these factors, as this book has already underlined are at the base of the social stratification which, in turn, influences how individuals access and use the Internet and, consequently, their life chances. Thus, not only economic factors are at the base of life chances but also status and prestige.

Weber's work on social stratification and life chances has not gone unchallenged. Marxists argue, for instance, that life chances are mainly shaped and influenced by class location, rather than by status and power. In so doing, they question the whole concept of social stratification, reducing it to a mere economic factor. What this chapter seeks to argue is that life chances in the digital age are heavily influenced not only by capacities to access but also by different uses and capacities to gain advantages from ICTs.

Stylization of life

Users' online activities are strongly influenced by previous social stratification. This is in line with Bourdieu's (1984) theories of social stratification and his idea that individuals tend to do what they have to do. Thus, individuals 'voluntarily' reinforce pre-existing and stratified inequalities. Bourdieu (1984: 55) argued that:

> as the objective distance from necessity grows, lifestyle increasingly becomes the product of what Weber calls a "stylization of life" a systematic commitment that orients and organizes the most diverse practices – the choice of a vintage or a cheese or the decoration of a holiday home in the country.

This means the stylization of life is not a personal matter, but tends to be influenced by an individual's position in society, their belonging to a specific status group and class position. In this way, cultural patterns are tied to status groups' preferences. As several studies have underlined, Internet access and use tend to reflect status groups, social environments and lifestyle, not only economic aspects. We may therefore assume that social patterns such as prestige, education, employment, and family status, just to mention a few, are mirrored in Internet activities.

Adopting this perspective in analysing digital inequalities means acknowledging the fact that access to and use of digital technologies are embedded in everyday life. They are to be seen within a specific socio-cultural context, and

mirror phenomena of class and status in everyday practice. The Weberian approach is important because it offers a broader understanding of cultural practices, paying attention to both class structures and status markers, and highlighting everyday practices as analytically interesting. Members of different social classes have different life chances, different aims and purposes, and different 'values' that lead their life. It may be argued that not only does one's lifestyle influence one's access to and use of the Internet, but the reverse is also true. The ways in which we use the Internet, our skills and digital background, our digital and social capital, all influence our social status.

To put it differently, social groups tend to differ in their taste, choices and lifestyles, which in turn influence the type of activities they engage in the digital realm. As several studies have shown, family background and occupational prestige also influence lifestyle and, eventually, underline cultural and social divides.

As we have seen, Weber underlines the complexity of social inequality as a multidimensional phenomenon that includes class, status and power.

However, following Parsons (heavily influenced by Durkheim), the values and norms that lead social action are at the base of social order. As Knapp (1994: 191–192) notes, regarding Parsons' ideas on social action and voluntarism, 'People act on the basis of their values; their actions are oriented and constrained by the values and norms of people around them; and these norms and values are the basis of social order'. Based on this idea, some might argue that the ways in which we collaborate and act online serve to preserve and reinforce the social order. Social order depends on a kind of self-regulation of the social system that is based on a 'plurality of individual actors interacting' (Parsons, 1951: 5). As Parsons makes clear in *The Social System* (1951: 319–320):

> without deliberate planning on anyone's part, there have developed in our type of social system, and correspondingly in others, mechanisms which, within limits, are capable of forestalling and reversing the deep-lying tendencies for deviance to get into the vicious circle phase which puts it beyond the control of ordinary approval-disapproval and reward-punishment sanctions.

This structural system is inevitable, potentially even in the digital realm. Individuals within this social system take a specific role based on their status, and in doing so maintain order in the system.

In contrast to Durkheim and Parsons, one of the main ideas of this book is that the system of social stratification at the base of social inequalities is reproduced and reinforced online. The result of this is not a form of social order (as suggested by Durkheim and Parsons), but rather a complex and more sophisticated system of inequalities. This complex system of digital

inequalities further reinforces social inequalities, because it tends to give more opportunities and revenues to members of high-status groups. Furthermore, it may be argued that the use of the Internet may increase opportunities to interact with other members of a specific status group, thus enhancing the sense of belonging. Following this line of thought, one can suggest that the Internet has become an important and powerful tool to protect the social status of particular groups within society.

Finally, in a Marxist perspective, Internet skills are used to leverage labour markets and pass down class advantage to one's children (Witte and Mannon, 2010). Thus, the Internet is used as a tool to increase and reinforce social inequalities between the two main classes within society. Eventually, these digital inequalities will turn into socio-economic inequalities, further increasing economic inequalities between classes. I agree with this depiction, and do not intend to belittle the contributions of Marxist and neo-Marxist scholarship to digital divide studies.

However, by using the Weberian theoretical framework I wish to emphasize that inequalities in accessing and using digital technology, and consequently the social benefit individuals gain from it, are influenced also by factors other than the economic one. As I have tried to underline throughout the discussion, I believe that the Weberian approach adds additional complexity to the Marxist approach, for which economy and class conflict are the foundations of social life. Just as Weber was 'critically respectful' (Collins, 1986: 37) of the Marxist perspective, I also pay tribute to Marx's ideas. However, in terms of digital inequalities and the digital divide it seems more appropriate to explore these issues using a multidimensional approach to inequality, taking into consideration the complexity of sociological processes (Bendix, 1960), rather than focusing on the economic aspects only. Economic factors are certainly vital in stratifying society, but honour, prestige and power also contribute, in different ways. This stratification, as we have seen in the previous chapter, is reproduced online, albeit with its own dynamics.

Only an elite group of advanced countries is approaching the saturation point in terms of access to opportunities brought by new technology. However, even if a saturation point is reached (and in some countries in Europe, such as Iceland, all citizens already have Internet access), inequalities in using the Internet will still continue, depending on several factors. Motivation and skills are two of these factors:

> Goal-oriented behaviour and strategic skills for using computers and networks are vital in the information and network society … In this society, an increasing number of activities is affected by purposive searching, processing, and use of information and by attaining or retaining positions in all kinds of relationships. Those able to search, process, use, attain, and retain will have a considerable advantage in social competition and educational or job careers.
>
> (Van Dijk, 2005: 88)

These capacities, skills, and abilities in searching, elaborating and using specific information are formidable advantages in the knowledge society. To improve them, the role of education is obviously central, but it is not the only factor. The level of education affects the use of the Internet also indirectly, through the inclusion of people in environments with more motivational stimuli and greater technical support. This environment defines the status group in Weberian terms. The status group (*Stand*) gives to the individual a common sense of membership and a group awareness that is relatively well defined (Weber, 1978/1922: 932). A status group is, then, characterized by a unique 'style of life' that separates members from the rest of the population (ibid.). Such well-defined groups, with the sense of community and awareness of membership that determine a specific status group, are, not only metaphorically, the socio-economic and cultural *environment* in which individuals live and grow up. This environment influences not only how we use the Internet, and our stimuli and motivations in accessing it, but, more importantly, how effectively individuals use the valuable information found. As Blagoev (2015: 2793) states:

> the Internet as a social institution generates new possibilities that may, with a much greater probability than in the predigital age, precondition the creation of life chances, because it fosters and intensifies the interplay between globally dispersed individual potentials, whatever their origins and qualities may be, and market potentials dispersed across different societies, whatever their stage of development may be.

Changes wrought by the increasingly widespread use of computer systems in the production process have caused significant differences in the demand for skills. Those who hold required capabilities seem to belong to the upper classes. The ability to undertake further and wider specialist training, typical of higher-status groups, means acquiring more skills than those who belong to lower-status groups. Even where computer skills are equal, people with greater economic and social power are favoured. All the three dimensions of social structures (economy, culture and power) matter in determining and reinforcing digital inequalities. If culture and education give a functional affirmation of differences, in terms of personal choices resulting from different life chances based on different amounts of capital, it must be said that they also reproduce and reinforce the social stratification in the new social order in a digital-enabled society.

To put it differently, it is not only economic capital that plays an important role in determining stratification. Social and cultural capital, tied to economic, personal and political capital, are also essential in the reproduction of inequality in the digital world. These tend to create what I have defined elsewhere as 'digital capital' (Ragnedda and Ruiu, forthcoming). Let me briefly introduce this new concept.

Digital capital

Social capital has been defined in many different ways. Coleman (1990) defines it as the product of relationships, differentiated from human and physical capital; Putnam (1993, 2001) refers to a multidimensional capital, which consists of values, trust, reciprocity and civic engagement; finally, Bourdieu (1986) refers to social capital as a distinct form of capital in contrast to economic, cultural and symbolic capital, which is built up based on present and potential resources resulting from relationships.

Several studies have focused on how social capital may affect digital divides (Chen, 2013; Rogers, 2003; DiMaggio and Cohen, 2003), showing how online activities may also enhance social, human and economic capital (Hargittai and Hinnant, 2008; Hassani, 2006; Shah *et al.*, 2001). Literature on the relationships between social and digital capital mainly relates to how the digital divide may increase inequalities in terms of possession of social capital (Pénard and Poussing, 2010; DiMaggio *et al.*, 2004; Katz and Rice, 2002). However, what is missing in the literature is a clear definition of the concept of digital capital. Here I shall refer to 'digital capital as the set of expertise, experience, skills, knowledge, digital literacy, ICTs access, based on and which can be converted into other types of capitals (economic, social, cultural, personal and political)' (Ragnedda and Ruiu, forthcoming).

The main idea here is that social (Bourdieu, 1986; Coleman, 1990; Putnam, 1995), economic (Bourdieu, 1986), personal (Becker, 1996), political (Syed and Whiteley, 1997), and cultural capitals (Bourdieu, 1986) influence the rise of digital capital, which, in turn, generates not only a digital divide between people who can and cannot access the Internet (first level of digital divide), but also inequalities in terms of benefits they can gain online (second level of digital divide). Moreover, this relationship tends to create the third level of digital divide, seen as the returning social benefits of using the Internet. As we have seen, access to and use of the Internet are influenced by the previous position in the social system. Users' backgrounds influence the ways people look for information and their motivation to do so, but also help provide the skills to elaborate and process such information (Van Dijk and Van Deursen, 2014). These different uses, based on different levels of digital capital, in turn can generate different outcomes that can be invested in the market, thus increasing individuals' life chances. Proper use of ICTs is helpful to improve one's socio-economic status (Alam and Imran, 2015).

Digital capital can be seen as a "bridge capital", which transfers the tangible and intangible benefits deriving from the five capitals into the digital realm. In turn, the increased capital(s) deriving from the digital experience contributes towards both consolidating and increasing the capital(s) already possessed in the off-line realm. On top of the mentioned five forms of capital, digital capital emphasizes four further elements: digital literacy, literacy, confidence and abilities, and language skills. We shall examine these points in detail in the next chapter; however, we may briefly state here that *digital literacy*

includes several skills, such as information-finding skills; Internet skills; effective communication; functional skills; and shared knowledge. Digital literacy should not be confused with digital skills or substituted for literacy; rather, these concepts are integrated with each other. *Literacy* is strongly linked with class and status group, and influences the exercise of power within both the digital and the social arena. Another element of digital capital is *confidence in ability*, often influenced by a supportive environment (often linked with the status group), which may increase people's confidence and self-esteem in using ICTs. Finally, language skills are vital, since more than half of all content on the Web is written in English.

All these elements are linked with social stratification, and are influenced by status group, class position and political power. Social, cultural, economic, personal and political capital affects digital capital, which in turn influences the number and types of activities online, producing effects on social/cultural/economic/personal/political capital as well. To use the Internet in an effective way, citizens need to have already built up solid capital(s) in their offline life. Those who access the Internet with a high endowment of social capital – i.e. the abilities and opportunities to create social networks, thanks to trust-generating mechanisms, in a context defined by social norms – and with personal motivations and proper cultural, political and economic background, will be more likely to reproduce their capitals online, applying mechanisms similar to those adopted offline. In turn, the capitals generated online will support users' offline activities. In this sense, the Internet seems to privilege the privileged, giving more advantages to those already advantaged in society. This mechanism is similar to that Bourdieu describes regarding social capital production. To conclude this section, we should stress, once again, that digital capital, i.e. the sum of social, economic and technological capitals, has become vital in our knowledge society. Only those who have a certain amount of knowledge (before, during and after accessing the Internet) can be successful and improve their life chances. To an extent this reflects what Gillespie-Robins argued at the end of the 1980s: 'Media reproduce and accentuate social inequalities, are new tools gap of differences, not mitigating them, leading to new and effective forms of inequity and uneven development' (Gillespie and Robins, 1989).

Digital inclusion and digital exclusion

Current society can be represented as a digital network in which some of the most important human and social activities occur, and exclusion from or limited access to the digital realm become a major source of social inequality. The position held in the network society, where economic and socially relevant information circulates, can be seen as a factor in producing inequalities. This is in line with a vision of the concept of inequality related to the digital environment and social inclusion/exclusion. This idea is evident, though implicitly, in the European Commission's policy on digital inclusion, which it

calls 'e-inclusion' (European Commission, 2001). Since the beginning of the 2000s this term has been one of the three strategic pillars of the EC's i2010 plan (Millard, 2006). The European strategy is 'to ensure that the benefits of the information society can be enjoyed by everyone, including people who are disadvantaged due to limited resources or education, age, gender, ethnicity, etc., [and by] people with disabilities as well as those living in less favoured areas' (i2010 European Strategic Plan).

The interaction between factors of social and cultural differentiation, on the one hand, and forms of digital socialization on the other, gives rise to specific kinds of disadvantage which strongly condition life chances. Differences in the use of digital technology cannot be explained simply on the basis of the 'cultural capital' of individuals. In addition to these elements, we must consider the individual's position in the social strata, and their motivation and purpose in using the Internet. This is in line with Van Deursen, Van Dijk and Klooster (2014: 260), who argue that 'the main causes for Internet users to choose activity types are motivations and positions in society'.

Digital inclusion and types of Internet activity, therefore, are shaped not only by the skills possessed by the users, but also by the interest (or lack of it) in using digital technologies and by individuals' position in the social structure. A lack of interest creates a form of self-exclusion in which individual choice is only an illusion. Motivation and stimuli are often given by the cultural norms and values in which the individual is embedded, and structured through the experiences of daily life.

The concept of *habitus*, developed by Pierre Bourdieu (1984: 170), can be useful here. He defines this concept as 'structuring structure, which organises practices and the perception of practices.' The term defines the process of cultural reproduction and its ability to generate regular behaviours that affect social life, skills and dispositions that individuals possess due to their life experiences. According to Bourdieu, *habitus* means beliefs, interests, thoughts, tastes and individuals' understanding of the world around them. It is the physical embodiment of cultural capital that influences both individuals' actions and the construction of their social world, in addition to the influence of the external world on individual choice. This interaction between the internal and external worlds creates a unique habitus for each person. Thus, we can argue that the use of new technologies is determined by the habitus of reference of the individual, who may 'freely' choose not to use them, further widening the gap.

In other terms, lack of interest or lack of stimuli, at the base of the first form of digital divide, are not 'neutral' or simple individual preferences, but reproduce other socio-economic and cultural factors present in the social system. These inequalities, as we have seen in the previous chapter, are reproduced online and should be at the centre of social-scientific research. Digital inequalities, as we have seen, influence, affect and shape life chances of citizens, increasing or decreasing their possibilities to move up and down the social hierarchies. As Servon and Nelson (2001: 279) argued at the beginning

of the millennium, 'access to information technology (IT) and the ability to use it [has] increasingly become part of the toolkit necessary to participate and prosper in an information-based society'. Being excluded from or having limited access to and use of ICTs means not having these parts of the toolkit necessary to improve life chances. This is part of a broader picture of the effects on social inequalities produced by digitalization, or the digital reproduction of inequalities (Hargittai, 2008; Wessels, 2013). As I have been arguing throughout this book, individuals' digital capital has a crucial role in a wide array of outcomes in social life. As rightly pointed out by Robinson *et al.* (2015: 570), 'Those who function better in the digital realm and participate more fully in digitally mediated social life enjoy advantages over their digitally disadvantaged counterparts – a key linkage which social science is only beginning to grasp'. Since digital and social life are more and more interconnected and their differences tend to blur, anything less than full participation in the digital realm will affect crucial aspects of individual quality of life, such as wealth services and access to the job market, leisure (Ragnedda and Mutsvairo, 2017), academic opportunities and valuable information. Being socially advantaged also means using the Internet more frequently and differently, developing different levels of skills which in turn produce concrete outcomes in both the digital and social realm. As argued by Zillien and Hargittai (2009: 275), 'different patterns of media usage influence life chances'.

The availability of physical, cognitive and motivational access to the Internet not only affects levels of user satisfaction and possibilities, but also constitutes a favourable condition for the process of acquiring digital capital. The traditional axes of social inequalities tend to be reproduced online and are reflected also in the level of online skills (Van Deursen *et al.,* 2014). All these aspects are connected with life chances and individuals' capacities to improve their quality of life through social mobility.

As the next section shall reiterate, it is increasingly clear that the relations between individuals and digital capital play a key role in personal fulfilment in terms of achieving academic and professional success and maintaining a good state of health. Those who have more stimuli and digital capital, and are more involved in digital life, tend to gain greater benefits than those who do not actively participate in digital social life.

Digital engagement

It is true that the Internet lacks formal barriers to participation, opening up several advantages in terms of political engagement, civic participation and addressing public opinion. However, it seems that offline stratification strongly influences online activity. Sassi (2005: 694), talking about the relation between ICT and social inequalities, and referring to Castells (2000) and Lash (2002), underlined that both of them:

> are concerned about the global economic order and describe it as informational and as capitalist as ever. Thus they conclude that the inequality of the information age is structural and not contingent. What is noteworthy in their reasoning is how ICT is conceived, not just as another medium, but as an infrastructure in many ways connected to inequalities. It even assists in deepening the disparities.

Related important innovations of the social landscape are changing the concept and manifestations of social inequality.

How new technologies are used and embedded into the society and the placement of the individual in the social system affect the determination of the resources that can be accessed. At the same time, the individual's resources determine when and how technology is appropriated.

As the Figure 4.1 shows, the individual and social characteristics of the subjects determine the resources available to them. In turn, resources affect access and act as the ground on which new digital inequalities can develop. The unequal distribution of resources produces unequal access to digital technologies and then produces the first form of exclusion (first level of digital divide). Inequality in access also depends on the characteristics of the technologies and different pathways of technological appropriation, which result in differences in skills, and, therefore, new forms of exclusion (second level of digital divide). The sum of the inequalities considered prevents full participation and social inclusion. The appropriation of technology tends to influence the level of social participation. The variables that illustrate the positioning of the individual in society may be 'individual variables' (age, gender, ethnic group) or 'social variables' (income, position in the labour market, status group). These variables influence how we access and use the resources which are at the base of the process of inclusion or exclusion from society. The phenomena of social inclusion and exclusion are increasingly part of the European political and discursive agenda. These concepts, as Warschauer (2004: 8) has underlined:

> refer to the extent that individuals, families, and communities are able to fully participate in society and control their own destinies, taking into account a variety of factors related to economic resources, employment, health, education, housing, recreation, culture, and civic engagement. Social inclusion is a matter not only of an adequate share of resources, but also of participation in the determination of both individual and collective life chances … the concept of social inclusion reflects particularly well the imperatives of the current information era, in which issues of identity, language, social participation, community, and civil society have taken central stage.

Digital and social exclusion are inevitably tied together, and reciprocally influence each other. This is why this book is using a multidimensional

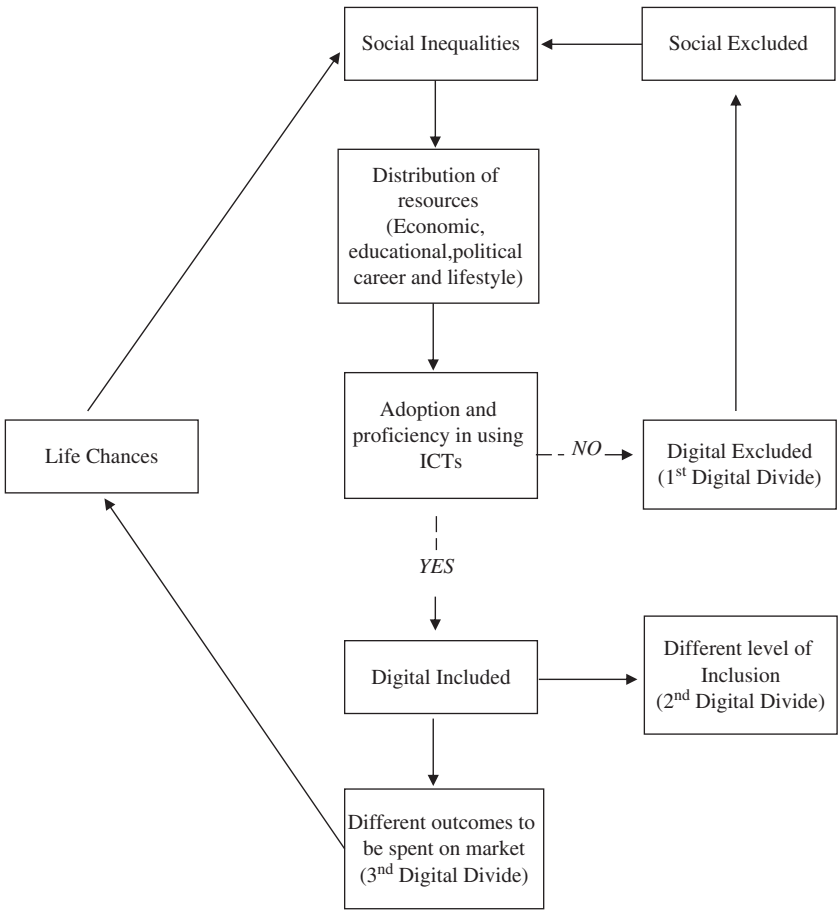

Figure 4.1 Digital Engagement and Life Chances

approach in analysing digital inequalities. Accessing and using the Internet in an effective way may broaden opportunities, improve quality of their life and reinforce groups' privileged position in society (third level of digital divide). By contrast, those who do not access or use it 'not effectively' risk losing significant existential opportunities in the economic, political, educational, cultural, relational, and social spheres (van Dijk, 2005). In other words, limited access to and use of the Internet affect citizens' existential opportunities (DiMaggio *et al.*, 2004). How and why individuals access the Internet is important for the process of social inclusion (Warschauer, 2003).

It also important to underline which social strata of the population are most exposed to the uncertainties of digital impoverishment. These include elderly people; groups who do not have an active job position (unemployed, inactive, and pensioners); individuals characterized by a low education and with limited cultural capital; individuals living in less developed

geographical areas (rural areas) or in less developed countries (global divide). These disadvantaged groups that already suffer inequalities in the social system are also suffering inequalities in the digital arena, and are a few steps behind while the rest of the world moves forward (DiMaggio *et al.*, 2004: 368). Here the parallel between social and digital inequalities emerges quite clearly. Furthermore, dynamic cumulative enrichment of subjects already more skilled and more experienced and mechanisms of impoverishment for those less familiar with ICTs are further increasing inequalities in society. This is similar to what the 'St Matthew effect' (by which since Merton [1968] one usually describing the various cumulative advantages) predicts regarding the advent and the dissemination of the technological: those who have more experience in the management of new technologies and more varied use of them will gain more benefit. This evidently has effects not only in terms of technological skills, but also in terms of socio-economic position and cultural acquisition.

Accessing and using information and cultural goods are not new issues in sociology. They have been extensively studied by Bernstein (1977), who mainly focused on linguistic abilities, by Bourdieu and Passeron (1977), who differentiated types of cultural knowledge, and by Attewell and Battle (1999), who concentrated their analysis on the differences in access to technologies.

It is worth asking – without adopting a technological version of moral panic – whether this idea is still valid in the Internet age. In the network society, where information becomes a valuable resource, we might argue that diversified access to and use of information may develop new forms of social segregation. The next section shall deal with this issue.

The Internet: A tool of inclusion or an instrument of exclusion?

At this stage, it is important to stress, once again, that people who occupy a lower-status position tend to suffer in terms of acquisition of digital skills, and, consequently, tend to be digitally and socially disadvantaged. Digital communication plays a key role in the process of the structuring of contemporary society, and may result in the emergence of new forms of social exclusion linked to digital inequalities. Income pro capita is not only seen as one of the main factors in adoption of ICTs, but is also vital in relation to the 'quality' of information checked online. According to Selwyn *et al.* (2005), lower-socio-economic-group Internet users seem less interested in seeking goal-oriented information, focusing rather on purposeless information-seeking.

The digital divide, therefore, is a form of social and digital exclusion which depends not only on technological, demographic and geographical factors, but also on economic, cultural and personal circumstances associated with social structure. All these factors influence not only the use of the Internet, but also its cultural evolution and structure. As we have seen, the digital divide is a 'moving target' that changes over time due to the diffusion of technological

innovation; it therefore needs to be constantly redefined using more appropriate operational indicators. The Internet is a space that provides power for the growth of knowledge as a common good. The network structure is independent of the borders of the various states and has the potential to connect all the inhabitants of the earth, reducing disparities of all kinds. However, despite these unique qualities, many obstacles prevent their full integration. First of all, the ability to forge constructive human relationships is more and more integrated with the ability to handle social capital. Diversified and unequal access to the Internet can create new forms of social segregation, which in turn generate communities based on weak ties. This is what some 'techno-pessimist' thinkers (Ancu and Cozma, 2009; Baumgartner and Morris, 2010; Kraut *et al.*, 1998; White, 2010; Gladwell, 2010; Fenton and Barassi, 2011) have suggested. According to this approach, Internet users increase their online activities while decreasing and weakening their social interactions and civil participation offline. Furthermore, inclusion and exclusion from the network society are based on the capabilities of technological devices (hardware and software), length and amount of Internet use, resources (mostly intangible) conveyed by the networks, digital skills and online activities (DiMaggio *et al.*, 2004; Hargittai and Hinnant, 2008; Howard *et al.*, 2001; Van Dijk and Van Deursen, 2014). Among the differences that may matter most are how one goes online, what one goes online to do, and, when one does use the Web, what kinds of site one tries to access and how one goes about searching for them (Anderson and Tracey, 2001; Hargittai, 2003).

In analysing the social implications of the digital divide and the degree of inclusion in the digital-enabled society, we should remember Weber's ideas about the impossibility of finding objective rules in the chaotic reality. These are valid both for the techno-pessimist and the techno-optimist approach. Accepting uncritically Negroponte's ideas whereby the digital divide will be bridged when all citizens have access to the Internet is unwise, as I have been trying to argue. The erroneous assumption that there exists a form of homogeneity in access is not only wrong, but it risks obscuring and undermining social, economic and cultural effects produced by differences in access to and use of ICTs. Digital exclusion (lack of or limited access to digital technologies) or digital discrimination (based on lack of capacities in using ICTs) strongly increases the risk of social exclusion.

The framework for the analysis set out in the first chapter will not only help us to make sense of the difference between the first and second level of digital divide, but also to understand the concepts of social and digital stratification and how they are intimately intertwined. Van Dijk (2005: 166–177) identifies participation and social inclusion as the most important factors in combatting digital inequalities. He outlined some of the most important areas in which 'digital exclusion' may appear: Economic, Training, Social, Space, Cultural, Political and Institutional. In a network society where the new media are acquiring an increasingly important role in the acquisition of benefits and the competition between individuals, conventional electronic media and

other traditional forms of communication will become less and less sufficient to allow full participation in each of these areas, while the use of the Internet will become ever more vital.

The issue of social inclusion and new technologies is not new (see, for example, Aichholzer and Schmutzer, 2001; Carvin, 2000; Wilson, 2000); indeed, it became a vital concept within Western societies from the earliest stage of research (Askonas and Steward, 2000; Byrne, 1999; Littlewood *et al.*, 1999). Van Dijk (2005: 177) argues that these areas of participation are also the basis for operationalizing the concept of bridging the digital divide and setting the agenda for empirical research: 'Greater or less participation in these fields of society through use of digital media can be empirically demonstrated. The beneficial effects of digital media access on the mitigation, or at least the diminution of aggravation, of existing positional and personal inequalities can be shown to exist'. Experiencing difficulties in one of the above-mentioned issues related to the digital divide might also be reflected in the social context, creating new forms of discrimination. Furthermore, we should bear in mind that at the base of the so-called digital discrimination is a lack not only of knowledge and technical skills in using ICTs, but also of social skills and the capacity and motivation to create a network to improve social capital and collaborate online.

Being on the wrong side

As we have seen in the first chapter, inequalities in digital life can affect social aspects such as job search, purchases, entrepreneurship, access to healthcare, learning, socialization, political engagement and consumer patterns. All these are determined by a goal-oriented use of the Internet, and the capacity to reinvest valuable information in the market, thus influencing the life chances of individuals.

The Internet occupies more and more space in everyday life, in which forms of social disadvantage are in the process of changing. Hence, not being part of digital life can have significant effects on the course of people's lives. Within the network society, inclusion in information flows should be seen as pivotal in the structural opportunities society offers individuals, creating the conditions for an independent and free conscious choice to use digital technologies in order to achieve a higher state of wealth. Participation in the network society, from this perspective, should be considered an option linked to the subjective perception of well-being, free from the constraints determined by the structure of social inequalities. Equality is increasingly tied to the availability of knowledge and information. Therefore, the ability to use technology to access such knowledge becomes crucial. Not everyone has the opportunity to use information (in terms of material access) or is able to access it (in terms of skills). Moreover, not all citizens can use information in an effective manner to satisfy their needs and desires and improve their life chances. Being on the wrong side of the digital divide may increase the possibilities people

will 'become second-class and third-class citizens or no citizens at all' (Van Dijk, 2005: 17).

Being on the wrong side of the digital divide impacts, directly or indirectly, individuals' life chances by influencing the five capitals (as Table 4.1 shows). The negative effects of the digital divide are visible in political capital, in terms of limited capacities to access political information or limited or no participation in e-governance activities or online political debates. These are the consequences of the first level of digital divide, namely the lack of possibilities to access ICTs. Without access to the Internet, individuals are excluded from the political debates ongoing in the digital arena. However, even when individuals access the Internet, inequalities, in terms of political capital, are evident, both at the second and at the third level of digital divide. In terms of different uses and purposes (second level of digital divide), being on the wrong side of the digital divide means having limited capacities to determine and influence political agendas online, to promote and protect the interests of the status group, or to use ICTs to propose organized claims. Furthermore, different motivations and uses also produce different outcomes and tangible benefits. Again, in terms of political capital, being on the wrong side of the third level of digital divide means a) a lack of chances to enhance one's political capital through the information gathered online; b) limited capacities to enhance one's political position within society; and finally c) a lack of capacities to use ICTs to increase one's influence in policy-setting and enhance one's credibility and reliability in the offline world.

Economic capital influences the digital divide similarly. At the first level we may observe a) limited capacities to acquire home access; b) limited capacities to use broadband connections; and c) exclusion from job opportunities offered online. This last aspect is particularly interesting since the Internet is an essential employment resource for job seekers. In the US, for instance, a study carried out by the Pew Research Center showed that in 2015 54 per cent of adults went online to look for job information, and 45 per cent applied for a job online (Smith, 2015). Furthermore, among Americans who had looked for work in the years 2013–2015, 79 per cent utilized online resources in their search (Smith, 2015). Evidently, being excluded from or having limited access to the Internet can have clear consequences for one's economic capital. However, as we have seen from the case of political capital, only analysing access is insufficient. Inequalities may be evident in terms of a) a lack of capacities to engage in digital job-seeking behaviours (searching job listings online, creating a professional CV, following up correspondence via email with potential employers, using social media for job-searching activities, and so on); b) limited opportunities to use the Internet for capital-enhancing activities; and c) reduced possibilities to implement cost-effective management strategies in daily life.

In terms of economic capital, being on the wrong side in the third level of digital divide means a) a lack of opportunities to 'reinvest' valuable information gathered online in the social realm. Even a high degree of digital literacy and

Table 4.1 Negative effects of being on the wrong side of digital divide

	First digital divide	*Second digital divide*	*Third digital divide*
Political	Limited capacities to access political information No participation in e-governance (online consultation) No possibilities to take part in online political debates	Lack of opportunities to determine and influence the political agenda online Limited capacities to promote and protect the interest of their status group Limited capacities to propose organized claims through ICTs	Lack of chances to enhance political capital through the information gathered online. Limited capacities to enhance political position within the society Lack of capacities to use ICTs to increase influence in policy-setting and enhance credibility and reliability in the offline world
Economic	Limited capacities to acquire home access Limited capacities to use broadband connections Exclusion from job opportunities offered online	Lack of capacities to engage in digital job-seeking behaviours Limited opportunities to use the Internet for capital-enhancing activities Reduced possibilities to implement cost-effective management strategies in daily life	Lack of opportunities to 'reinvest' valuable information gathered online in the social realm Limited capacities to improve class position using digital resources Lack of opportunities to reinvest earnings gained online (valuable information and other online resources) to enhance the social fabric
Personal	Lack of interest in/possibility of adopting ICTs Lack of awareness regarding potential benefits of ICTs Negative perception of ICTs	Limited capacities in using ICTs Lack of confidence in using ICTs Lack of digital skills	Lack of capacities in developing a creative lifestyle Lack of capacities in extending virtual contact into face-to-face interactions Limited capacities to enhance self-esteem by using ICTs
Cultural	Lack of opportunities to access valuable cultural resources Lack or limited possibilities in accessing online newspaper/academic journals Reduced possibilities to compare different perspectives on the same issue	Limited capacities to contribute to the participatory culture Lack of opportunities to contribute to building 'new' knowledge Disparity in accessing different cultural/educative online sources	Limited chances to reuse in the social realm valuable cultural information acquired online Inability to verify reliability of information/sources Incapacity to absorb online information (Internet-dependency as an external memory)
Social	Incapacity to create new virtual social ties Scarce support from social environment to become part of a virtual network Lack of confidence/interest in virtual social ties	Limited capacities to reinforce virtual social ties Limited capacities to participate in informal or formal social networks Limited capacities to link different kinds of virtual social network	Limited capacities to transfer the acquired virtual social capital into the offline realm Limited capacity to connect online and offline social networks Limited capacity to implement virtual activism also effective in the offline realm

capacities to find out valuable information do not produce constant tangible outcomes, as individuals have different opportunities to 'transfer' such valuable information into the social realm. Such opportunities, as I have discussed, are based on the previous social structure. Being on the wrong side also means b) limited capacities to improve one's class position using digital valuable resources and c) a lack of opportunities to reinvest earnings gained online (valuable information and online resources) to enhance the social fabric. Again, the intertwined influences between social and digital inequalities are evident.

Also in terms of personal capital, the negative effect of the digital divide is visible at all three levels. At the first level, it is possible to see how a) lack of interest in/possibility of adopting ICTs, b) lack of awareness regarding potential benefits of ICTs, and c) negative perception of ICTs tend to limit or prevent access to the Internet, further marginalizing individuals. As we have seen in the previous sections, being excluded from the digital realm can have clear consequences for social inclusion. Evidently, having physical access to the Internet does not automatically mean being digitally included or being able to improve one's personal capital. Several degrees of inclusion persist based on personal capital, dependent on a) limited capacities in using ICTs; b) lack of confidence in using ICTs; and c) lack of digital skills. Regarding the third level of digital divide, the negative consequences are clear in terms of a) lack of capacities in developing a creative lifestyle; b) lack of capacities in extending virtual contact into face-to-face interactions; and c) limited capacities to enhance self-esteem by using ICTs.

In terms of cultural capital, the digital divide may produce negative effects due to a) lack of opportunities to access valuable cultural resources; b) lack of or limited possibilities in accessing online newspapers/academic journals; and finally c) reduced possibilities to compare different perspectives on the same issue. These are some of the negative effects at the first level of digital divide, i.e. limited physical access to the Internet. At the second level we may observe a) limited capacities to contribute to participatory culture; b) lack of opportunities to contribute to building 'new' knowledge; and c) inequalities in accessing different cultural/educative online sources. Limited digital capital means being a passive consumer of cultural outcomes and having limited capacities to create new cultural products or contribute to the cultural discussion. Furthermore, being on the wrong side means a) limited chances to reuse in the social realm valuable cultural information acquired online; b) inability to verify the reliability of information/sources; and finally c) incapacity to absorb online information (Internet-dependency as an external memory). The last two points are both related to the so-called overload of information, the inability to verify the reliability of sources and the accuracy of information, and over-reliance on online information leading to an addictive relationship with the Internet, which is used as an external memory.

Finally, social capital has clear consequences for the digital divide, as we have seen in this chapter. Specifically, having limited or no access to the

Internet means a) incapacity to create new virtual social ties; b) scarce support from the social environment to become part of a virtual network; and c) lack of confidence/interest in virtual social ties. At the second level of digital divide, the negative consequences are manifested in terms of a) limited capacities to reinforce virtual social ties; b) limited capacities to participate in informal or formal social networks; and c) limited capacities to link different kinds of virtual social network. Finally, negative effects of digital divide are noticeable also at its third level, namely in terms of a) limited capacities to transfer acquired virtual social capital into the offline realm; b) limited capacity to connect online and offline social networks; and finally c) limited capacity to implement virtual activism effectively also in the offline realm.

The table clearly does not pretend to provide an exhaustive list of all negative effects produced by the digital divide, but it is indicative of the importance of this issue for policy makers and social scientists. Furthermore, as we have underlined several times already, inequality in access to and use of technology should not be seen in terms of a black and white division, but in terms of different shades of inclusion and inequalities in the digital realm. There are several ways to use, decode and look for information in the digital arena. Some are more valuable in terms of increasing life chances than others. To further complicate this picture, access to the same information does not automatically translate into the same social benefits and tangible outcomes. Evidently, individuals with more social capital and belonging to higher-status groups can transform the same information into more valuable investments in the market, improving their life chances. By contrast, individuals belonging to lower-status groups, even with the same cultural and knowledge capital and the same digital skills, cannot necessarily exploit the same information for similar social, political and job activities.

The Internet theoretically increases life chances for all citizens. However, it is more than mere speculation to argue that the Internet tends to reinforce social privileges, rather than mitigate them, promoting the interests of those who are already in an advantaged position in society. These groups gain the most from the Internet because of their better political, cultural, economic, personal and social capital. This is why, as I have been repeating throughout the discussion above, in analysing the digital divide we cannot ignore the social context and the needs of potential users. The development of ICTs can increase inequalities between those who are able or not able to appropriately reinvest information gathered in the digital realm. Let me point out once again that inequality is manifested not only in capacities and skills in using the new technologies of communication, but also in capacities to reuse in the social realm whatever has been acquired in the digital arena.

Concluding remarks

In conclusion, I want to reiterate what I have been discussing throughout the book, namely that the advantages of using the Internet act in a vicious circle

based on the social structure, exacerbating social inequalities. In broad terms, as we have underlined several times, the phenomenon of the digital divide describes the inability of certain social categories, or some specific countries, to use technological tools to improve their life chances.

As we have seen, the first form of digital divide is mainly based on access to the Internet, while the second is mainly related to the use of the Internet; as for the third level, it is the consequence of these two previous forms. It is based on the determination of life chances based on the capacity or possibility to access the Internet, and the motivation and ability to use it in the 'right' way. In other words, the third level comprises the social consequences derived from the access (first level) and use (the second level) of the Internet. As many studies have shown, both access and uses are tied to the previous social stratification and social inequalities, reinforcing the inequalities already present in society. We are talking about a model, or ideal type, that highlights an ongoing trend, even if is not always applicable to reality.

The third form of digital divide is the result of the different uses of the Internet tied to previous social inequalities. This new form is more based on the social than the digital realm, taking the concept of the digital divide to another level. Access to and use of ICTs are not only a matter of chance, but above all are related to the ability to convert resources into real improvements in one's quality of life. This ability to convert online resources into concrete social resources is what I defined as Digital Capital. This is a development process that should be understood as an expansion of the opportunities of individuals to achieve, independently and freely, a high level of well-being. However, it must be noted that it is not access to the Internet itself (first level of digital divide) that expands life chances, but rather its use (second level of digital divide) and, more importantly, the opportunities and capacities to transform the possibilities offered by the Internet into concrete resources to be used in the market.

The capacities and abilities to find, extract and use valuable information and to reinforce social class or personal well-being all affect people's social condition. The differences in the amount and quality of people's educational opportunities and their use of the media constitute a dimension of social inequality that has received little attention in the sociological tradition. We may therefore conclude this section by reiterating the idea that the advent of new

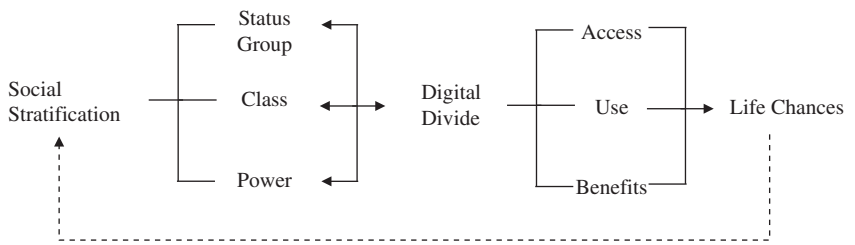

Figure 4.2 Digital divide and life chances

media has opened a lively debate on inequality in access to digital networks, differences in their use, and the opportunities related thereto. These opportunities are not the same for everybody, since we are all the product of the interaction between digital capital and other forms of capital.

In this chapter I have been trying to explain how digital capital, i.e. a set of expertise, experience, skills, knowledge, digital literacy and access to ICT, is related to social, personal, economic, political and cultural backgrounds, thus reflecting traditional social inequalities. Those who have greater digital capital are more likely to convert their use of the Internet into economic, social, cultural, personal and political capitals. By contrast, those whose initial digital capital is limited are more likely to have a narrow use of the Internet, limiting their chances to explore new horizons and improve their life chances.

As I shall discuss in the concluding chapter, policy makers may play a crucial role in attempting to bridge inequalities not only in term of access, but more importantly in terms of equity of opportunities. As I have been trying to argue, the problem of digital inequality is not a technological problem, but rather a socio-economic one that is rooted in social stratification.

5 Concluding remarks and recommendations

In this concluding chapter I shall not only draw my conclusions and summarize the main themes of this book, but also attempt to give some recommendations for further studies, as well as for policy makers seeking to tackle the phenomenon of digital inequalities. I will reflect both upon the major overall findings and the future needs of the field, drawing comparisons between the different chapters. I shall stress, once again, the importance of analysing the digital divide in relation to social stratification, following Weber. Furthermore, I shall remark on the importance of taking into consideration the three levels of digital divide, namely how people access the Internet (first level), how they use the Internet (second level), and what social benefit and tangible outcomes they obtain from this use (third level). Finally, this chapter shall attempt to stress the vital role that the educational factor plays in reducing digital inequalities and argue that policy makers should focus also on this variable, rather than simply on the question of technological access.

Digital divide: A multidimensional phenomenon

Most of the ideas analysed and proposed in this book are not completely new. I have drawn heavily upon existing research, and expanded on its themes. This is part of the 'academic job', to interact and engage in hermeneutical dialogue with previous research; however, it has also enabled me to propose a nuanced picture of the three levels of digital divide and the concept's inextricable relation to the social structure. Throughout the book I have argued that social science should not only look at digital inequalities as a phenomenon that is based upon social inequalities and mirrors the social structure, but also at how social inequalities are further reinforced by unequal access to and use of the Internet. The way one accesses the Internet (in terms of physical access, but also in terms of cognitive, skills and motivational access) mirrors one's position in society. For that reason, I have adopted the three-dimensional model of social stratification proposed by Weber. As the reader should recall, unlike Marx, Weber does not consider economics as a realm unidirectionally determining other aspects of human social life. His model of society, as I have articulated in previous chapters, identifies the sources of inequality in three

spheres: the economy (common material interests, *class*), culture (common ideological interests, *status group*) and politics (*parties* or power groups that control the apparatus of domination). As I have been discussing throughout the book, the Weberian approach is useful in understanding digital inequalities because it explains the complexity of the social system and how the process of social stratification is embedded in society. As we have seen, this process is mirrored and reinforced online. I have therefore focused on the process of digital stratification, and on how inequalities are formed and developed online. We have also seen how these inequalities present in the digital realm are both the result of social inequalities and tend to further increase inequalities in social reality, further increasing the process of stratification. One of the aims of this book has been not only to reflect on differences in terms of Internet access and use, but also to determine how such differences are influenced by the social strata, and to examine the extent to which they reinforce or mitigate the social stratification. We have seen how income and education (class), family and occupation (social group and prestige) and motivation and political engagement (power and influence) affect how we access the Internet (first level of digital divide). We have also seen the effect of the three-level stratification on individuals' use of the Internet (second level of digital divide). Such different uses, in turn, result in different outcomes that could be reinvested in the social realm (third level of digital divide), influencing life chances. Throughout our discussion, we have seen how online activities are stratified by status, class and power.

Thus, pre-existing social inequalities based on the social structure heavily influence the digital divide at all three levels. In a vicious circle, the digital divide influences the social inequalities upon which it relies. Hence, social stratification is further exacerbated, rather than mitigated, by the advent of ICTs. However, social mobility, namely the ability for people to improve their life conditions, is possible in a digital-enabled society, both in terms of intra-generational mobility (individuals can move up and down the social hierarchy within their lifetime) and inter-generational mobility (individuals can move up and down relative to their parents). ICTs, and the Internet in particular, may offer concrete help in promoting such mobility. However, while individual social mobility seems a possibility, structural social mobility seems less likely. Individual success stories of social mobility should be analysed in relation to their wider social context (Lee, 2005; Murdock, Hartmann and Grey, 1992; Zillien and Hargittai, 2009). To put it differently, while it is possible (and we all know concrete examples) for individuals of low social status (low-status group), with low income (lower class) but with great motivation and high-level digital skills to promote themselves up the social ladder by using the Internet, such individuals seem the exception that confirm the rule. Individuals with high income, with a higher prestige level in society, better education and more concrete motivation of use, tend to have greater digital capital and to use the Internet to further increase their privileged position in society. As Eynon and Geniets (2015) put it, 'an individual's ability to learn to use technology is very

much shaped by their local social context, and is typically triggered by an inherent interest in learning how to master technology and/or a need to use technology to achieve certain goals'. Thus, the five forms of capital (social, political, economic, personal and cultural) place users at unequal departure points when embracing ICTs. These forms of capital help in forging individuals' digital capital, i.e. the set of expertise, experience, skills, knowledge, digital literacy and access to ICTs that potentially provides a better and more profitable online experience. The 'Six Cs' (six capitals) can thus place individuals in a privileged position, allowing them to transform valuable information and knowledge acquired online into tangible outcomes for investment in a digital-driven market. It is not only knowledge, digital skills and motivation (all elements useful in reducing digital inequalities), but above all also the capacities to transform valuable *online* resources into concrete valuable *social* resources that can improve life chances. In its basic terms, this is the third level of digital divide. Let me put it another way: individuals are not only unequal when sitting of front of the screen (accessing the Internet) but also when reading, processing or decoding the same information (digital inequalities), as well as when they turn off the screen and attempt to reinvest in the social realm assets attained online.

Rebecca Eynon and Anne Geniets (2015) carried out in-depth interviews with 20 digitally excluded young people, showing how not only poor access to technologies (which can be linked to poor income, and by consequence to class) but also 'limited support networks [potentially tied to status group] and their current situation [both in terms of class and status group] prevent these young people from gaining the experiences they need to support the development of their digital skills'. Furthermore, these authors showed that previous socio-economic status, which can be seen in relation to both status group and class, influenced the young people's perception of the Internet as a useful/useless tool in their lives. Evidently, stimuli and motivation in using ICTs make a clear difference not only in developing digital capital, but also in people's capacity to gain benefits from the use of the Internet. Inequalities of opportunity, closely related to social stratification, strongly differentiate experiences of Internet use, and lead to completely different outcomes and levels of access to valuable resources. On this background, how can policy makers seek to provide equal opportunities in the use of ICTs? This is not a rhetorical question, since more and more vital activities are now migrating online, and exclusion from (or partial inclusion in) digital societies means the creation of different levels of citizenship: full citizens (included in the e-society), half-citizens (partially included in the e-society) and non-citizens (totally excluded from the e-society).

The European Commission (2016) states that 'having digital skills and knowledge is just as important as reading, writing and arithmetic in today's society, so we are putting emphasis on digital skills and education, leading to greater employment'. Digital skills are indeed the basic tools to enable people to fully participate in a digital-enabled society. Hence, improving digital

inclusion through digital communication means can also help avoid the isolation of individuals and minimize the risk of digital and social marginalization. Enhancing digital inclusion and thus fighting the digital divide should (or must) be an inevitable aim for policy makers. The next section shall deal with this issue, underlining the responsibilities of policy makers both at local and at global level to reduce digital and social inequalities.

Recommendations for researchers and policy makers

As mentioned above, differences in connection speed mean that a person who accesses the Web through a reliable broadband connection at work, at home or on a mobile device will presumably be in a better position than one accessing the Web via dial-up or otherwise limited means. The EU's Digital Agenda for Europe 2012 states that 50 per cent of EU citizens will subscribe to broadband above 100 Mbps by 2020. This opens up a discussion over the remaining 50 per cent who will not enjoy this connection speed. Are we creating two Internets, one faster and the other slower? What social consequences might this have? Who will get the most out of the Internet?

Based on our discussion in the previous chapters, we may argue that since there is a correlation between high social position (determined by status and class) and subscription to broadband, and since higher speed is related in several ways to digital inclusion, we may suggest this tendency needs to be halted. If policy makers do not tackle these increasing inequalities, they risk reinforcing social structures weighted towards an elite of individuals with greater digital capital, technological know-how and capacity to move in the new world (privileged status groups with high income and a high level of influence over policy makers), and a low class with less digital capital and poor capacities to improve their life chances through the use of digital technologies.

Subscription to a broadband connection is not only linked to economic factors (which are of course important) but also to motivation, purpose of use, and education. These aspects have been at the centre of research on the digital divide since the early stages. One of the first empirical studies in the area was carried out by Horrigan and Rainie (2002) in the US, proving that broadband users were more likely to be better educated, male and wealthier, in line with the social stratification. In the same vein, Chaudhuri *et al.* (2005) showed that broadband subscription was strongly associated with education and income, and Yogesh and Banita (2007) showed the additional influence of occupation in the UK.

Better and faster access to the Internet allows individuals to increase their chances of benefiting from the opportunities offered by the network in different areas of everyday life (technological appropriation). Positive outcomes in this regard will have positive effects in further accelerating the evolution of the Internet. By contrast, when outcomes are negative new forms of digital inequality will arise. Better access and better socio-cultural environment in

which to use the Internet are clearly tied to social strata. As we have seen, social strata influence both how we access and use the Internet and the social benefits it imparts to us. This is the root of the vicious circle of social and digital inequalities.

No one should be left behind

We have seen how socio-economic status influences access to and use of the Internet, eventually influencing the tangible outcomes and benefits individual gain from it. Digital inequalities, if not reduced, may further increase socio-economic differences. Consequently, tackling digital exclusion and digital inequalities is imperative, both for policy makers and for the private sector. Government in particular has a clear responsibility to reduce online inequalities. Parallels can be drawn between economic and digital inequalities. As is well known, economic inequalities are largely the result of policy choices: the fact that in some countries there are more (US or UK) and in some countries fewer (Norway, Sweden and Finland) economic inequalities, or more (Norway) or less (US) social mobility, is not derived from different workings of markets or economic laws, but rather depends on the existing institutional, legal and social frameworks. This framework helps to promote or oppose the inequality, and this function is also relevant regarding digital inequalities. Thus, the importance of policy actions can scarcely be overestimated.

The development of the information society has highlighted the existence of obstacles preventing certain social groups from accessing technologies, leading to new forms of exclusion from the job market, but also from governmental institutions. The EU's e-Government Action Plan 2011–2015 posed a general target of 50 per cent of citizens (digital agenda) and 80 per cent of businesses making use of e-government services. e-Government uses digital tools and systems to provide better public services to citizens and businesses. The e-Government Action Plan 2016–2020 is more ambitious, aiming to 'engage more with citizens and businesses to deliver high quality services' (EU, 2016). Earlier studies on e-government and its capacities to improve the quality of life of citizens have shown that the adoption of ICTs by public institutions will eventually improve quality of services, widen political participation, achieve cost savings, and enhance policies and programmes (Garson, 2004; Bourquard, 2003; Gartner, 2000). This is part of the broader picture of digital society, related to the wider necessity to include as many citizens as possible in the e-society. As we have seen in the previous chapters, there is a clear correlation between social and digital exclusion. Being digitally excluded means missing out on important fields of daily life. As a consequence, those who lack digital capital, often people of lower social status and class, can get stuck at the bottom.

The issue of different forms of adoption and use of technology is not new to researchers. Since the 1940s (Ryan and Gross, 1943), studies have being stressing the necessity for policy makers to address the gap in the adoption of

technologies in order to prevent the exacerbation of pre-existing socio-economic inequalities. Rogers (2003), for example, influenced by the knowledge gap theory, showed how early adopters of new technologies have tended to occupy higher socio-economic positions in society. Concerns related to this have only been exacerbated with the advent of ICTs, and the Internet in particular. Exclusion from the digital arena has an impact not only on individuals, but on communities and families, the democratic process, the economy, bank transactions, public services and social health as a whole. Therefore, there is a clear necessity to encourage digital adoption and to increase digital capital among citizens. These vital tasks for the development of digital societies could be achieved in two main macro areas: improvement of digital infrastructures, and improving educational systems. The next two sections will deal with these issues in turn.

Since some online institutional initiatives do not involve disadvantaged groups (low status and low income), there is a need to improve the communication between citizens and e-government. This could be done by providing local support (in the UK, for instance, more and more public libraries are providing bespoke services around key issues such as social benefits and council tax) or by designing new ways to engage with the most excluded, using other devices such as telephones. It is worth remembering that the most (socially and digitally) excluded individuals may also experience inequality in access to welfare. Again, this creates a paradox. The welfare state might be considered the main instrument to reduce inequalities produced by social origins and participation in the labour market. Individuals suffering an economically and socially disadvantaged position within society are those who benefit more from services provided by the welfare state. However, as more and more services migrate into the digital realm, being digitally excluded starts to mean exclusion also from welfare policies. There is a need to break this vicious circle to ensure those who are already socially and economically disadvantaged are not left further behind. As we have seen, socially disadvantaged groups are less likely to engage with technology, which may ultimately mean they are further marginalized.

Hence, policy makers at all levels, from local institutions to international organizations, have a responsibility to promote and stimulate digital inclusion. However, we should bear in mind that policies that drive people to adopt and use new tools can be considered to be 'forcing' cultural change, propagating an ideological 'obligation of digital inclusion'. In order to avoid this perception, in planning their educational opportunities policy makers should try to 'enter into dialogue with the people to construct alternative representations of working-class subjects and uses of ICT, not to win them over with training programmes that reinforce the status quo' (Kvasny and Keil, 2006: 49). In other words, in order to avoid the top-down imposition of policies, educational designers should fully understand the real needs of citizens and balance them with those of the market, in order to provide them with the necessary skills for investment in a digital-driven market to improve their life

chances. Citizens should see in the spread of new technologies a concrete opportunity to improve their life. That means that policy makers should not only propose basic training to improve digital skills, but also explain the potential of new technologies to help disadvantaged groups enhance their quality of life.

Tearing down the MAD wall

In order to tackle the digital divide and reduce digital inequalities it is crucial to investigate and understand some of the main reasons behind the 'wall' between citizens while using (or not using) the Internet. I shall define this wall as the 'MAD' wall – comprising Motivations, Access and Digital capital. This incorporates both the structural and the personal explanations at the base of the digital divide. In the following I shall ask what could be done in order to tear down this wall.

Motivation

The main factor preventing the adoption and use of ICTs is motivation. Such *lack of interest* in buying or using the technology to access the Internet is one of the main reasons at the base of the first level of digital divide. A lack of

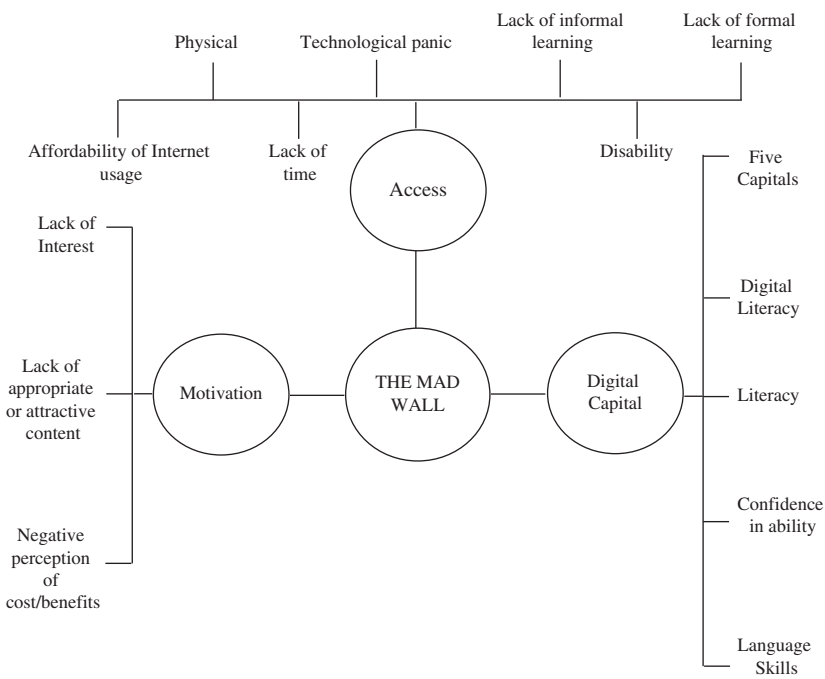

Figure 5.1 The MAD wall

interest in purchasing or using the technology necessary to surf the Web (such as the devices available in public libraries or IT centres) shows a lack of perceived need. Individuals who do not perceive any necessity to go online are excluding themselves from the digital society. To avoid this, there is a necessity to make Internet activities more attractive for citizens, by relating them to information that could have (or be perceived as) an impact on their personal lives.

A *lack of appropriate or attractive content* may be another reason why individuals choose not to go online. Here, there is a necessity for policy makers to design and include more 'useful' content for the digitally excluded. This can only be achieved by understanding the needs of the digitally excluded in order to attract new users and tackle the first level of digital divide.

Finally, we can also mention the *negative perception of cost/benefits*. This means that citizens might potentially be interested in going online, but that they perceive the cost/benefit ratio as being too high and unjustified. The benefits derived from the use of the Internet (the third level of digital divide) are perceived by potential users as too small compared to the requisite price or time spent online. Reduced costs, incentives to adopt technologies and information campaigns to explain the potential benefits of adopting the Internet for specific purposes (such as to find a job, to address health-related issues or exploit the services offered by the welfare system) might help in bridging the digital divide.

Access

The issue of access is often considered the main factor at the base of the digital divide. This assumption is partly true, if we look only at the first level of digital divide. Without access all the subsequent discussion about inequalities in using and transforming online resources into tangible outcomes would not make sense.

The first form of access is *physical access*. Policy makers have a clear and significant responsibility here. Policy must reflect the local socio-economic situation. In countries in which the Internet penetration is low, the priority is to boost the telecommunication infrastructure by improving home access (which is very low in some countries) through Mobile Network Operators (MNOs). However, especially in developing countries, high levels of mobile-specific taxation create a barrier to accessing mobile Internet and connected services. Mobile-specific taxes can limit digital inclusion and the growth of a knowledge-based economy. In this regard, one example of policy adopted to tackle the digital divide comes from Kenya, where following the elimination of a tax on handsets mobile penetration shot from 50 per cent to 70 per cent within the space of two years (GSMA, 2015). In order to expand Internet penetration through mobile phones, some countries are eliminating or reducing tax on mobile phones. Malaysia, for example, abolished a 6 per cent excise tax on mobile use and Sri Lanka a 20 per cent tax on mobile activation. Croatia removed a 6 per cent tax on operators' gross revenue from mobile use in 2012, and as a

result the sector experienced a 5 per cent increase in capital expenditure from 2012 to 2013. Ghana approved the removal of the 20 per cent import duty on smartphones in 2015, in order to help bridge the digital divide in the country (GSMA, 2015). However, in order not to leave anyone behind, it is important, even in developing countries, to improve literacy and digital skills, increase awareness of the Internet's utility to improve life chances, and develop content that is locally relevant in order to stimulate access to Internet. I shall focus on these points in the next section.

Even in developed countries, and certainly in those where Internet penetration is not fully achieved, in order to reduce digital inequalities there is a need to boost infrastructure, reduce cost, offer more widespread and better-quality connections, and expand home access.

Physical access is strongly tied to the second element of accessibility, the *affordability of usage of the Internet*. In the long run, already socially excluded groups may be affected by the cost of Internet usage or devices, which may lead them to reduce their time online or to drop out of the online community altogether. This may entail self-exclusion from (or partial inclusion in) the digital arena. Again, policy makers may plan incentives to reduce the cost of usage of devices (for instance, reducing tax on purchases of the latter) in order to widen access to and use of the Internet.

Another limiting factor in access to the Internet is a (perceived) *lack of time*. This should be seen not only in terms of lack of time spent online, but also in terms of lack of time learning to use the Internet or attending informal peer sessions to improve digital skills. Again, policy makers can work to challenge the perception of attendance at such training courses as time-consuming and useless. These include both *formal training* (organized by local or national institutions) and *informal training* (often supported by individuals' social network or status group). Policy makers should make efforts towards proposing, supporting and financing more formal training and creating new opportunities for informal training, stimulating peer learning sessions in collaboration with stakeholders and local associations. When discussing the necessity of increasing training and educational support, we should also include informal learning, as we have seen in Chapter 3. For example, policy makers should create (for instance through public libraries or IT centres) the opportunities for 'informal peer learning and group support [that are] crucial for dissemination of the use of the Internet among the elderly' (Paul and Stegbauer, 2005: 1), thus increasing elderly people's ability to access health services (Keil, 2005) or more general facilities offered by public or private institutions.

Another important factor in access to the Internet is what we can define as *technological panic*, namely the negative feeling towards the adoption of ICTs and usage of the Internet. The cyber world may be perceived as a dangerous place, because of privacy-related issues, terrorism, or general unpleasant experiences. This could create panic or anxiety among potential users, discouraging them from embracing inclusion in the digital arena. In particular, concerns over privacy or cybersecurity are growing. Internet users' trust of the

Internet ('cybertrust') is a key factor in the success of ICTs (Dutton and Shepherd, 2003, 2006; Urban, Amyx and Lorenzon, 2009). Policy makers can work both on making the Internet a safer place and on mitigating negative feelings about it.

Finally, another key factor that prevents access to the Internet is *disability*. Lack of usability or user-friendly interfaces creates a barrier that precludes or limits access. There is therefore a need to improve design to include everyone, regardless of disability.

These obstacles that impede or slow down access to the Internet are not the only explanations for digital inequalities, however. The mentioned key policy interventions do not tackle the phenomenon of digital inequalities, but mainly focus on the first level of digital divide. At the base of digital inequalities are obstacles that go beyond access, involving cognitive aspects and the socio-economic situation in which individuals are embedded. This element brings us to the third element of the MAD wall, namely digital capital.

Digital capital

In order to tackle or limit digital inequalities among individuals, stress should also be placed on the educational system. The formal educational system should take into account the development of digital skills and motivation to adopt ICTs, and make students aware of the potentiality of the Internet as a powerful tool to improve social mobility. In terms of life chances, there is an increasing gap between those who enjoy a higher education and those who are excluded. This, as we have seen, has consequences for the development of digital skills, further reinforcing social inequalities. Policy makers have responsibilities to stop this vicious circle by promoting equalities of opportunities among citizens, in order to 'motivate exceptional talent' (Giddens, 2001: 184) to progress. Giddens proposes the new skills economy should promote 'the acquisition of skill and training as well as the provision of public infrastructure for innovation' (Jayasuriya, 2000: 287). This is particularly true in a highly specialized society, where the acquisition of such skills can facilitate social mobility. As we have seen in Chapter 4, digital capital should be seen as a set of technological skills, expertise, experience, confidence, knowledge, digital literacy and access to ICTs that provides users with a qualitatively better online experience and tangible outcomes. Policy makers should focus not only on the educational system related to schools or universities, but also on lifelong learning projects. The process of acquiring knowledge and developing skills should be part of a continuing education to accompany people throughout life, in a lifelong process of the promotion of knowledge, know-how, and interpersonal skills, as well as the motivation for continuous learning. The final aim is not only to improve technical skills and enhance technical literacy, but to develop confidence and self-esteem in using ICTs to pursue leisure interests and opportunities in terms of civic engagement, thus motivating citizens to participate in the democratic process. This is part of a broader

project to improve *e-government*, making it more responsive to individual needs in order to help citizens to become more anchored in cultural, civil and existential values and promote social cohesion. However, it should be remembered that having Internet access does not automatically change people's interests and attitudes towards public issues. Access is a cultural, not only a technological problem, and both these aspects need to be addressed simultaneously. Some of the concrete actions that could be taken in order to enhance digital capital and reduce the disparities in using ICTs are mentioned in the following.

Policy makers should work to improve *digital literacy*, specifically among those who are most socially and digitally marginalized, both through formal educational systems and informal training. A lack of basic ability in using computers and surfing the net puts individuals in a disadvantaged position. Hence, there is a need to provide to all citizens the same (or similar) instruments to use the Internet. Digital literacy, however, should not be confused with technological skills; rather, it is an umbrella term that includes several skills, including: information-finding skills; Internet skills; effective communication skills; functional skills; collaboration skills; creative skills; shared knowledge; critical-thinking skills; social-networking skills; career skills; and identity management skills. There is a need to 'recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information' (American Library Association, 1999). But there is also a need to learn how to self-promote, how to find jobs, how to invest skills in the market, how to solve problems using critical thinking within a technological environment, and so on.

Under digital capital we should also include *confidence in ability*. As pointed out by Dutton and Shepherd (2003), Internet users develop confidence in the technology, and in the people they can communicate with on the Internet. Without such confidence, especially among those who do not enjoy a supportive environment (often linked to low-status groups), the online experience and self-esteem may be negatively influenced.

Another element of digital capital that can prevent or limit access to and use of the Internet is *low literacy level*. Digital literacy should not be understood as a substitute for literacy tout court; rather, it is integrated into this. Nearly 20 per cent of the world's population is unable to read and write; this clearly makes access to Internet content almost impossible. In Western society the problem of illiteracy has been generally overcome. However, a current trend of relapse into illiteracy can be interpreted, i.e. adults forgetting things they have learnt. The responsibilities of policy makers are quite clear here: they should monitor this return to illiteracy through lifelong education programmes. Literacy is strongly linked with class and status group, and clearly influences the exercise of power within the digital and social arena.

Also required for full e-citizens to be able to enjoy and exploit most of the opportunities offered by the Internet are *language skills*. The language of Internet content is as follows: English 54.9 per cent; Russian 6.1 per cent;

German 5.3 per cent; Spanish 4.8 per cent; Chinese 4.4 per cent (W3tech, 2014). Hence, without proficiency in English a user will miss out on more than half (54.9 per cent) of all content present on the Web. This will give a different surfing experience and require different capacities in finding out useful information, and eventually yield different tangible outcomes.

As we have seen, digital capital is shaped by economic, political, cultural, social and personal capital, and is embedded in an individual's position within the society. Thus, let me conclude this section by reiterating that since 'it is impossible for individuals to achieve their full potential if social and economic starting-points are grossly unequal' (Giddens and Diamond, 2005: 101), policy makers should work on the redistribution of resources. Digital inequalities, as we have seen, mirror social inequalities based on the social structure described by Weber. Thus, they cannot be fully tackled without a policy intervention in relation to the social structure. However, this discussion goes beyond the scope of this book.

Concluding thoughts

The study of social and digital stratification might in future investigate three main aspects: structure of inequality, phenomena of mobility and representations of social and digital stratification.

I have argued in this book that in order to understand more fully the inequalities (re)produced online we need to approach them using a multi-dimensional approach to social inequalities, acknowledging that social and digital inequalities mutually and reciprocally influence each other. Using the Weberian theoretical framework to create a theoretical approach to the digital divide and digital inequalities allows us to understand more fully that such phenomena are not disconnected from the social structure within which they are generated, but rather are based upon it. Not only do digital inequalities reflect the dynamics of inequalities present in the social system, but they tend to reinforce and further enhance existing status groups and class positions.

The significance of digital inequalities is clear across a broad range of individual-level and macro-level domains, including life course, gender stratification, racial stratification, economic stratification, healthcare, politics, economic activity and social capital. We have seen, for instance, that recent studies have suggested that gender or age-related differences in using the Internet (in Western societies) are decreasing, and noted that digital inequalities based on socio-economic and cultural differences are more difficult to bridge. This is mainly because digital inequalities tend to mirror the social structure in which they are embedded.

I have tried to show how more sophisticated and elaborate forms of use of the Internet might engender an increasing number of opportunities for people to improve their life chances and move towards a better social position. However, the third above-mentioned element, representations of social and digital stratification, has only been touched on in the present work. This

topic, and specifically the perception, imagination and rationalization of the structures of inequality and mobility phenomena, more than deserves further investigation. The perception of belonging to one stratum rather than another in the social system is often clear to a status group's members. However, in the digital arena this is not always the case. There is a need for a combination of policies that take into consideration training, lifelong support, motivation for use, and network support, stimulating Internet activities related to personal development.

The digital divide and digital inequalities remain important topics at the centre of discussions in the social sciences and a vital area of public policy debate, encompassing economic, social, cultural and political issues.

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