Department of Political and Social Sciences

Digital Politics Divide:

The Digital Divide in Building Political E-Practices

Andrea Calderaro

Thesis submitted for assessment with a view to obtaining the degree of
Doctor of Political and Social Sciences of the European University Institute

Florence, September 2010

EUROPEAN UNIVERSITY INSTITUTE
Department of Political and Social Sciences

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To my parents, aldo e adele
for having taught me all,
nor can anything else

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Abstract

This study explores the relation between Internet and politics from a cross-national perspective of analysis. In the domain of the political sciences, the Internet has been welcomed for its potential to facilitate political practice. However, it is also commonly noted that the Internet is not equally distributed and not everybody can equally make the most of its potential. This is why the Digital Divide is perceived as the obstacle which limits the potential of the Internet to influence politics.

Today, we are entering the third decade after the advent of the WWW, and the Internet is used far more broadly worldwide. We also have much more empirical evidence about Internet use. However, most research until now has concentrated on Western countries which have similar political systems, and therefore neglects a larger comparative perspective.

This study empirically resizes the relation of causality between the Digital Divide and the influence of the Internet on politics. I explore how other contextual factors are determinant in this regard. In order to test this empirically, I set up a dataset tracking internet use, internet infrastructure, internet politics, blogging practices and social, economic and democratic factors of over 190 countries. Through cross-national analysis, first, I size the current status of the Digital Divide across countries. Second, I explore whether and how this scenario affects the inequalities in using the Internet for practicing politics. By following a constructivist approach, I explore not only how *political parties* are unequally present online across countries to perform conventional forms of politics, but also how *citizens* and *social movements* use the Internet to practice civic engagement. I pay particular attention to how people use social network organization tools to empower their own information narratives.

My empirical findings confirm that the Digital Divide plays a limited role in explaining the relation between the Internet and politics. Rather, the use of the Internet to practice politics is mainly determined by the political context in which political actors operate. In this framework, the Digital Divide is only one of the several factors characterizing the national context.

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I approached my PhD experience as a learning process about how to become an academic, during which writing this dissertation was the main, but not the only challenge of this adventure. I am then grateful to all those who encouraged me along this path: intellectual inspirers, hosting institutions, friends, and my parents above all. All shared with me many moments which made the adventure of completing my PhD extraordinary. To develop this study has meant to learn how to shape my academic life, travelling through enriching experiences. During my PhD period I combined several ingredients, without which I would not be able to look with such deep pleasure at the final result of these years. It was a process along which I have met an incredible number of people, each of them determinant in different ways, who have supported me in building my academic life, and making this dissertation concrete. This makes the list of people that I wish to thank very long.

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Anyway, I have also learned that ending a PhD is just the conclusion of the building of a milestone, from which to begin my future research. I am then, now, sure that I will share much more with all the people here listed along the continuation of my academic life in the ongoing future. Thank you for this!

To be continued..

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"Thus, astride our bucket, we shall face the new millennium, without hoping to find any more in it than what we ourselves are able to bring to it."

Italo Calvino
Six memos for the next millennium, Lightness, 1988

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Introduction

Political scientists have been interested in the implications of the Internet in politics since its advent. The Internet has been welcomed as a useful instrument for promoting political participation and increasing civil engagement, thereby strengthening democracies. The Internet, however, is far from equally distributed, both across individual countries and across the globe. This inequality fragments the use of the Internet in politics. Research in this field must then relate theoretical contributions and empirical findings to an unequal distribution of the use of the Internet. This is what we commonly refer to as the Digital Divide.

The Digital Divide has been considered determinant for explaining the relationship between Internet and politics. Since earlier research in the field, scholars argue that the Internet would have a more positive impact on politics were the Digital Divide narrowed. However, so far, research on the relationship between the Internet and politics lacks a comparative approach. Empirical findings have been collected mainly in Western liberal countries which share similar levels of Digital Divide and political systems. Today, despite the continued unequal access to Internet, the use of the Internet has spread worldwide. Empirical findings in Western liberal countries cannot be generalized, as they are not sufficient to provide a clear picture of the advent of the Internet on politics worldwide. The use of the Internet in politics is as fragmented as the political, cultural and economic landscape across the globe. This makes empirical findings on Western liberal countries of limited help for explaining the use of the Internet on a global scale.

We also observe that the Internet does not revolutionize politics as many researchers in the field originally hypothesized. These various researchers erroneously assumed that the Internet would have an equal impact on politics no matter the context. They often hampered their studies with a techno-determinist approach, predicting that the Internet would determine the rise of new forms of politics. We are yet to find empirical evidence of this scenario. Research in this field has been faulty by failing to acknowledge the important role that context plays in understanding how the Internet is used. The Internet, I argue, is an instrument which flows into pre-existing moulds: people construct the use of the Internet according to their contextual pre-existing specificities. The use, then, of the Internet to practice politics is as diverse as are the political practices across the planet. It is necessary therefore that we extend research in this field by paying attention on the interaction between the technological nature of the Internet

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and the framework in which it is used. I expect that the relationship between Internet and politics is shaped depending on country-contextual specificities. The Digital Divide is one of the contextual factors which influences the use of the Internet to practice politics. In order to appropriately appreciate this, we must extend our knowledge of how the Internet is used in different political systems.

In this study, I say that people construct the meaning of the use of the Internet depending on the contextual specificities in which they act. Following this, I claim that the Digital Divide is only one of the conditions determining the influence of the Internet on politics, but that it is not the most determinant. I go on then to explore how other contextual factors play a more determinant role in this regard. I argue that, in the political domain, political specificities, such as the nature of political actors and the democratic status of the country in which people use the Internet, are more determinant in explaining the unequal influence of the Internet on politics.

In order to make my case, I combine two research strategies: first, I present empirical data which serves me to define the current status of the Digital Divide and its causes from a cross-national analytical perspective across 190 countries. Second, I explore how the current dimension of the Digital Divide influences the various categories of political practices, across countries. I propose to bridge the lack of comparative research on the Internet so far noted, by using a constructivist approach. The Social Constructivism of Technology" (SCOT) approach is a source of inspiration for the second research strategy. Bijker and Pinch (1984), first coined this concept to argue that people construct the use of a technology depending on the context in which they act. While they did not refer to the SCOT approach for research on the Internet, I choose to adopt it in this study in order to design a comparative research strategy in this field. The SCOT approach helps me to compare the fragmented use of the Internet for political practice by identifying the political actors and to compare the contextual specificities across countries.

Both research strategies are developed along the three main parts in which this study is divided.

The first part, which presents my theoretical framework and research design, is made up of two chapters. In the *first chapter*, I explain my definition of the Digital Divide and provide the theoretical framework for the empirical part of my study. In the *second chapter*, I provide the methodological framework of my study. I explain my research design including the

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methodology, the indicators and the sources of data. I explain my dataset by combining multiple indicators referring to internet use, internet infrastructure, internet politics, worldwide blogging practices and national social, economic and democratic factors in over 190 countries around the world.

The second part is the first research strategy of my empirical work. Here, I provide the current dimension of the Digital Divide from a cross-national perspective of analysis. In the *third chapter*, through cross-national analysis, I compare the unequal access and contributions to the Internet worldwide. I stress that if we laud the Internet as an open space to which anyone who wants to can contribute, the following question remains: are the Internet's contents reflective of cultural specificities worldwide? In order to answer this question, I argue that attention must be paid to the unequal distribution of contributors to the Internet worldwide. If we welcome the Internet as a useful instrument allowing people to express their needs according to contextual specificities, then we must also pay attention to the unequal distributions of contributors to the Internet. My findings confirm that if the population accessing the Internet is increasing worldwide, a serious gap still exists in how people contribute to shaping the Internet. I also explore how contextual factors as economic and political determine the dimension of the Digital Divide worldwide. In the *fourth chapter*, I explore how social factors influence the Digital Divide across countries. By comparing 27 countries of the European Union, I look at how socio-demographic factors – sex, age, income and education – influence both unequal access and use of the Internet.

Finally, in the third part of this thesis, I explore how this scenario affects the different usages of the Internet to practice politics. In the *fifth chapter*, I introduce the research in the field of Internet and politics. This leads me to systematize the fragmented concept of political participation and its relationship with the Internet. I first identify the political actors around which I cluster my empirical investigation. Second, I explore how the Digital Divide and other contextual specificities, such as economic and political factors, influence the relationship between the Internet and politics worldwide. I focus this analysis on three key political actors: political parties, citizens and social movements. In the *sixth chapter*, I explore how political parties use the Internet. I map the unequal presence of political parties online from a cross-national perspective. By comparing 190 countries, I then investigate how the Digital Divide and political and economic factors influence the unequal presence of political parties on the WWW. In *chapter seven*, I explore how the Internet may offer citizens new opportunities to practice civic engagement. Given the importance that information knowledge has for energizing political

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engagement, I focus on how citizens interact with the information landscape via blogging. Following the line of this study, I explore the unequal distribution of bloggers worldwide, and the social stratification of bloggers' profiles. In order to explore the contextual specificities determining the influence of blogs on politics, I explore the blogosphere in two cases: Iran and the USA. I investigate which of the contextual specificities, including the Digital Divide, economic and political factors influence the political meaning of the blogosphere in these countries. Finally, in *chapter eight*, I explore the unequal use of the Internet for social movements. Here, I distinguish the use of the Internet in politics as a tool, and as a reason to start new political struggles. I first explore how the Internet as a tool facilitates social movement campaigns. I then explore how the Internet generates new political struggles, by focusing on a case study. This is the Free and Open Source Software (FOSS) movement. Following this, I investigate the political significance of the Internet for the FOSS movement. The FOSS movement fits in this study for two reasons: first, it is one of the few social movements that did not exist before the advent of the Internet; second, the FOSS movement is a social movement clustered around the claim that people must be free to construct the meaning of digital technologies. This allows me to stress that the construction of the meaning of the Internet is not only an epistemological issue. Rather, it is also a commonly shared claim. This supports what I argue in this study: that, to understand the unequal access and use of the Internet for politics, we have to pay attention to the unequal construction of meaning in the use of the Internet. Hence I propose the concept of Digital Participation Divide.

By exploring how the internet is used to practice politics by three different types of political actors, from a cross-national perspective of analysis, I aim to provide a better understanding of the fragmentation of the use of the Internet to practice politics, and how people construct the political meaning of the Internet depending on contextual specificities. At the same time, by applying a comparative perspective on over 190 countries worldwide, I also aim to show how the Digital Divide influences the relation between Internet and politics differently across the globe.

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Part One

Theory and Design

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
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Chapter One
1. Theoretical Framework

1) Introduction

The digital revolution is upon us. Today, we have plenty of empirical evidence of how new technologies influence our daily life. However, despite their pervasiveness, they do not influence regions equally across and within countries worldwide and they do not influence our activities in the same way. This existing difference in accessing Information Communication and Technologies (ICTs) takes the name of *Digital Divide*.

Given the multiple use of ICTs, the concept of the Digital Divide refers to various inequalities in accessing ICTs. These conditions lead us to approach the phenomenon through several perspectives, focusing our attention on a range of effects and making the study of the Digital Divide an interdisciplinary field of research. With this chapter I provide the framework of my analysis before moving on to the empirical part of this study.

In what follows, I first introduce multiple conceptions of the Digital Divide. After having explored the various definitions of the phenomenon, I provide my own. This will determine the perspective of analysis that I use in this study. Second, I clarify that by exploring the Digital Divide from a political science perspective, my concern is whether and how the Digital Divide influences politics. By exploring the research that has been done in this field so far, I finally provide the guidelines along which I conduct, in the following chapters, the empirical research of this study.

2) Defining the Digital Divide

As already mentioned, scholars explore the Digital Divide from different perspectives. Several points of view are taken into consideration forcing the analysis on its causes and effects into divergent paths arriving sometimes to different conclusions. The approaches proposed to explore the topic are often different from each other and they do not interact with each other.

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A first wave of reports published by international organizations on the subject - Millennium Report (Annan 2000); Okinawa Charter (DOT Force 2001); Plain of Action (United Nations 2003) – provide a vague analysis on the Digital Divide. Each of them emphasizes a different aspect of the issue. The literature review is also ambiguous in this regard. Some authors stress the economic aspects of the advent of digital technologies (Castells 1996; Chinn & Fairlie 2006; Parayil 2006), focusing on economic causes of the Digital Divide and how the narrowing of the phenomenon could bridge also economic inequalities. Sociologists explore the relation between digital access and social factors (Goldfarb & Prince 2008; Hargittai & Hinnant 2008; Van Dijk 2006; Warschauer 2004). Meanwhile, others focus on the role of digital technology in governance for facilitating the development of democratic dynamics (Mossberger et al. 2008; Norris 2001; Van Dijk & Hacker 2000).

It is rather common that political scientists deal with a so-defined "moving target". In the field of research on ICTs this is particularly true. ICTs have very quickly led to important consequences for the general social dynamics of our society. This process is faster than the development of researchers' analyses, generating a certain weakness in the debate on the Digital Divide. This is a condition that is current for instance in reference to media technologies, as Marshal McLuhan stressed already in 1964. This diversity of approaches and modes of understanding ICTs has made it difficult to generate a commonly shared conceptual framework in the field. It has also made research in the field rich of definitions of the Digital Divide.

Digital Access Divide

When the advent of the Internet was a new phenomenon, the first challenge that appeared to the American administration was to make the Internet accessible to the whole population. In order to concretize the potentialities of the Internet, it was necessary to connect the Internet to people from all social backgrounds, based both in urban and rural areas, and across the globe. Until the Internet was not easily accessible to everybody, its benefits were only unrealized expectations. For this reason, the first commonly shared definition of the Digital Divide referred the phenomenon in terms of a gap in accessing digital technologies. I redefine this reference to the unequal use of the Internet as "Digital Access Divide". It refers to *the gap between who is able to access ICTs and who is not*. According to Van Dijk and Van Deursen (2009), this definition understands the Digital Divide in dichotomous terms, between who has physical access to the Internet, or a computer, and who does not. This definition has been for a long time appropriate to describe the evolution in accessing the Internet, which has characterized the first period of its advent. Today, this definition is still appropriate to describe the current

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scenario. There is still a Digital Access Divide mainly between urban and rural areas, and, such as I will highlight in following chapters (see chapter 3), between countries worldwide. However, today the Internet is more accessible than in the last decade, and scholars now also explore the Digital Divide according to new dimensions of digital inequalities.

Digital Skills Divide

Given that people access the Internet more than in the past, some scholars address research to the so-called "second level of the Digital Divide" (Hargittai 2002). Within this framework, research focuses on people who equally access digital technologies, but *have unequal skills for using it*. I refer this new stage in studying the Digital Divide as "Digital Skills Divide". Di Maggio and Hargittai (2001) referred this dimension of the Digital Divide as the unequal ability of people to use digital technologies. Van Dijk (2006) points out that this typology of divide goes beyond the binary distinction referred to the Digital Access Divide. The author identifies a scale of variations in the ability of people to use digital technologies. This depends on the various stages that people cross in approaching media in which the physical access to digital technology is anticipated by the motivation of people, followed by the acquisition of the digital skills (Van Dijk & Van Deursen 2009). This process can be also explained with the following definition of the Digital Divide.

Digital Diffusion Divide

Richard Rose (2006) looks at the Digital Divide in terms of unequal access to digital technologies in a time perspective. The Digital Divide here is defined as *the gap between who is an early or late adopter of digital technologies*. I label this as "Digital Diffusion Divide". According to Rose (2006), between people who use the Internet earlier and those who do it later, there are those who start to adopt ICTs according to their proximity to who already uses it. This definition of the Digital Divide refers to the diffusion model proposed by Rogers (1995). I introduce Roger's argument in details in the next section of this chapter. In proposing this perspective of analysis to look at the Digital Divide, Rose (2006) criticizes the dichotomy of the traditional definition of the Digital Access Divide. The author argues that this definition does not look at the phenomenon over time, thereby neglecting its narrowing process. Rose (2006) argues that this dimension of the Digital Divide fits particularly well with the Digital Divide at the global level. At the same time, however, the Digital Diffusion Divide perspective also integrates the other definitions so far explored. In fact, this definition is also appropriate to

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explain the diffusion process that occurs in narrowing the Digital Skills Divide and the Digital Participation Divide that I introduce below.

Digital Participation Divide

The Internet has been welcomed as a participatory media, to which anyone can contribute more easily than with other media. Most of the analyses in the field laud the Internet as an accessible medium that can transform people as active actors in the media landscape. The Internet allows the proliferation of grass roots media actors, who are furthermore able to communicate to a global audience. In this scenario, we are witnessing the localization of the information narrative. The media landscape potentially adapts to contextual social, cultural and political needs. This condition is determinant for developing national economies, and political scenarios. However, people do not participate equally to shaping the use of the Internet. So far, only a limited number of people are active in shaping the Internet by generating their own websites and using the Internet independently from mainstream private Internet services. Instead, most internet users are passive in their way of accessing the Internet. I agree with Melucci (1996), who stressed that "analysis of structural imbalances in society should refer more to a differentiation of positions which allots to some a greater and specific control over master codes, over these powerful symbolic resources that frame the information" (p.178-179). If we neglect acknowledging this differentiation of positions, we risk creating a form of dependency to information, in which people unequally exercise their control over the construction of meaning. While Melucci (1996) does not refer to the Digital Divide in his analysis, his argument is relevant for address new challenges of research in this field. If we agree on the participatory nature of the Internet, I argue that we must also pay attention to the "Digital Participation Divide", which I define as *the unequal participation by people in constructing the meaning of the Internet*. This is determinant for exploring whether and how the Internet is a participatory instrument. Only by bridging the Digital Participation Divide can we expect the Internet to be representative of worldwide cultures and its use shaped according to local needs and contextual specificities.

We have to appreciate these different definitions of the Digital Divide as different perspectives for looking at the phenomenon. I point out that there is no conflict between these definitions. None of them exclude each other, but rather complement each other. By combining these perspectives, we can get a broader snapshot of the Digital Divide.

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This study aims to offer a deep insight on the Digital Divide, as we can use new data that can be compared to data presented by earlier studies. Today, at least in Western countries, digital technologies are established and more accessible than in the past. This explains why the interest in this field of research has now diminished. However, I reject the assumption that the Digital Divide is therefore no longer an issue. I argue that this assumption fails by referring to the Digital Divide only in terms of a gap in accessing the Internet. As I have already stressed, the concept of the Digital Divide evolves as does the use of ICTs. Today, research in this field must include new perspectives of analysis.

With this study, I extend research on the Digital Divide by looking at the Digital Participation Divide. My main focus then is on the inequalities in constructing the meaning of the use of the Internet at the grass roots level, and how this happens depending on the contextual specificities in which people act.

3) Forecasting trends: Normalization and Stratification

Today Internet use is still expanding. This is why the debate remains open regarding the issues proposed above. Many analyses provide predictions regarding the future of the gap in accessing the Internet. Among these forecasts, it is possible to identify two main projections: *normalization* and *stratification*.

We may categorize the first projection as optimistic. This predicts that, at least in post-industrial societies, the differences in rates of Internet access in relation to social factors will gradually decrease as use broadens and becomes more ubiquitous over time. This expectation arises because of the historical diffusion witnessed with respect to pre-Internet media, such as television and radio. The convergence of public and commercial services on the Internet has made this a mass communication medium; its popularity should increase as has happened in the past for older mass media. This condition would create an open market which would also obviate the need for governmental assistance in overcoming the Digital Access Divide. This open market would increase competition, allowing the prices of both Internet services and the requisite hardware for accessing it to fall. Therefore, under *normalization*, all of these considerations together lead to a prediction that in the future the Internet Penetration Rate will increase with approximately 90-95% of the entire population becoming Internet users (Resnick 1998). Rogers (1995) applies this model of diffusion to analyse several case studies on the

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emergence of earlier technologies. These were, for example: television as mass media; the steam engine, as the technology for productivity; and gunpowder as central to military strategy. In all these cases, the introduction of a new technology directly involved a few "early adopters" with knowledge and wealth being the minimum conditions. For successful innovation to take place, demand had to increase. This caused costs of production (as well as the risks associated with innovation) to fall. These were perceived as the conditions necessary for increasing an innovation's diffusion, as a growing number of people became users of that technology. Such as occurred with these earlier forms of technology, it is commonly assumed that by applying this model to the advent of the Internet, we can also identify an *S-curve* trend for the levels of its diffusion. On the bottom-left part of the graph (figure 1.1), advocates of normalization see the Internet as being used by a small group of people with higher socioeconomic status, having access to financial and information resources necessary for using the technology introduced (Rogers 1995). Following this interpretation of the trend, adoption of the new technology continues until market saturation eventually occurs, which causes the falling of both demand and, then, of the price of Internet access and of the hardware necessary for access. Only then will the group of technology adopters grow to include people living under different socio-economic conditions. From this optimistic analysis, all societies will converge to a saturation point of Internet use on the top-right part of the graph (Chadwick 2006).

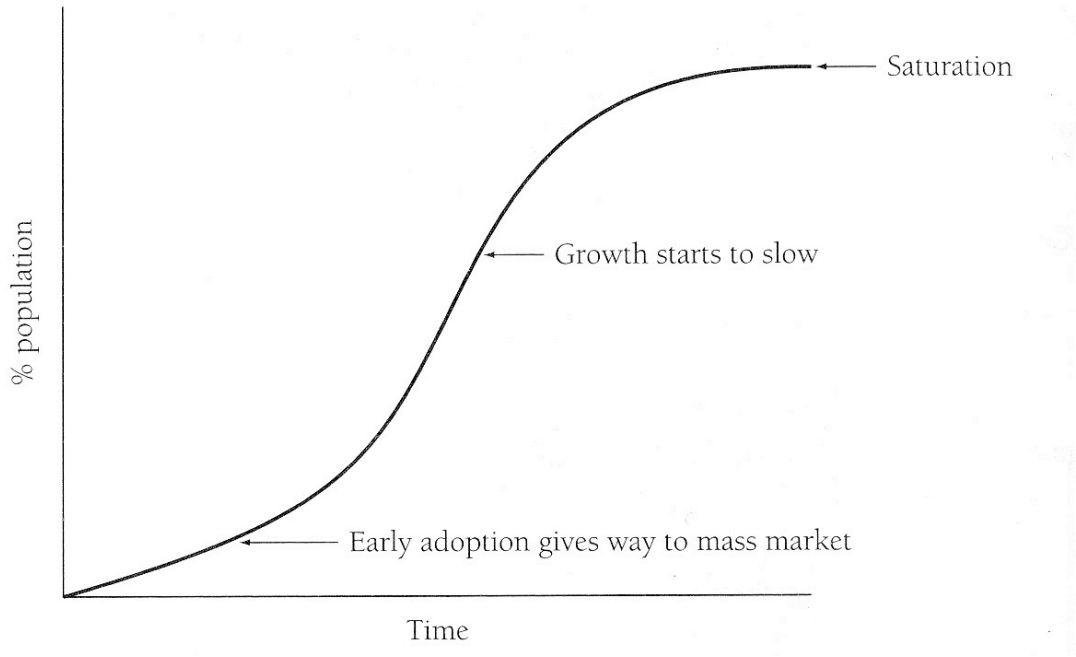

Figure 1.1 - The S-Curve of technology diffusion

(*Source: Chadwick, A. (2006). Internet and Politics. New York, NY: Oxford University Press*)

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The stratification projection provides an alternative and pessimistic interpretation of the S-curve model. Here no convergence regarding Internet use is expected to occur. This projection explains that as people adopt a new technology, in this case the Internet, they reinforce their wealth advantages, and those people who are already in more powerful socioeconomic conditions than others will increase their social advantages at a faster rate, thereby maintaining, and even potentially increasing the social stratification present in the use of the Internet (Chadwick 2006, Norris 2001, Van Dijk 2005).

Which of these theories predicts most accurately the trend of the Digital Divide? Are we witnessing a narrowing process of stratification in using the Internet, as predicted by the normalization theory? What are the factors affecting the unequal distribution of access to and use of the Internet?

In the first research strategy of this study, I address these questions, mapping the current status of the Digital Divide by using multiple approaches of analysis. Below, I introduce the theoretical framework where I address this exploration.

4) Theoretical framework

In the domain of political science, Norris' book, "Digital Divide. Civic engagement, Information poverty, and the Internet Worldwide" (2001), is still the most frequently quoted book on the Digital Divide and its relationship with politics. Norris (2001) focuses on understanding the causes and the consequences of digital inequalities "evident during the first decade of the Internet Age" (Norris 2001, p.3). The author defines the Digital Divide through exploring the impact of new technologies on politics. Her starting point is to verify if the Internet is able to facilitate democratic development. Her premise is that the use of the Internet by public institutions permits better linkage between public institutions and citizens. At the same time, Norris (2001) points out how overcoming the Digital Divide could strengthen civic engagement, creating new forms of political participation.

While the debate on the impact of the Internet on politics precedes Norris' work, her publication is one of the first and still rare comparative analyses in the field with empirical data. The analysis relates to data collected until the year 1999. This data provided empirical evidence of the first steps made on Internet use in politics. These permitted advancing some conclusions

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and predictions and thus provided an important picture of the Digital Divide. The data however is now over ten years old. While it may not be considered a significantly large time range in most fields of research in the social sciences, it is for research on the Network Society. Digital technologies have massively evolved in the last ten years and their social use has grown rapidly. For this reason, it is appropriate, as Norris has herself suggested, to define her work as research on the first decade of the digital era. As a networking structure, the Internet has radically evolved since its beginnings, when it was first used for military purposes in 1969. Twenty years later, in 1990, Tim Berners-Lee implemented the World Wide Web speeding up its public use. We can consider the first decade of the Internet era to extend from this moment to the year of Norris' work (2001). More has happened in the second decade of the digital era and is still happening. New data can be collected, and we can rely on yet more empirical evidence. Old data can be put alongside new data, providing a historical perspective on the issue. These changes present us with several new questions which motivate my research: How does the Digital Divide affect the different usages of the Internet for the practice of politics? How is the Internet unequally used for political practice in countries across the globe? Does the Digital Divide increase the gap in democracy between countries?

This study explores the current status of the Digital Divide and the existing link between the unequal use of the Internet and the various categories of political practice.

Norris (2001) suggests that there are three dimensions to the Digital Divide: *Global Divide*, *Social Divide* and *Democratic Divide*. The first refers to the Digital Divide from a cross-national perspective of analysis. With the second dimension, she refers to the unequal access to the Internet within countries, depending on social factors. As for the Democratic Divide, Norris (2001) defines it as the unequal use of the Internet to practice politics. The combination of these perspectives draws a picture of the Digital Divide in the domain of political science. At the same time, they allow the development of a hierarchical analysis of the object of the study. With this study, I combine these perspectives with my definition of Digital Participation Divide.

I will discuss the structure of my empirical research in depth in the next chapter, with an introduction to the methodological framework of my study (see chapter 2). Here, I proceed to define the dimensions of the Digital Divide with which I shall conduct my research.

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4.1) Digital Global Divide

Although the first study on the Digital Divide was concerned with the gap existing in the American national context (NTIA 1995), today it is more common to address the topic as a worldwide phenomenon. The Network Society is not limited to national contexts, but is shaped by transnational dynamics overcoming geographical barriers, including all regions of the world (see chapter 3 for details). Thus, the Digital Divide from a global perspective refers to the gap existing between regions of the world in accessing and using the Internet. The investigation of the global dimension of the Digital Divide highlights the different levels of inclusion and explores the reasons of those inequalities.

Castells (1996) defines the Network Society as a social structure where the relation with production, consumption patterns, experiences and power is influenced by the technical nature of network connection technologies (see chapter 3 for details). Considering the centrality of new technologies in every field of social, economic and political activities, most of the worldwide dynamics are influenced by digital technologies. Thus, I argue that the world population is both directly and indirectly linked to the Network Society, so that it is possible to question the binary idea of "inclusion" or "extraneousness" as suggested by the definition of Digital Access Divide proposed above. Rather, I understand the global dimension of the Digital Divide as involving differences between countries which are directly and actively participative of the Network Society and those who are not.

The effects of this scenario are various. Like other technological revolutions, the digital one is also leading to a new dominant feature in society. According to Castells (2001), historical transitions of this kind are always shaped by those who are in a position of advantage or control. This conclusion does not imply a judgement of value, but intends to underline a process that finds confirmation in history. Currently, the economic dynamics, which have been reorganized through the new technological infrastructure, still remain coherent with this scenario.

The use of the Internet has intensified economic and political dynamics. In this scenario, those countries excluded from "technological information" processes have a subaltern role. For this reason, for developing countries to have access to digital technologies it has become important to participate in the global economy (Hayward 1995). Consequently, cyber-pessimists alert that the Digital Divide is a factor increasing the already existing economic inequalities.

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There is then a risk of an increase in the marginalization of the non-digitalized areas of the world (Castells 1996).

It is commonly shared that the global dimension of the Digital Divide is mainly linked to economic factors. There is agreement on the idea that the Digital Divide is a consequence of an already existing economic gap between different countries. The Digital Divide exists for the same reasons that have caused other kinds of inequalities across the world. This is why several authors do not agree over defining the Digital Divide as a new problem; in their opinion, it is a component of a more general inequality. Norris (2001) and Franda (2002) argue that so far the introduction of the Internet has not impoverished poorer countries, but it is increasing the existing worldwide economic inequalities because the Internet has facilitated the creation of new sources and conditions for enrichment only in richer countries. The analysis provided by Castells (1996) confirms this hypothesis. The author explores the move in Western-countries from industrial to immaterial economy. Castell's analysis (1996) provides empirical evidence on how immaterial economy produces more richness than the industrial one. Scholars believe then that widening the Digital Divide could resolve the same causes which have generated it (Barma 2005). International organizations focus their attention on this aspect of the phenomenon. A number of reports were published on the issue: the *Millennium Report* by United Nations (Annan 2000), the *Okinawa Charter* (DOT Force 2001b), the *Digital Opportunity Task Force* (DOT Force 2001a), *Plan d'Action* (United Nations 2003). These studies focus on the role that new technologies could have to improve the economic conditions of the poorest countries thanks to digital instruments and the new conditions of the current world market. Improvement could happen thanks to an instrumental use of new technologies to increase trade exchanges to other regions of the world. For example, it would be possible to use the Internet to create connections between local sellers and buyers in multiple locations, thereby skipping expensive forms of intermediation. These documents argued also that the Internet – and in particularly the World Wide Web - is a useful instrument to sponsor local products and available skills (ITU 1999). The characteristics of the so-defined *new economy* can give the possibility to the poorest countries to create their own immaterial industries (Annan 2000; Norris 2001). This point is related to the idea that the new conditions introduced by digital technologies enable skipping the barriers of the industrial era, creating good reasons to promote local immaterial industries, such as software industries and the service sector. The case of Bangalore Valley in India, where a great pole of informatics' industries was born, is often referred to in debates on this issue (Parayil 2006). However, other considerations should be made. More in-depth analyses of the

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Global Divide provide a less enthusiastic picture of the situation than expected by some scholars (see more: Barma 2005; Lall 1999).

Despite the possible role of the Internet in enriching poor countries as well, a topical question arises: how can we explain the worldwide fragmentation of the use of the Internet? What are the factors determining the dimension of the Digital Divide? Already in 1999, Hargittai suggests that the economic wealth of a country, measured by per capita *Gross Domestic Product per Capita* (*GDP*), is one of the main predictors to understand the worldwide digital inequalities (Hargittai 1999). According to the hypothesis that the Digital Divide is related to the worldwide economic gap, scholars explore the relationship between the GDP and the online population of each country. This correlation shows how digital access is facilitated by a "high per capita GDP". In order to explore the issue in depth, others also compare the number of the online population with the percentage of the *GDP* spent on research and development (Norris 2001). This correlation highlights how the less one invest, the lower the proportion of internet users. The *International Telecommunications Union's analysis* (*ITU*) also highlights the existing correlation between the number of Internet hosts per country to the general levels of socio-economic development using the *UN Human Development Index* (ITU 1999). More recently, Wilson (2006) arrives at the same conclusion. Norris' analysis (2001) supports these positions, also proposing other reasons. One of them is related to the broader process of research and development in each country, mainly in the form of investment in science and technology (UNDP 1999). Norris also argues that the development of human capital is crucial for explaining the diffusion of the Information Society. Investments in digital skills and education are another important factor of Internet access. For example, several studies highlight how educated people are quicker to adapt to new digital instruments (Rogers 1995). At the same time, data provided by *Freedom House*,[1] a non-governmental organization monitoring freedom in the world, are useful for stressing the relationship between digital access and freedom of expression in each country (Norris 2001). Close to this perspective, Milner (2006) focuses on the influence of political institutions in the challenge to the Digital Divide. The author argues that they have a role in overcoming the digital gap where there is a democratic condition, otherwise they slow down the widening process in order to maintain political power and to obstruct potentially new political actors.

1 www.freedomhouse.org ;

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Most of these factors are useful for explaining the reasons for the global dimension of the Digital Divide. In 2001, Norris expected that the size of the Digital Divide would have changed within the next few decades. Is this confirmed today? What about the Global Divide in the second decade of the Internet age? Answering this crucial question will be the first step of my study.

Expanding research on the Digital Global Divide today

Mapping the distribution of the online population across the world is the most common way of exploring the Digital Divide from a cross-national perspective. It is useful to provide a picture of the dimension of the issue and, at the same time, to put in perspective the gap existing between geographical areas. Researchers single out different further indicators to map the geography of the Internet, including: distribution of Internet hosts (Hargittai 1999; Jordan 2001), bandwidth (Abramson 2000; Townsend 2001; Malecki 2002), IP addresses (Cheswick et al. 1999; Martin Dodge 1999), links between web pages (Brunn & Dodge 2001; Park & Thelwall 2003), domain names (Moss & Townsend 1997; Zook 2005), and lists of websites (Paltridge 1997).

In my study, I also explore the distribution of the internet users, and how their unequal distribution worldwide depends on economic and political factors. The research so far introduced in this field is appropriate for satisfying the first definition of Digital Access Divide that I proposed below. But times are now mature for going beyond this original conceptualization of the Digital Divide. Research in the field must be able to react to the evolution of the use of the Internet, and empirical findings must be collected following new directions of analysis. As I have already stressed, if we want to keep lauding the Internet as a participatory and inclusive media, we have also to pay attention to the unequal distribution of contributors active in shaping the Internet. Already in 1996, Melucci highlighted that even if poorer countries do have access to information flows, richer countries are the ones who generate these flows and people living in non-Western countries do not have the power to interact with them. In this scenario, they are not able to contextualize the use of the Internet in order to make the most of its potentialities. Following this, I explore the global dimension of the Digital Divide by combining the perspective of analysis proposed by the Digital Access Divide definition with the Digital Participation Divide definition that I propose with this study.

Within this framework, Castells (2001) has talked about the importance of choosing appropriate perspectives of analysis for research. In his publication "*Internet Galaxy*", the author does not explicitly focus his study on the Digital Divide. However, Castells (2001) introduces

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two additional points of view which I consider relevant for exploring the unequal use of the Internet at the global level: referring to the existing digital infrastructure; and tracing the economic geography referring to Internet production. This last approach is actually proposed by Zook's (2005) research. Mapping the worldwide online population provides a snapshot of the situation of world Internet access at a given point in time. The maps proposed are useful not just to understand the causes of the existing Digital Divide, but also to look at the problem from a structural perspective.

One of these maps identifies the so-called backstrokers, that is the size of the bandwidth available for each country, and the more general technological infrastructure which supports the Internet. What is commonly known as *geographical technological mapping* is important in order to understand the distribution of the technological infrastructure across the planet. The distribution of routers, which create connections between the several nodes of the Internet, and the management of the bandwidth, which determines the rapidity of access to the Internet, play a determinant role in maintaining the Digital Divide. Studies have highlighted how the availability of bandwidth in the United States puts this country in a central position to both contribute and receive information. Cukier (1999) noted that, although the Internet has the merit of linking nodes without any need for a centre, in reality, for technical reasons, the shape of the Internet is more similar to that of a star, where the central position is occupied by the United States. In this structure information, data transferred from an African city is first diverted to the United States and afterwards it comes back to the receiver, who is maybe based not so far from the sender. The long trip of the data transmitted is unfortunate also because it overuses the same backbones, slowing down transmission. Exploring this map, it is clear that the backbone Africa - United States - Africa is small. Hence, the availability of bandwidth for the African continent suffers further weakening.

Taking into consideration the importance of information for the economic world balances, it is relevant to map the Internet according to the "economic geography referring to Internet production". This refers to the production of information on the Internet.

This kind of map highlights how companies within several production activities contribute towards intensifying telematic infrastructures over the territory. For the same reason, by exploring the issue at the country level it is possible to explain why the Digital Divide between rural and metropolitan areas is so wide. Zook (2005) singles out the distribution and percentage of concentration of companies which run a website. This data shows how the concentration of these domains is around a few groups of American cities. Zook's analysis (2005) is not a

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mapping from a cross-national perspective: he examines the distribution of companies in national contexts and focuses his attention on their distribution between several metropolitan areas around the world. Namely, the telematic concentration coincides with the high density of the most important sources of information. These are public structures, headquarters of the main media networks, universities, financial institutions and technological poles. This condition brings a closer contact with the information economy, and means a higher concentration of information providers between New York, Los Angeles and Washington DC. Included in the list are San Francisco Bay and Seattle which host technological infrastructures and have a great concentration of information knowledge, with Silicon Valley in San Francisco and Microsoft in Seattle, and therefore also have great contact with the information economy. Zook (2005) highlights how the local existence of financial and economic structures, and especially of venture capitals, is one of the main factors for explaining the development of digital infrastructure. This point is one of the possible answers to the topical question: How do we explain the unequal use of the Internet worldwide?

The global Digital Divide is determined by the access and spreading of information through digital technologies. An analysis of these flows gives another interesting picture of the dimension of the global Digital Divide. The statistical office *Telegeography*[2] provides a map showing the centrality of the United States. It is an ulterior confirmation of the data gathered by Zook (2005), showing the digitalization of the United States and Europe, and highlighting the exclusion of the rest - and majority - of the world from these flows.

These maps provide some of the answers to the questions posed earlier. Zook's work (2005) offers one of the reasons for the persistence of digital inequalities. The existence of local venture capitals is the main way to improve digital infrastructure. Regarding the impact of the global Digital Divide for the poorest countries, it is clear that exclusion from the Network Society coincides today with exclusion from the most complex economic and global dynamics, with the consequent negative long-term effects for the poorest countries.

So far, I have provided a brief overview of new data of the global dimension of the Digital Divide that suggests the possibility of using different perspectives of analysis. However, the Digital Divide also exists in each country at the national level. This is what I call the social dimension of the Digital Divide, which I explain in the next section.

[2] www.telegeography.com ;

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4.2) Digital Social Divide

After having explored the inequalities in using the Internet across countries worldwide, the Digital Social Divide provides information on the Digital Divide in each country. The Digital Divide as depending on socio-demographic factors was the first approach used to analyze the inequalities in digital technologies usage.

In fact, the first definition of the Digital Divide referred to the existing divergences in access to digital technologies in the American national context. The growing importance of digital technologies for social activities encouraged the American government to promote campaigns analyzing the dimension of the existing digital gap. Consequently, politics on bridging the Digital Divide were activated including the involvement of private companies. The divergence highlighted by the research singles out a digital gap existing in relation to several social factors: level of education; economic conditions; gender; race; age; and, differences between rural and urban areas.

The American way of approaching and analyzing its own internal inequalities in reference to access to digital technologies is an important step for the debate on the Digital Divide. It has given the first empirical and analytical instruments to explore the Digital Social Divide, providing an important example to explore the issue in discussion, which are still used today. Very similar paths of research were taken by other countries, providing similar pictures of the problem and arriving at similar conclusions on the Digital Social Divide.

In 1994 the Clinton-Gore administration understood the necessity in investing in building the new information 'highway'. The goal was to enable the whole of American society to take advantage of the digital revolution. The problem under discussion would have to wait for some years before being defined as the Digital Divide. This happened in 1995, when the National Telecommunications and Information Administration (NTIA),[3] the main institution on communication policies, published "A survey of the «Have nots» in Rural and Urban America" (NTIA 1995). It was the first paper of the series titled "Falling through the Net",[4] and the first research published on the Digital Divide. American policy in reference to telecommunications considered ensuring phone access to all American citizens a priority. This was still the beginning of the digital development that is today well known. Until 1994, having physical access to phone lines was the indicator for measuring the penetration of ICTs.

[3] www.ntia.doc.gov ;

[4] www.ntia.doc.gov/ntiahome/fallingthru.html ;

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A year later, the NTIA suggested the Census Bureau[5] to include the possession of personal computers and modems as a new measure. It was the first time that the mapping work of the digital usage distribution was done crossing specific social variables, such as gender, race, age, education level, economic condition and geographical origin with three main geographical levels of urbanization: rural, urban and central.

Three years later, in 1998, the NTIA published a new paper of the "Falling through the Net" series. It was titled "New data on the Digital Divide" (NTIA 1998).[6] It explored data on the level of phone and computer usage in relation to the different geographical areas. The results of this research highlighted that 50% of American families remained unconnected to the Internet. But the state of the media had also changed a lot in the four years between the first and second paper, where digital technologies, mainly the Internet, had taken on a fundamental role in most general social activities.

The series of data collected by this second paper provided a more exhaustive frame, giving important details of the existing Digital Divide in American society. An important gap between rural and urban areas was still prominent. Moreover, a different digital access was noted as existing between Afro-American and Latin American communities with respect to those Americans originally from Asian and Pacific Ocean areas. It also stressed the difficulty that elderly people had in gaining access to the Internet and the low participation in network dynamics by women.

The attention around the Digital Divide grew increasingly. A signal confirming this trend was that another paper of the "Falling through the Net" series was published the following year, entitled "Defining the Digital Divide" (NTIA 1999).[7] This research is particularly important because this time a more rigorous methodology was used. It was able to explore the inequalities in phone, computer and Internet access. It also described how the connected American society used digital technologies, in relation with their geographical area of provenance.

Three indicators were used to analyze the national Digital Divide: diffusion of Personal Computers; availability of Internet access excluding typical phone line; and the use of cable or satellite connection. In the conclusion of the paper, five levels of digital inequalities were singled out:

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5 www.bls.census.gov/cps/computer/1994/smethdoc.htm ;

6 www.ntia.doc.gov/ntiahome/net2 ;

7 www.ntia.doc.gov/ntiahome/fttn99/contents.html ;

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- Between the minority of connected and the majority of disconnected people;
- Between those who use the Internet getting great advantages in a huge range of activities, and those who cannot;
- Between those who have broadband and those who have slow access to the Internet;
- Between those who can access payment services available on the Internet, and those who only use free services;
- Between those who frequently use electronic commerce, E-Commerce, and those who does not carry out any digital transactions.

These last two points are a signal of the importance that the digital economy has taken. This point is also stressed by the same document when it declares that the participation of "all Americans in the information society is strictly linked to the development of the digital economy".

The fourth and last paper of the "Falling trough the Net" series was published one year later, in 2000. It was entitled "Toward Digital Inclusion" (NTIA 2000).[8] Two main points characterize it: first, it emphasizes how digital technologies open a space of social inclusion. This condition is useful for overcoming some structural barriers; and, secondly, this issue is important for considering the Digital Divide on a global dimension, placing the problem under discussion beyond a national perspective.

The same year the Electronic Commerce Task Force judged the challenge against the Digital Divide as concluded, declaring that the policies to overcome the problem had succeeded. The fall of the Internet prices, the promotion of E-Learning activities and the birth of key elements for E-Governance – publishing government documentations and offering public services on the World Wide Web – were the elements for the success, concluding that these conditions finally made American society an inclusive space.

The American experience in analyzing the national Digital Divide, explored by the "Falling Through the Net" series, has played a crucial role in defining the Social Divide as "the Digital Divide existing within each national context" (Norris 2001, p.10).

Using this definition of the Social Divide, Norris (2001) has highlighted the existence of digital barriers in each society, caused by different social factors. She emphasised that this

[8] www.ntia.doc.gov/ntiahome/fttn00/contents00.html ;

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condition is a great barrier to the enjoyment of the facilities provided by digital technologies. For this reason, she explores the digital distribution in relation to the same social factors used by the "Falling through the Net" series. She also explores the Social Divide from a future perspective. In order to define some expectations in this regard, Norris took into consideration the Normalization thesis (Resnick 1998) proposed above.

Ten years after the publication of Norris' work, it seems that the "normalization" thesis has been confirmed. Digital technologies are becoming accessible to most social groups in Western countries. There are reasons for this new condition. Firstly, as predicted by the "normalization" thesis, the costs of hardware, software and services have fallen. At same time, however, the general knowledge of society in using new technologies has significantly increased. Does this mean that the Social Divide proposed by Norris no longer exists? Can we still use the dimension of the Social Divide to define and explore the Digital Divide?

In the empirical research on the Digital Social Divide, I address these questions. I expect to find that inequalities in access to new technologies in each national context still exist. These inequalities are still related to most of the typical social factors already singled out in regards to age, gender, level of education, and occupation status. However, in my hypothesis, I do not consider these social factors to be fundamentally fixed obstacles to accessing the Internet. Rather, I believe they involve different forms of usage connected to different needs, which exist respectively in different social categories. I will then expect that a different use of technologies will always exist in the future too, just like for all other media.

5) The Digital Divide and Politics

Most publications which explore the relationship between Internet and politics devote a part of their study to the Digital Divide. In the domain of the political sciences, the Internet has been welcomed for its potentials to facilitate political participation, and to strengthen democracy. However, it is also commonly noted that given the Digital Divide, not everybody can equally make the most of its potentialities. Within this framework, the Digital Divide is perceived as an obstacle to develop the potentialities of the Internet, which are expected to positively influence politics.

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After having introduced the dimensions of the Digital Divide in the first empirical part of this study, I explore my findings on the current dimension of the Digital Divide in the framework of political science.

So far, it has been assumed that in countries with high levels of Digital Divide the Internet has a limited influence on politics. With this study I review the causal relationship between the Digital Divide and the influence of the Internet on politics.

My analysis starts by rejecting the techno-determinist approach characteristic of most of the research in this field. This approach fails by expecting the Internet to be changing politics whatever the context. In this framework, the broad availability of the Internet and low levels of Digital Divide have been considered the most significant predictors of the impact of the Internet on politics. With this study, I argue rather that the Internet is an instrument flowing into pre-existing specificities. Its relation to politics is then determined by various contextual factors. In order to address this study, I explore the relationship between Internet and politics by following a social constructivist approach (see chapter 2 for details). Addressing my study along this line, I argue that the size of the Digital Divide partially determines the influence of the use of the Internet on politics. In the empirical part of this study, I explore how political actors use the Internet depending on the local context in which they act. The local context is characterized by multiple factors. Political actors determine the significance of the Internet according to all these contextual factors. The Digital Divide is only one of them. While it is an important one, I argue that it is not the most determinant factor, as this all depends on the context.

5.1) Digital Politics Divide

I have already mentioned Castells' (2001) assertion of the role that new technologies play in the accumulation of wealth and power. This point is appropriate not only in reference to economic dynamics, but is also true for democratic equilibriums. If the Internet has an impact on power inequalities, making them potentially more pronounced, then an equal distribution of access and usage of the Internet could facilitate a power equilibrium, and thereby improve the political system (Norris 2001). Pessimists argue that the inequalities relating to access to digital technologies will strengthen the political power in the hands of those who have digital access, and, at the same time, weaken the political impact of those who suffer from the Digital Divide. Norris asked a first crucial question: what will be the impact of narrowing the Digital Divide on

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democratic dynamics? She hypothesized that increasing the use of digital technologies could have a wide and positive impact on democratic dynamics (Norris 2001).

A large debate around this issue has existed since the first signs of the digital revolution. Scholars before Norris expected that new technologies would have introduced new facilities giving new lease of life to democratic developments. In this way, the networking characteristic of the Internet would permit extending civic participation in political life. The Internet, enabling a direct connection between citizens, would also facilitate debate on political issues. This atmosphere would have a positive input on the involvement of society in political debates and improving general democratic conditions (Levy 1994). The Internet was welcomed as an instrument for creating the widely cited "digital *agora"*. However, most of these prophesies are still far from realised. The debate was mostly based on predictions, fuelled by the enthusiasm generated by the novelty of the digital revolution, at a time when there was yet no empirical data available.

Since these first expectations, new perspectives of analysis, theoretical contributions and empirical findings have enriched the debate. Today, after a period of maturation of digital technologies, we rely on more empirical data and new considerations can be made. This is why, only today can we observe if what was imagined by the authors of the last decade is beginning to be a reality. The digitalization is becoming somehow more concrete, although it is still evolving.

For this reason, the debate around the impact of digital technologies in democratic dynamics is softer and less utopian than at the beginning. Research in this field is rich with contributions supporting various arguments. Today, it may be seen more clearly that the introduction of new technologies has not revolutionized democracy, as was initially predicted by cyber-optimists. No radical reorganization of political institutions has happened, and there has been no massive inclusion of citizens in the formal political system. But it is also true that the use of the Internet has influenced the political landscape. The conflict between "cyber-optimists" (Barber 1999; Gilder 2000) and "cyber-pessimists" (Golding 1996; McChesney 1999) seems to converge towards soft optimism. The first have discovered that ICTs are not a democratic panacea, while the latter have more difficulties in denying the usefulness of digital technologies.

We can include Norris in the "cyber-optimists" group. She is optimistic about the role that new technologies play in the development of democratic processes. The Internet facilitates the participation of civil society in the political sphere and strengthens the linkage between public

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institutions and citizens. Other research supports this point by focusing attention on several aspects introduced by the Internet: bridging people together to form a community (Rheingold 2000); "resource theory" (Krueger 2002) argues that traditional resources, including civic skills, money, and free time, facilitate online participation, while Polat (2005) stresses interactive aspects and convergence of the Internet. Thanks to the extensive empirical research so far produced, we are far more enlightened on the issue today. Scholars have explored whether and how the Internet can increase political participation (Norris 2001; Katz & Rice 2002), and the role it plays in facilitating processes of governance (Alvarez & Hall 2008; Gibson & Ward 2009; Van Dijk & Hacker 2000; Trechsel et al. 2003). We know what a powerful instrument Internet is for local political expression outside the formal political system (Bimber 1998; Hague & Loader 1999), and are aware of the opportunities that the Internet offers social movements (Bennett 2003; Della Porta & Tarrow 2005; Diani 2001a; Juris 2008).

On the other hand, other scholars argue that we are also witnessing today a serious decrease in political participation. The work of Putnam (2000) is a milestone in this regard. The author noted a serious decline in social interaction. Focusing on American society, he explored various forms of community-making, and concluded that there exists a crisis of social and political organizations. Other research reaches the same conclusion (Althaus 1998; Montero & Torcal 2006; Bartels 1996; Converse 1990). Scholars see the reasons for this decrease as caused by institutional changes (Piven & Cloward 2000; Doppelt & Shearer 1999) and the failure of the media to provide "mobilizing" content (Schudson 1996; 2003) in reference to communication effects (Scheufele & Ostman 1999).

Can these two scenarios overlap? How is it possible that two contemporary paths of research on the same topic provide such contrary conclusions?

As already highlighted, by using a techno-determinist approach, research in the field perceived the advent of the Internet as determinant for changing politics irrespective of the political context. One further failure of techno-determinists has been the tendency to produce generalizations which even often contrasted with empirical findings. Because of such scholarly blindspots, we are yet to have reached agreement on the nature of the Internet's role in politics.

With this study, I argue that the solution to the controversy is to look at the relationship between the Internet and politics from a social constructivist approach. This allows us to contextualize our research, and to avoid generalizations of our findings. Within this framework, Internet influences politics depending on the political actors and on the national context in

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which it is used. As already highlighted, the Internet does not determine politics. Rather, I argue that politics shapes the use of the Internet depending on the political actors and the context in which they act. I agree with Norris (2001) saying that "technology is a plastic medium that flows into and adapts to pre-existing social moulds" (p.13). By using a social constructivist approach I explore which are the most determinant contextual factors of "social moulds" influencing the contextualization of the use of the Internet for politics. I then explore how different political actors shape the use of the Internet in different contexts.

6) Conclusion: research questions

With this chapter I have introduced the theoretical framework of my study. I have explored the state of the art of research on the Digital Divide, which identifies various definitions of the Digital Divide. I then framed the relation between Internet and politics. As I stressed earlier, we are now entering the third decade after the advent of the WWW. Although research in this field is particularly challenging given the rapid evolution of technology, we nonetheless rely today on a more mature theoretical framework, grounded by more reliable empirical data.

So far research in the field has referred to the Digital Divide as one of the main determinant causes explaining the relationship between Internet and politics. For this reason, in the first part of my empirical study I address an initial series of research questions: what is the current status of the Digital Divide? Is the Digital Divide narrowing across and within countries as has been expected by pioneers in the field? And finally, if so, what other areas remain relevant to explore and develop in research on Internet and Politics?

Once I have explained the current status of the Digital Divide, in the second part of this study I narrow my focus on the use of the Internet to practice politics. New research questions arise here: does the Digital Divide determine the influence of the Internet on politics? how? If the Digital Divide is narrowing as expected, how do we explain continuing unequal influences of Internet on politics?

Literature in the field of Internet and politics is today rich with contributions. However, these often overlap with each other, providing in some cases contrasting answers to the same key questions. At the same time, empirical findings refer mainly to Western liberal countries. I expect that the Digital Global Divide is narrowed compare to years ago, making the Internet a

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transnational phenomenon. A comparative approach is then required in order to explore the fragmentation of the use of the Internet in politics depending on inequalities in Internet access across different national political systems and political practices. On this basis, I pose the next series of research questions: If the inequality in accessing the Internet has been normalized, do we have to look at other factors? How do we make the link between Internet use and politics given the inequalities in Internet use among different political actors and political practices across a wide variety of political scenarios worldwide ?

In order to address these research questions, a further challenge of this study is to systematize concepts, empirical findings and theoretical frameworks so far produced in this field of research. To provide a picture which can link all these elements is another of this study's goals. In what follows, I introduce the research strategies in order to reach these goals.

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Chapter Two
2. Research Design

1) Introduction

In the first chapter, I introduced the literature on the Digital Divide, and how it relates to the theme of Internet and politics. I provided an overview of how the theoretical framework in this field is enriched today by new contributions. I then stressed that new data available on Internet studies and new points of view should be considered for analyzing the Digital Divide today. In this chapter, I introduce my research strategy, including the selection of indicators and data sources that I use in this study. The empirical part of this research is divided into two main parts.

I have already stressed that the first stage of a research on Internet and politics is that to explore the divergences in using the Internet. Here, I draw the current picture of the Digital Divide in the first part empirical part of this study. By using a quantitative approach, I explore the unequal use of the Internet from a cross-national perspective of analysis. I then explore the causes of its dimension.

From a political science perspective, my work is concerned with how this scenario affects the different usages of the Internet for the practice of politics. In the second part of this study, I explore how different political actors use the Internet to practice politics depending on contextual specificities, including the Digital Divide.

2) Methodological Framework

In accordance with the definition of Network Society (Castells 1996), the digital revolution is a pervasive phenomenon which plays a central role in most activities in society, influencing social dynamics in general. For this reason to address research in the field following one unique methodological approach is limited. According to Norris (2001), "no single methodology can hope to capture the rich complexities of life on the Internet" (p.36). A study on Digital Divide should therefore use materials from different disciplines, as well as empirical evidence from

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aggregate data, and cross-national surveys. Involving effects in every aspects of our society, digital technologies link most of the disciplines of research, making studies on the issue an interdisciplinary field of research. Investigation on the Internet needs to integrate empirical findings drawn from multiple disciplines including those of communications, sociology, anthropology, history, psychology, computer studies, as well as political science. Furthermore, innovative methodologies and technological instruments of research have been developed in this field. Standard techniques of sample surveys representing online population, content analysis, experimental research designs monitoring user behaviour from cookies measuring activity on websites, are some of the quantitative instruments useful for research in the field (Davidson 1999). I have already explored above new ways of measuring the population online. But these improvements are still insufficient for defining a unique research method.

To conclude, "The most effective research strategy is to triangulate among diverse sources of evidence, attempting to understand the Internet by piecing together a range of independent studies to see if evidence points in a consistent direction across different countries" (Norris 2001, p.36).

One of the challenges of this study is to combine quantitative and qualitative approaches. I use quantitative approaches in the first research strategy to provide a broad picture of the Digital Divide, highlighting all aspects in its wider dimension. In the second research strategy, qualitative methodologies allow me to focus on specific aspects of the key topics hereto explored.

2.1) Structure of the empirical research

My research has two objectives. These are reached by combining two complementary approaches of analysis.

The first research goal is to provide the current status of the Digital Divide within the framework of more recent theoretical contributions. For this reason, the first research strategy explores the Digital Divide from both the global and the social dimension. In order to do this, I set up a dataset including data that I gather from multiple sources. This part of my empirical study provides the current picture of the Digital Divide from a cross-national perspective of analysis. A quantitative approach is used in this first part of the research, to answer the following questions: what is the dimension of the Digital Divide in the second era of the

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Internet age? Which of the forecast theories is more appropriate to explain the trend of the Digital Divide?

In the second empirical part of this study, I explore whether and how the Digital Divide influences the relationship between the Internet and politics. I explore which kind of political practices are facilitated by using the Internet. In order to reach this goal, I combine quantitative and qualitative methodologies to look at three kinds of political actors selected for my research strategy. This enables me to answer two further main questions in my study: assuming the current dimension of the Digital Divide, how is it determinant for explaining the influence of the use of the Internet on politics? How do various political actors use the Internet depending on their national context? What are the contextual factors determining the influence of the Internet on politics? In the next section I expand on the methodological part of my research.

2.1.a) First Research Strategy: Mapping the Digital Divide

Digital Global Divide

In order to measure the global dimension of the Digital Divide, several indicators must be taken into consideration in relation to a variety of national indicators (e.g., population online, number of Hosts, indices of economic development, etc.). One particular challenge arises in that statistics on Internet usage provided by international agencies such as the United Nations, UNESCO, and similar organizations, are not updated as quickly as technological evolution (Norris 2001). Researchers have often addressed this issue by using data available from private companies. By combining multiple private sources, I have setup a dataset including indicators referring to 190 countries worldwide. 99.99 percent of the population worldwide lives in these countries. I explore the global Digital Divide through two complementary perspectives of analysis. First, I map the existing global inequalities in "accessing the Internet" and its causes. Following this, I investigate the gap in what I define as "shaping the Internet".

Digital Access Divide

Internet Users. Before measuring the Digital Divide in reference to the distribution of internet users, we must first clarify what an internet user is. There is no agreement on this point. Various

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agencies have their own definitions. The International Telecommunications Union (ITU),[9] for instance, defines as internet user someone above two years of age who accesses the Internet at least once every 30 days. The US Department of Commerce[10], meanwhile, defines an internet user anyone above three years of age "currently using" the Internet. In contrast, the China Internet Network Information Center (CNNIC)[11] has a more narrow definition of an internet user: a Chinese citizen, above six years of age, who accesses the Internet for at least one hour a week. Other agencies, and market researches, use their own definition.

For my study, I look to the Internet World Stats[12] for both my definition of internet user and as a main source of data. Internet World Stats considers an internet user "anyone currently in capacity to use the Internet" (Internet World Stats 2010). With this definition Internet World Stats includes in their statistics a person who has both privately or publicly available access to an Internet connection point, and who at the same time has a basic knowledge of the use of the Internet. Referring to this definition, in countries where there is a broad use of public Internet points, such as public libraries or Internet café, data includes internet users who share the same internet connection. This implies that, in these cases, the number of internet users is bigger than internet access subscribers and telephone lines available in each country. Given that, by measuring the distribution of internet users I aim to size the unequal availability of Internet access, this definition is appropriate for my study.

Internet World Stats gathers data by combining two main sources: the International Telecommunications Union (ITU) and Nielsen/NetRatings,[13] another private company. The first is an international organization focusing on telecommunications, established in 1865. Today it is part of the United Nations (UN). Nielsen/NetRatings is described by the Internet World Stats as providing: "a global standard for Internet audience measurement and analysis and is the industry's premier source for online advertising intelligence. It covers 70 percent of the world's Internet usage, the Nielsen/NetRatings services offer syndicated Internet and digital media research reports and custom-tailored data to help companies gain valuable insight into their business" (Internet World Stats 2010). Data are updated monthly and today it is also largely used

[9] www.itu.int ;

[10] www.commerce.gov ;

[11] www.cnnic.net.cn/en/index ;

[12] www.internetworldstats.org ;

[13] www.nielsen-netratings.com ;

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by governmental institutions such as the Organization for the Economic and Commerce Development (OECD).

Internet Penetration Rate. The map of the population accessing the Internet is important for exploring the online population worldwide. However, in order to explore the impact of the Internet at the national level, it is necessary to investigate how its use is spread between the citizens living in these countries. The Internet Penetration Rate (IPR) measures this. The IPR is expressed by putting in relation the number of Internet users in each country and its demographic data: in other words, dividing the number of Internet users by the country's population. Internet World Stats uses World Gazetteer[14] as its source for both of these last data.

Causes of the Global Divide

Economic. Thus far, I have argued how the Global Divide is related to existing economic inequalities. In order to test this expectation I explore whether any relationship exists between the distribution of the Internet population worldwide and the economic factors facing each country. I use the Purchasing Power Parity Gross Domestic Product per capita (PPP GDP xCapita) to represent economic factors. The United Nations Development Programme (UNDP)[15] publishes these data annually in the Human Development Report (HDR)[16]. I use data published in 2007. I place this data in relation to the population of online Internet users. This regression demonstrates whether access to information technologies is still related to economic factors.

Political. Given my focus on the relation of Internet and politics, I explore whether political factors also affect the distribution of the population accessing the Internet worldwide. The Polity IV Project[17] provides data on the political status of each country. In the political science framework, this is currently considered the most accurate data set for measuring political aspects

[14] www.world-gazetteer.com ;

[15] www.undp.org ;

[16] hdr.undp.org ;

[17] www.cidcm.umd.edu/polity ;

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worldwide (Treier & Jackman 2008). I use the indicator POLITY as my reference for the democratic condition of the countries compared in this paper. This measures the democratic status within a range from -10, as the most autocratic state, to 10, as the most democratic state. This index is calculated from the combination of several indicators: (a) competitiveness of the selection process of the countries' chief executive, (b) the openness of this selection process, (c) to what extent the system of rules enables control by the chief executive's decision-making authority, (d) how competitive political participation is, and (e) to what extent rules govern political participation.

Running the regression of the percentage of people accessing the Internet in each country (Internet Penetration Rate) on its economic factors (PPP GDP xCapita) and political factors (Polity), I provide empirical evidence on how these country-specific structural factors help to explain the global dimension of the Digital Divide.

Digital Participation Divide

The Internet has been lauded as a technology that allows for a personalized customization according to one's own needs. This is why I argue that the global Digital Divide should be not referred to only as a gap in accessing the Internet's content. Rather, it is also important to explore the gap existing around the globe in *producing* the Internet's content. I argue that this last aspect is indicative of the inequality existing worldwide in what, here, I call "shaping the Internet". To illustrate this, I map the distribution of the infrastructure of the Internet, as measured by two variables: Internet Hosts, which give people the opportunity to be active on the Internet, and Internet Protocols and Internet Domain Names, which indicate global distribution of the number of people active in producing Internet's contents.

Internet Hosts. The "host" is what stores services accessible through the Internet. Mapping the host availability for each country highlights how easy it is for people in that country to provide online services. Thus, mapping the worldwide distribution of Internet hosts is useful for understanding how easy it is for people in these countries to be contributors to the Internet. I map the geographical distribution of the internet hosts globally using the "CIA World Factbook"[18] as source. This is an annual publication of the Central Intelligence Agency (CIA)[19]

[18] cia.gov/library/publications/the-world-factbook/index.html ;

[19] www.cia.gov ;

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of the United States. Its mission is to provide information about countries around the world. Data published online are updated every two weeks.

Furthermore, in order to verify whether the distribution of Internet hosts is also related to economic factors, I place the Internet hosts variable in relation to PPP GDP xCapita. Verifying this relationship gives evidence of economic causality on the global distribution of the infrastructure of the Internet.

Internet Protocols (IP). Another indicator useful for measuring the active use of the Internet is the worldwide distribution of Internet Protocols (IPs). The IP address is assigned to nodes of the Internet. Internet Host servers, Internet Providers, and Websites are all nodes. IPs make all of these accessible via the Internet. Measuring the distribution of allocated IPs for each country provides information indicative of the number of permanent active internet users living in each of these countries. Here also, a private company gathers these data. I use Domain Tools[20] as a source for mapping the distribution of IPs. Furthermore, in order to measure IP allocation to country population, I relate this value to the national population, provided also here by World Gazeteer. This will allow me to provide the IP Penetration Rate (IPPR).

Internet Domain Names. Here, I consider the shaping of a website as a contribution to an individual's own online contents. For this reason, in order to explore this issue, I map the distribution of Internet Top Level Domains (TLDs). These are the Internet domain addresses of the websites. There are two types of TLDs: Country Code Top Level Domains (ccTLD) are the addresses with the national code as suffix (e.g.: .it, .uk, .fr), while, the Generic Top Level Domains (gTLD) are those with for example .com, .gov, .net, .org, .info, .biz. These suffixes are normally assigned related to the content or purpose of the website. E.g. government websites use .gov, commercial websites use .com, etc. While it is easy to locate websites having a national top-domain, this is more complicated for the second case. The website Web Hosting provides data about the geographical distribution of TLDs.[21] It is one of the largest research and statistics portals on Internet use. Like other companies providing statistics on the WWW, it aims to release data to the Web Services Industry, in order to bring to light the market of the Internet. Web Hosting provides information from which country the Internet Domain Name has been registered. This means that the data explored in this study includes both ccTLDs and the gTLDs.

[20] www.domaintools.com ;

[21] www.webhosting.info;

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Concluding, the map of the distribution of worldwide internet hosts is indicative of the distribution of the infrastructure of the Internet. Exploring the global inequalities in the allocation of IPs to each country illustrates the distribution of permanent active internet users. Finally, the exploration of the distribution of owners of Internet Domain Names indicates how many IP addresses allocated to each country are active in spreading contents on the Web. This allows us to map where the contents of the Internet come from, which is significant for determining the global dimension of the Digital Divide in shaping the Internet.

Digital Social Divide

The second part of my analysis is the exploration of the Digital Divide depending on social factors. I will focus my research on the European Union, including 27 countries (EU-27).[22] Data collected will provide trends in the social profile of the Internet population, highlighting different social factors between who is online and who is not. Eurostat[23] is the most accredited source for macro-economic data on the European area. Eurostat surveys are updated frequently, and provide data on the online population in reference to social factors. I focus on four socio-demographic factors: gender, age, professional status, and education. Eurostat considers an Internet user to be a person who accesses the Internet at least once every three months.

With this analytical approach, my exploration of the social dimension of the Digital Divide is divided into two complementary parts: (1) the unequal access to the Internet by social factors, and (2) the unequal use of the Internet by social factors. Furthermore, by running a normal logistic regression of internet users (dependent variable) on the social categories included in my analysis, I test whether and how social factors influence the unequal access to the Internet. Eurostat provides data at the country level. In order to regress data at the individual level, I use European Social Survey[24] (2008, Wave 4) as the source for my data. Data included in the regression are: gender, age, income, place of residence (urban or rural area), education, professional status (employed, unemployed, student), country region (Scandinavian, East and

[22] The member states are: Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom;

[23] ec.europa.eu/eurostat ;

[24] www.europeansocialsurvey.org ;

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Western area). These refer to (N) 21.816 cases observed in 19 member countries of the European Union.[25]

2.2.b) Second Research Strategy: Mapping the Digital Politics Divide

My analysis of the Digital Divide and the causes of its dimension from a cross-national perspective provides data that I then use in the second part of this study. With the second research strategy I explore how the use of the Internet fits in the political realm. A large number of modes of using the Internet in politics are possible. The research goal here is to investigate whether and how the Digital Divide influences the relationship between the Internet and politics. As I argued in the previous chapter, I reject the generalization that research on the use of Internet commonly proposes. This was appropriate when the use of the Internet was restricted to few countries with very similar characteristics. I argue that given that today the use of the Internet is a worldwide phenomenon, we have to extend our comparative perspective of analysis in exploring the field. This implies that we have to consider that such as it is commonly shared in the domain of political science, the interpretation that we generate by observing a phenomenon in one context, does not imply that it is equally valid in other contexts (Adcock & Collier 2001). This particularly concerns research comparing a phenomenon in various countries with different socio-political and cultural contexts. This is the case of this study, where I investigate how context specificities matter. In international and comparative studies, "constructivism" is the approach which addresses research according to contextual specificities (Bollen et al. 1993).

In this study, I explore the unequal use of the Internet to practice politics from a cross-national perspective. Following the arguments so far proposed, in the second research strategy, I expect that the Internet does not determine politics. Rather, the Internet influences politics in different ways, depending on who are the actors and what is the nature of the context in which these actors use the internet to practice politics.

[25] European Social Survey (2008, Wave 4) collects data from 23 countries. I exclude from my analysis data from non-European member countries (Israel, Norway, Russian Federation and the Switzerland). Data included in the regression refer to: Austria, Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Hungary, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom;

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In order to test this expectation, I address this research following a constructivist approach. Given my comparative strategy, the "Social Constructivism of Technology" (SCOT) approach proposed by Bijker and Pinch (1984) - see below - is the source of inspiration for the second research strategy of this study.

I also follow Tarrow's suggestion which states that "framing qualitative research within quantitative profiles" (Tarrow 2004, p.175) is the appropriate tool for bridging the research strategies of my research. I then use the quantitative analysis approach in the first research strategy as the frame within which to carry out qualitative analysis in the second research strategy. In order to contextualize the use of the Internet at the national level, in the second part of this study, I combine both quantitative and qualitative approach.

Approach: the social construction of the Internet meaning

In the framework of "social constructivist" theories, Bijker and Pinch (1984) propose the "social constructivism of technology" (SCOT) approach, rejecting the hypothesis that technology is determinant on human action. Rather, human action constructs the meaning of technologies according to the local framework in which it takes place. This implies that the influence of the use of a technology cannot be understood without exploring how that technology is embedded in its social-economic and political context (Bijker & Pinch 1984).

The SCOT approach is also a methodology that frames the process of constructing the meaning of a technology. Once extracted the nature of a *technological artifact*, the SCOT approach implies that various groups construct different flexible meanings and interpretations for it. The meaning attached to the technology is that shared by members included in a *relevant social group*. A "social group" becomes "relevant" when it takes position on the given technology. The SCOT approach argues that several "relevant social groups" construct diverging interpretations on the solution offered by the technology to overcome a problem. These divergences are those constituting the so-called different *technological frameworks*. The shaping of the meaning occurs as the relevant social group "stabilizes" the use of the technology over time. The driving force behind the definition of meaning is power relation. According to the SCOT approach, the construction of meaning is a dynamic process which, once defined, may be questioned again when a new "relevant social group" raises new problems and proposes new solutions (Bijker & Pinch 1984).

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Critics argue that the SCOT approach does not explain if there are any limits to the possible uses and interpretations of a certain technology (Bjerke & Hoff 2009). Hutchby (2001) points out that every medium, including technology, has a limited range of possible uses and meanings. In the framework of classical traditional technology, this is also the key point around which McLuhan (1964) and Innis (1951) argue that the transformation of data into information is conditioned by the medium. Looking at a new technology, like the Internet, attention has been paid on its "generative" nature (Zittrain 2008). Zittrain refers to those technologies designed to accept any contribution, all the while following a basic set of rules, including either software restrictions or Internet obstacles.

Hence we can bridge the SCOT approach with an appreciation of the limits of technology. The first explains the process of construction of meaning in the use of technology depending on the social group and its context. The second bears in mind that, by its nature, technology limits the use and construction of meaning to a range of options (Bjerke & Hoff 2009).

The SCOT approach was designed to explore qualitatively the construction of meaning of technology at a microlevel, along a historical perspective. This allows identification of how people change the use of technology according to their socio-political context. Given the statistical and cross-national dimension of my study, the SCOT approach is then not directly applicable here. Nonetheless, given the primary interest of my study to explore the political meaning of the Internet according to the contextual specificities in which it is used, the SCOT approach is a source of inspiration for my theoretical framework and data gathering.

I expect that the effect of the use of the various instruments of the Internet to practice politics is as diverse as are the various political actors and forms of political participation. In order to explore how national specificities, with their different Digital Divides and levels of democracy, influence the construction of the meaning of Internet use, my study takes a comparative approach with a global-macro level of analysis. Research in this field however still lacks a comparative strategy. Statistics are determinant for my study in order to identify the contextual specificities of countries in which various political actors construct the political meaning of Internet use. While this study would benefit from an historical perspective of analysis, this has not been possible given the recent and rapid spread of Internet use at a global

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level,[26] with the consequence that this field of research lacks sufficient empirical comparable data.

The SCOT approach inspires my work in several ways. First, theoretically, by asserting how the influence of a technology is not determined by the technological nature as such, but rather that a technology's impact is determined by the combination of actors constructing a sense of the technology to satisfy the contextual specificities in which they act. Second, the SCOT approach influences my research strategy by suggesting how to gather data and compare the various uses of the Internet in the framework of politics, by singling out some of the political actors and linking their practice to the contextual specificities across countries.

In the next research strategy of this study, I explore the technical nature of the Internet – *extracting the technology artifact* – by singling out the various instruments the Internet offers. I then identify the political actors – *social groups* – constructing the use of the Internet according to their political practice, which I explore in the empirical part of this research. I then explore empirically each of these practices and their relationship with national conditions – *technological framework*, including the level of the Digital Divide, in the next chapters of this study (see chapter 6, 7 and 8).

Digital Political Parties

The "World Information Access Report" (WIA Report) provides data on the unequal distribution of political parties on the WWW that I use in chapter 6. Philip H. Howard at George Washington University leads the WIA project, producing an annual report. In my research I use data from 2008. The WIA Report's research team use the CIA World Fact Book to collect the list of political parties from each country. By combining this information with Wikipedia and Google, the WIA report's research team check the presence of each political party on the WWW.

WIA Report's research team includes in its dataset political parties that propose candidates for elections. It also defines "joke parties" as political parties that do not take part in elections. In countries with autocratic regimes, however, "joke parties" are also included in the dataset. The WIA Report's research team points out that in countries with weak democracy, party

[26] The dimension of the global use of the Internet is anyway still debated in this study;

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competition is also weak. "Joke parties" may then play an important role of expressing dissidence, thereby participating in the political debate of the country.

Data are also categorized according to the "development status" of the country. In the WIA report, each country is labelled as "developed" or "developing" according to the categorization made by the CIA World Fact Book. In my study this category is indicative of Western and Non-western countries.

Explaining the causes

Once explored the unequal distribution of political parties on the WWW worldwide, I investigate the causes of this unequal distribution by running a multivariate regression. The ratio between online and offline political parties is the dependent variable here. I use as independent variables: the Digital Divide indicator (Internet Users), the economic status (PPP GDP xCapita), and the democratic indicator (Polity IV). By running a multivariate regression of Political Parties on the WWW on Internet Users, Democracy, and Economy, I then explore how these contextual specificities determine the presence of political parties online.

Digital Citizens Divide

Blogs are the main tools used by citizens to interact with the information media landscape. In order to explore how people unequally use Blogs worldwide, I use *Technorati* as the source of my data. Technorati is the most widely used search engine for blogs worldwide. Up till June 2008, Technorati had indexed approximately 115 million Blogs. Technorati annually produces a report on the state of the Blogosphere. Reports are based on an Internet survey conducted by "Penn, Schoen and Berland Associates",[27] a specialized consulting company. The survey was conducted during September 4-23, 2009. It covered 2,828 bloggers nationwide. The margin of error for the survey is +/- 1.84% at the 95% confidence level and larger for subgroups. The sample includes only bloggers, with different profiles - Hobbyists (72%), Part-Timers (15%), Corporate (4%), Self-Employees (9%).

[27] www.psbresearch.com ;

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Meanwhile, the 2009 State of the Blogosphere report includes data from Lijit.[28] This is a freely available search widget which Bloggers can embed into Blogs. Data was collected from two primary sources. The first is the 11.000 active Lijit publishers which have Lijit installed on their blog. The second is the network of 2.5 million blogs which those 11.000 blogs connect to via their Blogroll, and other social network connections tracked by Lijit.

The "Technorati State of the Blogosphere 2009", includes data on the geographical distribution of bloggers worldwide, and on their social stratification. Furthermore, Technorati's survey explores the reasons why people blog, and whether they think the Blogosphere influences politics. Thanks to data included in the Technorati's report, I explore the Blogosphere as following:

First, I use descriptive statistics to explore the unequal distribution of Bloggers worldwide. I then investigate the social stratification of bloggers in relation to social factors. I use three out of four of the categories I have used for the social dimension of the Digital Divide (see chapter 4). These include gender, age and income. I finally show what are the reasons motivating people to Blog.

Second, in order to explore the political meaning of Blogs, depending of contextual specificities, I use a qualitative comparative approach and look at the Blogosphere in two countries: the USA and Iran. I compare whether and how people differently perceived the influence that Blogospheres had on two key political events in each of these countries: the Presidential electoral Campaign in 2008 in the USA, and the Iranian mobilization following the results of the Iranian elections, in 2009. Here, data are provided again by the survey conducted by Technorati, and included in "The State of the Blogosphere 2009". I contextualize the Blogosphere in politics, by comparing the result of the Technorati's survey with data referred to both countries, included in the first research strategy of this study. These are: the Digital Divide, economic and democratic status. This leads me to explore which are the factors influencing the unequal use of Blogs for politics.

[28] www.lijit.com ;

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Digital Social Movements

In this part of my empirical study, I explore the different implications of the Internet the campaign of social movements. In order to explore this issue, I first look at how the Internet is used by social movements as a tool to facilitate political practice. Second, I focus on the *Free Software and Open Source* (FOSS) movement. The FOSS movement is a key case study for two main reasons. First, compared to most social movement groups and mobilization, it is one of the few cases which did not exist before the advent of digital technologies. This allows me to make the point that digital technologies are not just tools which support social movement campaigns, but that they become a new social need around which new political struggles emerge. This brings me to the second reason of my selection of the FOSS movement as case study. The FOSS' political struggle provides evidence on how today the SCOT approach is not only a methodology. Rather, the freedom to construct the meaning of digital technology is today perceived as a human right around which the FOSS movement clusters its campaign. For both reasons, I consider this an appropriate case study to explore a bottom-up political practice clustered around the domain of the Internet advent.

In order to further explore some concepts of the FOSS movement, I combine my exploration of the FOSS movement with an interview that I conducted in a personal meeting with Richard Stallman, the founder of the FOSS movement, in June 2008. In this meeting, I used the open-ended interview technique, as I deemed it the most appropriate empirical tool to allow the interviewee to talk freely about issues which he felt most relevant and following his own logic. It also enabled me to explore different issues ranging from general to specific, from less sensitive to more sensitive, and to ask both factual and behavioural questions to attitudinal and opinion questions (Bray 2008).

In order to justify furthermore the selection of my case study, before exploring in depth the politics of the FOSS movement in the following chapters (see chapter 8), I introduce the history of the Free Software Movement and some of its characteristics.

The case study selection: the FOSS Movement

The FOSS movement claims that the production of software must occur through a free collaboration between programmers who put into free circulation their abilities, with the objective of improving a product already worked on by other programmers. The Free Software Movement is driven by this goal since it was founded by Richard Stallman, then a programmer at Massachusetts Institute of Technology (MIT).

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At the start of the 1980s, MIT joined forces with the private sector, reflecting the changes which the world of information technology was going through at the time. The result was the denial of open access to programming codes, thereby damaging the atmosphere of cooperation and sharing in the "information technology community" which had been thriving until then. In rejection of this new policy, Stallman abandoned MIT to create the Free Software Foundation,[29] with the aim of developing free software, and promote the idea of sharing and openness. Its manifesto[30] was published in 1984, in a period of important events in the world of information technology. In 1981, IBM had launched its first PC, with the operating system MsDos, developed by Microsoft. With the manifesto, Stallman also launched the GNU project (GNU's Not Unix). This name was used in order to distance itself from the Unix operating system, which, by contrast, is not free (Stallman 2009).

The free software community was engaged in the project of creating software with a free licence, as an alternative to the Unix operating system. The next step was to create the kernel of the operating system, which is the coordinator part of each operating system that controls software applications. This last step was done with Linux, which became the kernel of the GNU/Linux operating system.

Himanen (2001) illustrates that the use of such a model of knowledge-development by the free software community, is characterised by the adoption of the hacker ethic, involving a spirit of sharing and reciprocity. The term "hacker" refers to the concept of hacking which involves fixing computer problems via the use of innovative programming codes (Jordan 2008). In the context of software programming, there is never one single solution to problems, but rather different solutions of varying appropriateness. Programmers, therefore, develops their own solution according to their own knowledge and ability to solve a problem. Himanen (2001) points out how at the heart of the hacker ethic exists the conviction that "the sharing of information is a good of formidable efficacy, and that the sharing of abilities and competence, through the writing of free software, is a moral obligation for hackers".[31]

Melucci (1996) points out that research on social movements should not analyse only old established forms of protest, but that we must also "identify the new forms of power, locate the dominant discourse, and investigate the new elites" (Melucci 1996, p.179). Today, the

[29] www.fsf.org ;

[30] www.gnu.org/gnu/manifesto.en.html ;

[31] *The jargon file*, source *www.catb.org/~esr/jargon ;*

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established Network Society is connected by software tools. Private companies in Western countries are presently the "new elites". The unequal distribution of power over development software excludes people and many regions of the world from constructing their meaning and contributing to the designing of digital tools according to their cultural specificities. I argue that this inequality generates new scenarios of conflict. The politics of the FOSS movement is clustered around this struggle.

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Part Two

First Research Strategy:

The Digital Divide

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Chapter Three
3. The Digital Global Divide

1) Introduction

While the first study on the Digital Divide was concerned with the gap existing only in the American national context (NTIA 1995), today, it is more common to address the topic as a worldwide phenomenon. As Castells has perceptively argued (2004), the Network Society is not determined by cultural and national characteristics, but shaped by transnational dynamics overcoming geographical barriers and political systems across the world. I further argue that the global dimension of the Digital Divide does not refer to the gap existing between those regions of the world included in the Network Society and those that are not. Rather, with the Digital Global Divide I refer to differences in the existing worldwide levels of inclusion in the Network Society.

This chapter frames the global dimension of the Digital Divide, examining the impact of the Internet on transnational dynamics, mapping its current status and exploring its causes.

I begin first with a historical overview of the evolution of the Internet, focusing on how it developed from being an American military instrument to become a worldwide communication system. Exploring how this occurred highlights some of the historical reasons contributing to current worldwide digital inequality. Moreover, the introduction of the Internet as a network structure is also useful for understanding my definition of the Network Society. In the second part of this chapter, I explore the definitions provided by scholars of the current status of the Network Society. My focus is on the difference between the Information Society and the Network Society definition.

Once the global use of the Internet and how it affects worldwide processes has been framed, some questions arise: what are the current dimensions of the Digital Global Divide? How can it be measured? How can we explain its current status?

In order to address these questions, in the last part of this chapter, I map the current status of worldwide digital inequality. I then focus on its relationship with the economic and political characteristics of each country. Taking the Digital Divide as the gap existing between who is

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active in the Network Society, and who is only influenced by it, I then map not only the gap in access to the Internet but also the existing worldwide gap in contributing to the Internet.

2) How the Internet became global: from a national to a worldwide phenomenon

At its advent, the Internet was not global in nature. The main infrastructure and expertise of the Internet were originally developed on a national scale. It became a global phenomenon only gradually, after a 30 year long process. I consider it an important preliminary step for this research to explore the history of the Internet and how it became global. This is useful for understanding the Internet's network structure, and how the very nature of its structure has served to extend its impact worldwide.

It is a commonly held notion that the Internet, as a project financed by the American Department of Defence, was an instrument of communication designed for survival in the event of a nuclear attack. However, the earliest idea of the Internet was formulated by computer scientists who had nothing to do with military research (Hanson 2008). Rather, the Internet was created by people who believed in the power of computers for building social cooperation to amplify human thinking and communication capacity (Rheingold 2000).

The intellectual origin of the Internet may be found in the memos written by J.C.R. Licklider, a computer scientist based at MIT. Licklider had also a social psychology background. This influenced his focus on how computers could increase the power of the human intellect, improving the performance of scientific thinking (Margolis & Resnick 2000). He claimed that this would have been possible through what he defined in his notes series as a "Intergalactic Computer Network". This involved a worldwide set of computers linked as a network, through which data and programs would be accessible from everywhere (Leiner et al. 2009). In these words, Licklider describes the origin of the Internet and, in 1958, he became the first director of the Advanced Projects Research Agency (ARPA).

The Cold War largely influenced innovation processes after the Second World War. Communication was already considered a serious priority for national security in the United

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States. In this context the American Defence Department established the ARPA. Its research focused on improving communication processes via computer networks.

In May 1961 three microwave relay stations owned by the American Telephone and Telegraph Company in Utah were sabotaged by an explosion, causing disruptions in communications. The American National Defence also registered many problems in communications as a result. This event raised concerns about the vulnerability of the American communication system, highlighting the existing high risk in the event of nuclear attack (Barney 2000; Hafner & Lyon 1998). Research was then carried out by Paul Baran and Donald Davies to provide a solution to this system's shortcoming. Baran and Davies had the idea of building a communication structure similar to that done in urban planning. In centralised urban planning, main roads usually lead to central squares. But if the central square or the city's main thoroughfares are blocked, it is still possible to reach one's destination across the city via other streets and to bypass the central square. This is the idea of a distributed network run through a packet switching system which Baran and Davies explored (Barney 2000).

Baran and Davies were actually working separately on this idea. Baran developed the idea of packet switching while he worked in the United States at the RAND Corporation, a non-profit organization conducting military research. This was part of a study to design a communication system for survival in nuclear war. He published his study in 1964 without funding (Baran 1964).

Meanwhile, Davies developed the same idea working with a team in the National Physical Laboratory in England. His objective was to increase the economic efficiency of data communication in the United Kingdom. He also failed to convince sponsors about the efficiency of his idea, and did not benefit of funding for his work.

The ideas of Baran and Davis nonetheless circulated quickly. In 1966, ARPA decided to apply this as the model for a new communication system, bypassing possible obstructions in transferring information (Salus 1995). In October of 1967, the plan for ARPANet was presented at a symposium in the United States. Two years later, the first ARPANet link was established between the four ARPA sites: The University of California at Los Angeles (UCLA), Stanford Research Institute (Palo Alto, California), the University of Utah and the University of Santa Barbara (California).

This marked the birth of the ARPANet, the structure allowing the transmission of data. It became operational in the early 1970s, although it still took a number of years before ARPANet

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could be defined as the Internet. Since it was born, various protocols of transmission were developed which depended on the aim of the data transmission. Many of these were introduced, including the first e-Mail in 1970 (Barney 2000).

The American Department of Defence paid little attention to the project until its first successful experiments were carried out and it became a full operative networking system. In 1975, the management of ARPANet was transferred to the American Defence Communications Agency. As a result of this transfer, restrictions were imposed on the use of the new communication system. However, increasing interest in using ARPANet for non-military purposes forced the decision in 1982 to split ARPANet into two networks. MILNet has been adopted for military use under strict control, while ARPANet was again used for its original goal of connecting researchers (Hanson 2008).

ARPANet started to become an international entity in 1973, when the connection outside the US was established with Norwegian Seismic Array (NORSAR) in Norway. Shortly thereafter, a connection was made with Great Britain.

However it was not till 1978 that a serious improvement of data transmission was realized with the implementation of the "Transmission Control Protocol/Internet Protocol," (TCP/IP) which made the interaction between networks more flexible. The ARPANet switched to this protocol in 1983. Since that time, both North American and European research centres have been implementing their own local networks simultaneously, causing a dramatic proliferation in the number of computer networks linked together. Other networks were created to connect people working on the same programming projects, such as Usenet (for Unix programmers), Fidonet (for Ms-Dos users). The use of Local Area Networks (LAN) grew rapidly as well, mainly within universities and campuses (Barney 2000).

In 1986 the National Science Foundation established the NSFNet. This was a backbone which connected the entire higher education community. This marked a dramatic increase in the building of regional networks. At the same time, the NSF encouraged the private sector to build its own networks. The resulting proliferation of commercial networks created a competitive market. The privatization policy promoted by the NSF was so successful that in 1995 the NSFNet backbone was dismantled. The American Government was no longer the controller of the Internet and it was opened up to all (Hanson 2008).

This marked the birth of the network of networks. Connecting European and Asiatic local networks, this network rapidly became transnational (Barney 2000). The ARPA sites were

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connected through the NSFNet, making the ARPANet unnecessary. The ARPANet then ceased to exist in 1990 (Hanson 2008). What we know today as the Internet was finally born.

Until that time, the ownership of the NSFNet by the US Government was an obstacle to the linking of the many worldwide local networks already established outside the United States. This is why it should not be a surprise that once the NSF ceased to manage the Internet, there came a dramatic rise in connections between existing worldwide local networks. These increased to more than 40% of the total number (Abbate 2000). Even so, a problem of compatibility of these many networks persisted until all the local networks began switching to the TCP/IP protocol. This, however, happened differently across the globe.

The issue of incompatibility was particularly salient in Europe. The development of the Internet in Europe began in 1984, when the CERN installed the TCP/IP protocol for improving the performance of its local network. Nonetheless, it remained disconnected from the rest of the Internet because of the resistance in Europe of the use of the TCP/IP. The CERN opened its first external TCP/IP connections in 1989. The same year, the Réseaux Internet Protocol Européens (RIPE) was created to administer the Internet Protocol (IP) networks.

In 1989, Australian universities also unified their networking infrastructures using IP protocols. The Australian Academic and Research Network (AARNET) was established that same year to manage the Australian IP addresses.

In Asia, internet penetration began in the late 1980s. Japan connected to NSFNet in 1989. Meanwhile, the People's Republic of China had the first TCP/IP college network in 1991. However, it was not until 1995 that the Beijing Electro-Spectrometer Collaboration was connected to Stanford University's Linar Accelerator Center. This marked the inclusion of China into the increasingly globalized Internet.

Meanwhile, Africa connected to the Internet in 1990. In 1996 a United States Agency for International Development (USAID) funded the Leland Initiative to work on developing full internet connectivity in Africa.

As for Latin America and the Caribbean area, they became independent in managing their own IP allocation only in 2001, when the Latin American and Caribbean Internet Addresses Registry (LACNIC) was created. Before that, the Latin American network was still managed by North American's agency: the American Registry for Internet Numbers (ARIN).

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3) Framing the Global Divide

The Internet is commonly defined as a new technology despite the fact that it has been developing for more than 45 years. Exploring its history highlights how its infrastructures and its use were originally developed in the United States. These considerations are useful for explaining part of the existing worldwide digital inequalities mapped below.

Today the Internet concretizes more than any other technology what scholars have greeted as the advent of the Global Village. With this, McLuhan (1962) defines the process by which electronic mass media overcome spaces and time gaps in human communication, enabling people to interact on a global scale. Today, the Internet is the main media which makes the world a "village". Further questions arise however: what are the changes introduced by the Internet within the framework of the current global society? How can we define this new scenario?

In order to identify the impact that the exclusion from digital technologies has worldwide, it is first necessary to understand how it affects our society. Answering the research questions posed is important for singling out the indicators I use in this research, for mapping the current status of the global dimension of the Digital Divide.

3.1) From the Information Society to Network Society

Scholars have traditionally defined historical periods with reference to significant changes. According to Castells (1996), these are commonly related to the advent of some new technological device. Technology is commonly defined as the use of scientific knowledge to establish procedures intended to reach a certain result in a reproducible form (Castells 2001). Castells also notes that the introduction of a new technology usually leads to the emergence of a new dominant feature in society. In order to identify this feature it is necessary to understand how to get the best results from the accumulation of wealth and power. There is agreement on the important role that the Internet has in creating a new age for the global society. Many theories and concepts are proposed for defining this. All of these focus on the impact of the Internet on the economy of society (Castells 2001).

The basis for modern economic growth is a change in the major methods by which goods are produced (Easterlin 1996). Just as the advent of the steam engine shifted the major method of production from agricultural to industrial (Landes 1969), so the Information Society arises

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when the creation, distribution, diffusion and use of information and knowledge begin to form the basis of human production, thereby displacing industrial production (Barney 2004).

3.1.a) Framing the Information Society

The first definition of Information Society is related to the energy crisis in the 1970s. This event pushed Japanese scholars and policy makers to design a socio-economic model exploiting the operational flexibility of emerging microcomputers. This model was called *Joho Shakai*, meaning *Information Society* (Barney 2004). This name referred to the new socio-economic model replacing "material values" with "information values" typical of the post-industrial age (Masuda 1981). Just as the steam engine was central to the Industrial Age, the new dominant feature of the Information Society is the computer.

European and North American scholars began to consider the Japanese model in the attempt to ensure their own countries' productivity during the 1970s and as the economic downturn continued. From an economic point of view, the first study in this field from the United States was *The Information Economy* by Marc Porat (1977). Porat sought to define and measure the economic activity of the information sector. The computerization process, however, was introduced to this concept only in 1979 (Bell 1979), while that of "network" was introduced two years later by Nora and Minc (1981), two French scholars reporting on the impact of interconnections between computers and information on social organization. They highlighted how these interconnections were creating new economic and social processes, which also had an impact on power relationships.

Today, Van Dijk (1999) defines the Information Society as a society organised on the basis of science and rationality, with an economy influenced by information production, a labour market based on tasks of information processing and, finally, a culture influenced by media and information.

This definition highlights how the Information Society is strictly related to economic processes of production of immaterial values. Once again, however, the questions arise: Is the definition of the Information Age appropriate for defining our society today? Is the concept of the Information Age appropriate to explain the impact of the Internet on our current society? Is the increase in the value of "information" introduced by the Internet the real innovation which is bringing us to a new era?

According to Castells (1996), information and the production of immaterial values are not new phenomena leading to the reorganization of society today. In fact, information was central

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to all societies in the framework of the industrial age, as well as in other earlier ages (Castells 1996). Additionally, Barney (2004) stresses how scholars criticize the concept of the Information Society, arguing that computerization alone does not revolutionize already established industrial regimes.

However, compared with the past, we cannot deny that our society has new characteristics and therefore new modes of analysis must be developed to understand it. If the Internet is leading us to a new dominant feature, how is this happening? What is its "revolutionary" impact on our current society? Which new element has the Internet introduced that is creating new dynamics in current social, political and economical processes?

3.1.b) Framing the Network Society

Barney (2004) observes four main ways in which the Internet brings new conditions to bear on our society. With *time-space compression*, he refers to the capacity of the Internet to resize physical distance and time for activities involved in communication processes. The *deterritorialization* of our social, political and economic activities is a consequence of this. The Internet allows also the *decentralization* of communicative processes, creating a new form of decentralized mass communication medium. Previous mass media, like radio and television, were a centralized mono-directional "one to many" form of communication. The Internet allows everyone having access to communication flows to also be active, spreading their own content to all those other people connected to the Internet. *Interactivity* is the fourth characteristic of the Internet. Thanks to this, internet users can be more than passive receivers of the communication flow of information; they can customize the information flow according to their own needs (Barney 2004).

Some of these characteristics however are not new; previous technologies had already introduced them in other historical ages. Network structures do not affect human organization only in the 21st century (Castells 1996). What is special today is that it is the Internet which brings together all the characteristics so far proposed by Barney into a single communication technology. Finally, for Van Dijk (2006), the significant contribution of the Internet to our society is what he calls *convergence* process introduced by its *network* structure.

According to Castells (1996), "Networks constitute the new social morphology of our societies, and the diffusion of the networking logic substantially modifies the operation and outcomes in processes of production, experience, power, culture" (p.500). For Barney (2004), the word *network* refers to the structural condition made up by distinct points, all linked by

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multiple and intersecting connections. Castells (1996) defines these points as nodes. The Internet is designed as a network, and this characteristic networking is that which most affects our society. This is why today scholars refer to the current age of our society as the *Network Society*.

While the concept of Information Society highlights the substance of activities and processes of societies, the concept of Network Society stresses the "changing organizational *forms* and (infra)structure of these societies" (Van Dijk 2006, p.19).

Jan Van Dijk (1991) coined this definition in his Dutch publication *De Netwerkmaatschappij* in 1991. The author refers to the Network Society as the "form and organization of information processing and exchange. So the Network Society can be defined as a social formation with an infrastructure of social and media networks enabling its prime mode of organization at all levels (individual, group/organizational and societal)" (Van Dijk, 2006:20).

Some years later, Castells (1996) extends his analysis of this concept in the first book of his trilogy "The Rise of the Network Society". For the author, the Network Society is "made up of networks of production, power and experience, which construct a culture of virtuality in the global flows that transcend time and space" (Castells 1998, p.270). In the framework of the Network Society, the categories of politics, economics and culture are designed by the networking process (Barney 2004). Castells' (1997) theories of Network Society can be summarized into five points: (1) We are witnessing the re-organization of human activities in relation to the new dimension of time and space, shaped by the real-time communication introduced by networking technologies over vast distances. (2) This reorganisation of human activities particularly affects the worldwide economy, which is shifting from having an industrial base to an informational one. (3) Thanks to network technologies and their increasingly informational base, worldwide economies are becoming more globally interconnected than in the past. (4) This new network configuration of economies overcomes national borders, diminishing the capacity of the national-state to organize political, social and economic power in the Network Society. (5) Yet, despite the fact that in the Network Society the most dominant processes are transformed in flows of information, "most human experiences, and meaning, are still locally based" (Castells 1997, p.124).

In my opinion, the interconnection of the worldwide economy and the diminishing of the nation-state power to control it lead us to conclude that there is only one integrated, transnational and pervasive Network Society. Within this framework, it is not necessary to have direct access to the Internet in order to be affected and thus be part of the Network Society. Rather, people and regions of the world are included per se. This is why, I argue, the Digital

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Divide does not refer to the existing gap between who has access to network technologies and, hence, who is included in the Network Society, and those who does not and hence is excluded. Rather, I argue that they are *all* included.

This does not mean however that they are all included in the same way. Here, I refer to the Digital Divide not in terms of inclusion, but in terms of power within the current worldwide and integrated society, so far defined as the Network Society. I conceptualize the Digital Divide as the gap between people and regions of the world which, within the framework of the Network Society, have *different powers* over social, political and economic transnational and integrated dynamics.

The causes of these differences are related to what Castells recognizes as separate and distinct from the abstract networked flows of information: what he defines as "most of human experience, and meaning" which is "still locally based" (Castells 1997, p.124). But, we ask, what is this "human experience" affecting the unequal participation in the Network Society?

In order to answer this question, I provide the map of this unequal distribution of worldwide internet users. Subsequently, an examination of the relationship between data on the users of the Internet and on the countries where they are based, will be useful for exploring the concrete characteristics of these regions, assuming that these are also the causes of the unequal use of the Internet and hence of power. Below, I explore the economic and political causes.

4) Mapping the Digital Divide

It is possible to trace as many kinds of maps of the Digital Divide as there exist different perspectives of analysis. Each of them may focus on specific aspects, giving rise to the possibility of singling out the national causes of digital inequality. Mapping the distribution of the worldwide population online is the main instrument for providing a picture of the dimension of the global dimension of the Digital Divide.

Furthermore, in order to explore the causes contributing to the worldwide inequality, I focus on how the economic and political status of each country affects citizens' use of the Internet. Following this approach, I subsequently explore the relationship between national political factors and the country's internet population. I consider these two factors to be useful indicators for understanding the distribution of Internet users worldwide.

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So far, I have defined the Digital Divide as the gap existing between who is active in the Network Society, and who is passively influenced by it. Within the framework of this definition, I am interested in mapping not only the population with access to the Internet but also who has an active role in contributing to the Internet.

Following this, I map the global dimension of the Digital Divide comparing 190 countries, through two complementary perspectives of analysis:

First, I provide the dimension of the current status of the Global Digital Divide. In order to understand the causes of its dimension, I explore the relation between economic and political status factors and worldwide digital inequalities in accessing the Internet.

Second, in order to study the gap in making the Internet, I map the distribution of Internet infrastructures, as represented by Internet Host. Moreover, the World Wide Web being the main way in which the Internet's contents are available, I use various empirical tools explained below to investigate from which geographical areas these contents originate.

4.1) Mapping the Digital Access Divide

In order to provide the global dimension of the Digital Divide, the most common map is that of the *geography of Internet users* distributed across the world. Essentially, this is a census of the population that has access to the Internet. This kind of mapping is the one most widely used to evaluate the size of the Digital Global Divide.

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4.1.a) Internet Users

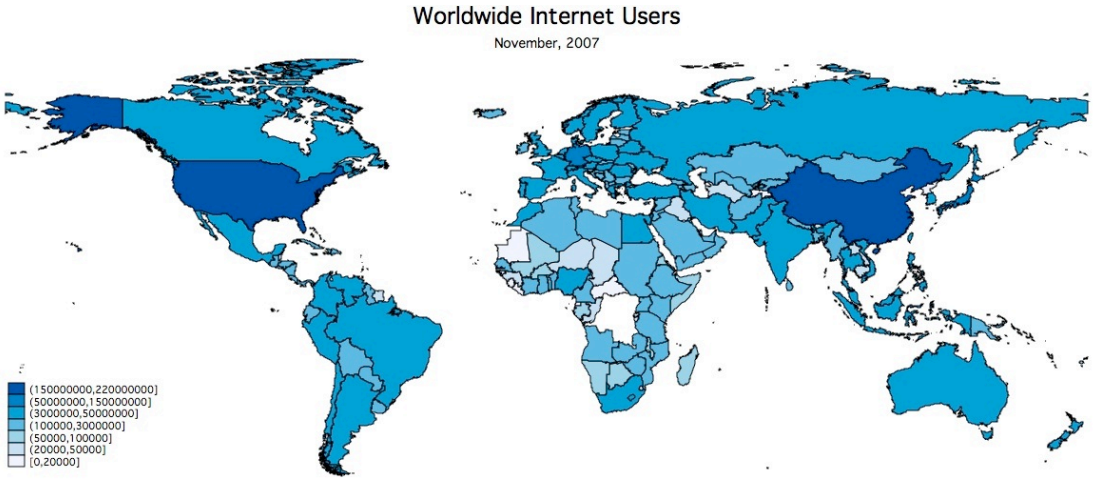

Figure 3.1 – Map of the Worldwide Internet Population x Millions

(*Source: Internet World Stats, November 2007*)

Figure 3.1 shows the worldwide distribution of internet users for each country. The data given in November 2007 reported approximately 1.200 million internet users (figure 3.1). Of these, 233 million are in the United States and Canada and 322 million are in Europe. In the Oceania area, we see that 19 million users are connected. Asia hosts 436 million of internet users, and is the continent with the highest population of internet users. Particularly significant are the 162 million users in China, although this figure is modest when it is compared to the size of the Chinese population (see percentages below). This reasoning can also be applied to the 42 million users in India. The remaining worldwide internet users are distributed between 109 million in Latin America, 20 million in the Middle East, and 33 million on the African continent.

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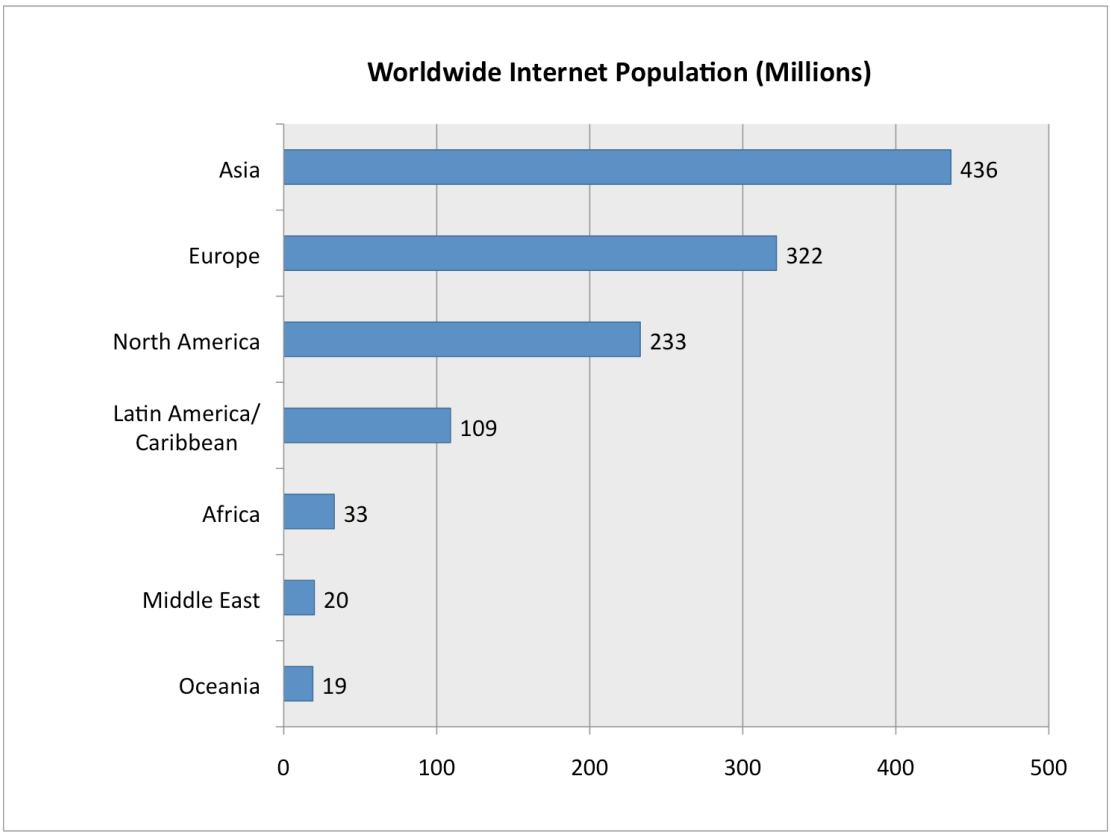

Figure 3.2 - Worldwide Internet Population x Millions

(*Source: Internet World Stats, November 2007*)

The graph below (figure 3.2) shows the worldwide distribution of internet users by aggregated data. This map is obtained by making the online population of each country relative to the entire worldwide Internet population.

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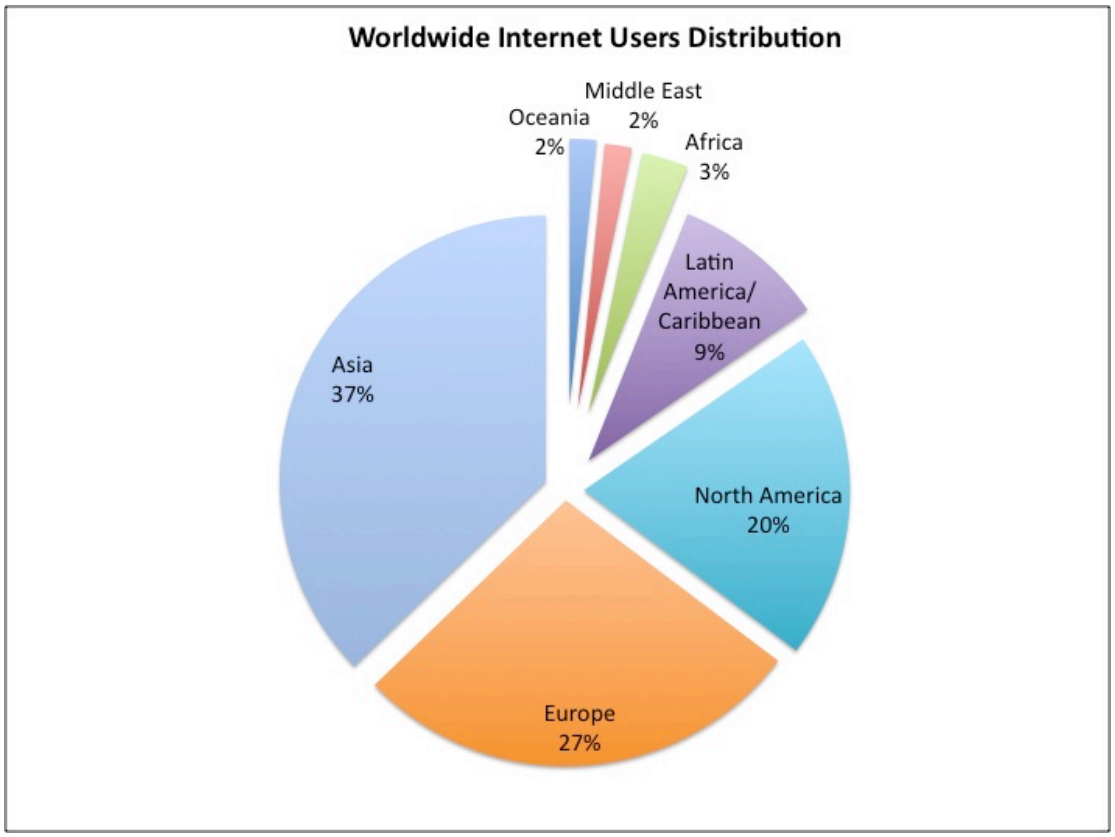

Figure 3.3 – Percentage of Worldwide Internet Users per continent on total Worldwide Internet Users (*Source: Internet World Stats, November 2007*)

Comparing these data with those of ten years ago, this graph (figure 3.3) reveals the rise of a new trend. The majority of Internet users are no longer based in North America. Today, 37% of them are based in the Asiatic region. 27% are based in Europe and North America hosts 20% of the worldwide internet population. In 2007, China is the country with the second highest number of internet users (162 million), behind the United States (210 million), and followed by Japan (86 million). According to the data, it should be not a surprise that the second language of the Internet is Chinese (Internet World Stats 2010).

4.1.b) Internet Penetration

However, in order to explore how the Internet is a determining influence for each country, we should investigate how the population of each country uses it. Since countries vary greatly in terms of population size, in order to measure how the Internet is spread across each country it is more appropriate to report the use per capita terms. This is possible by standardizing this data with the Internet Penetration Rate (IPR). The IPR is measured by standardizing the data

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dividing the number of Internet users in each country by its population (World Gazetteer[32] is the source for the population data). The IPR measures the percentage of citizens in each country using the Internet, allowing us to illustrate the Internet population relative to its worldwide distribution.

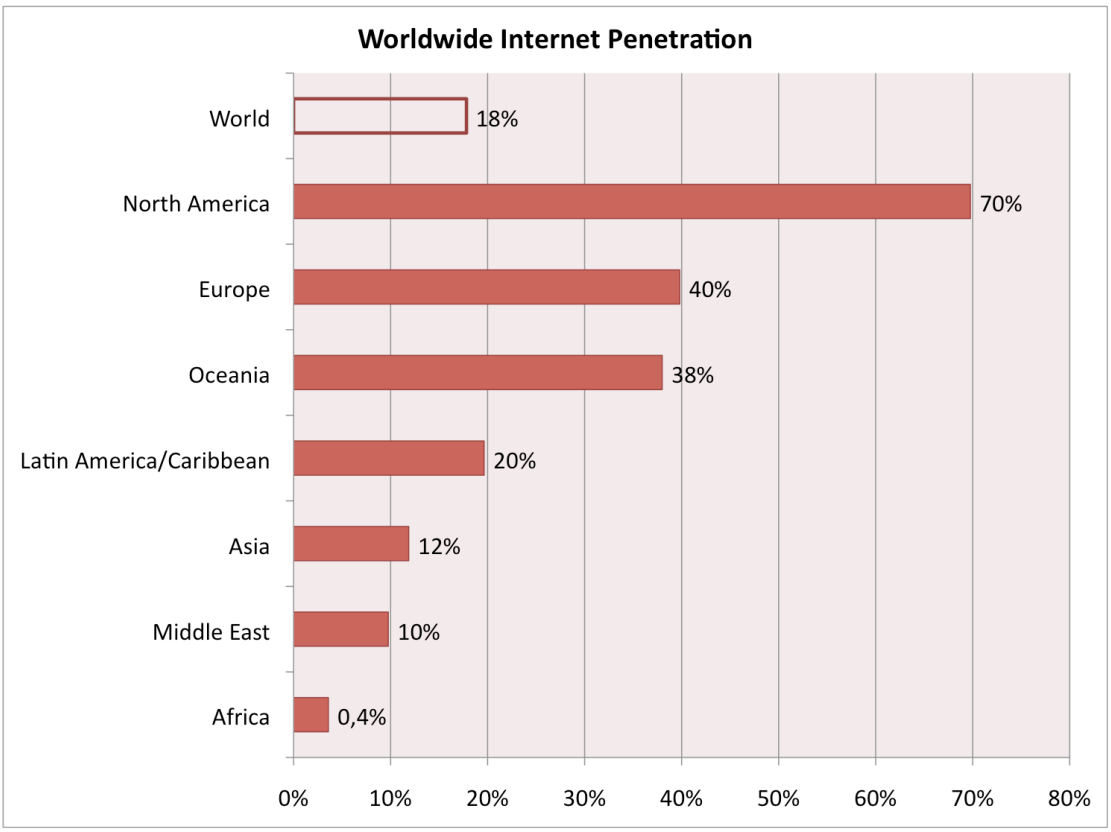

Figure 3.4 – Percentage of Internet Users per continent

(*Source: Internet World Stats, November 2007*)

Figure 3.4 more clearly illustrates the level of Internet diffusion within each geographical area. First, it highlights the fact that only 18% of the world's population has access to the Internet. Moreover, it brings to light the fact that North America has the least amount of inequality of access to the Internet within its population: 70% have Internet access. This is almost double the penetration rate of 40% in Europe, which is also approximately the same value as Oceania's per capita level of Internet use (38%). Western countries have the highest Internet Penetration Rate compared to other geographical areas of the world. Asia is the most

[32] www.world-gazetteer.com ;

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populated region of the world, which explains why it also has the highest number of internet users. However, Asian countries have a very low value Internet Penetration Rate, highlighting significant internal inequality of Internet access. This is certainly the case for China, which registers the highest number of Internet users as the most populated country in the world; yet only 11% of its population uses the Internet. Comparing this value with other countries, China is far from the 38% Internet Penetration rate seen in Europe.

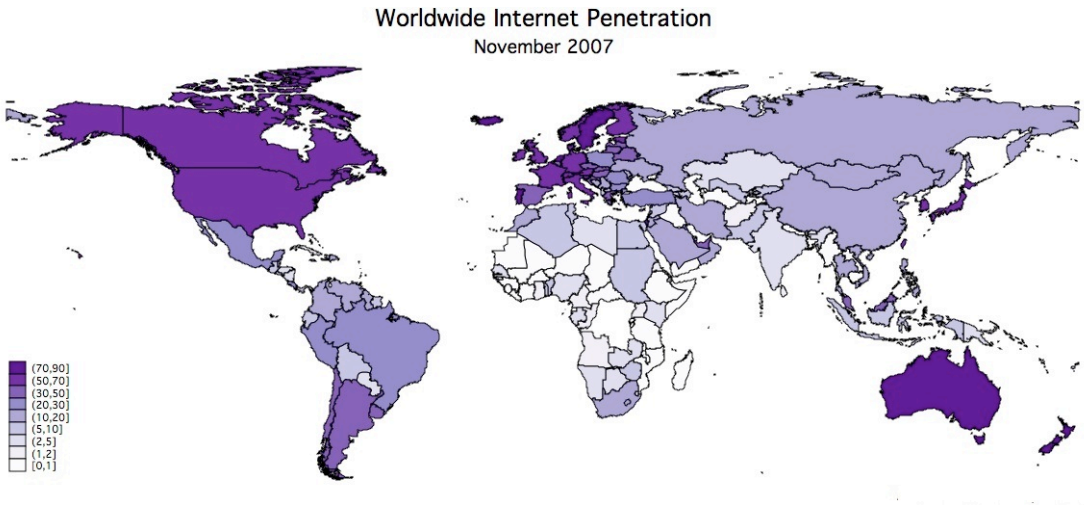

Figure 3.5 – Worldwide Internet Penetration Rate

(*Source: Internet World Stats, November 2007*)

Figure 3.5 shows the IPR for each country worldwide. Iceland leads the ranking of the IPR, with 86,3% of its population using the Internet. Sweden (75,6%) and New Zealand (74,9%) rank second and third, respectively. While the United States has the highest percentage of its population on line, this is only 70% of its entire population. Hong Kong has a lower internal Digital Divide, in that total internet users comprise 68% of its population. Japan (67%), South Korea (66%), Singapore (66%) and Thailand (63%) all have very similar IPR values, in the same range as Hong Kong. With the exception of Israel which has a high IPR (51%), countries in the Middle East have a very low IPR. Excluding countries with very small population sizes (less than 300 million inhabitants), Chile is the country with the lowest internal Digital Divide in Latin America (41%). In Africa, Morocco is the country with the highest value of IPR (15%). South Africa follows with 10.5%. However, in approximately 50% of the 190 compared countries, less than 10% of their respective populations use the Internet.

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4.2) Causes of the Digital Access Divide

This kind of data collection gives us a snapshot of Internet access around the world at a specific point in time. However, I believe that in order to find causes as well as possible strategies for overcoming the Digital Divide, this map is not sufficient. With data on the Digital Divide, the picture is already clear and does not take us any further towards solving the problem of why these statistics are the way they are. In order to explore the reasons for these inequalities the data should be placed in relation to other indicators.

Howard frames the possible causes of the Global dimension of the Digital Divide in three main categories (Howard 2007):

- *Economics*. There is widespread agreement among scholars on how the economic factors of each country affect worldwide inequality in using the Internet.

- *Infrastructure and demographics*. Scholarly research on the role that regulatory systems play in developing the Internet infrastructure and the population of Internet users seeks to examine how telecommunication policies can facilitate the development of communication infrastructure (Howard 2007). Wallstein (2005) explores the impact of agency independence, transparency and discretion on the growth in number of internet users and internet hosts in 45 countries in 2001. Meanwhile, Milner (2006) explores the role that privatization of telecommunications may have in the use of new technology tools.

- *Regime type and telecommunication reform*. This category refers to the political status of each country and how this affects the use of the Internet by its citizens. It has been noted that unstable democracies obstruct Internet access more than authoritarian regimes (Howard 2005; McGlinchey & E. Johnson 2005). This would be explained by the fact that authoritarian regimes are interested in developing their communication infrastructure to extend their reach (Kalathil & Boas 2003). Others study the impact that authoritarian regimes have in denying Internet access via censorship policies (Deibert et al. 2008, 2010).

Here, I explore how economic and political factors in each country are useful for explaining the Global Digital Divide. How much does the combination of all these factors affect existing worldwide digital inequality?

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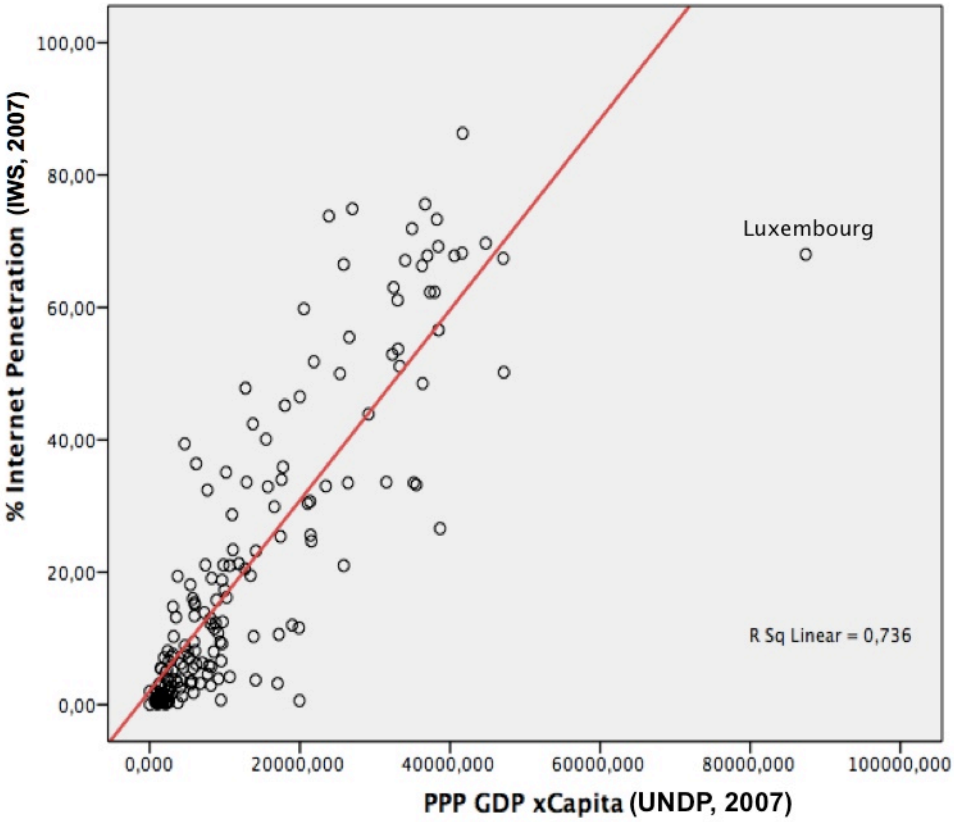
4.2.a) Economic Factors

The global Digital Divide is commonly referred to as the existing worldwide economic gap. Researchers have sought to explore in depth the relationship between the Purchasing Power Parity Gross Domestic Product per capita (PPP GDP xCapita) and the online population of each country. Their findings show that digital access is correlated with a high per capita GDP (Norris, 2001). Following this line of thinking, I first explore to what extent economic factors are able to explain the global dimensions of the Digital Divide. I expect that today the relationship between Internet access and the economic status of each country remains unchanged compared with previous analyses on the topic.

Figure 3.6 – Economic effects:

OLS Regression of Internet Penetration (2007) on PPP GDP per Capita (2007)



Note: Internet Penetration (Source: *Internet World Stats, November 2007*); PPP GDP per Capita (Source: *UNDP, 2007*) – N = 190

In order to test this relationship I run the regression between economic factors and the Internet Penetration Rate. The result confirms the expectation so far introduced. The graph

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above (figure 3.6) reveals that a significant positive relationship exists between the independent variable (PPP GDP xCapita) and the dependent variable (Internet Penetration Rate). A simple Ordinary Least Squares regression for the 190 (N) countries explored in this analysis shows a strong and significant effect of PPP GDP xCapita on the Internet Penetration Rate. The PPP GDP xCapita explains almost 75% of the variation of the worldwide Internet distribution (R=0.736 Sig.p.000).

The graph shows also an outlier observation (see figure 3.6, Observation 120). This is the Luxembourg case, having a high Internet Penetration Rate (68%), and a value of PPP GDP xCapita (87.399$) very much over the media of countries worldwide (12.118$). By dropping Luxembourg from the regression, the R squared increases (R=0.776 Sig.p.000).

4.2.b) Political Factors

However, to more fully understand the Digital Divide, we must look at more than just economic factors. Exploring the issue from a political science perspective, we must also investigate how political factors impact the phenomenon. If scholars stressed the impact of the Internet in strengthening democracies, how does democratic status affect the access and use of the Internet?

Following Milner (2006), I expect that the political status of each country significantly affects the use of the Internet by its citizens. In the first chapter, I have already highlighted Milner's work as a useful approach for exploring the global dimension of the Digital Divide. However, she examines Internet use only in relation to political factors. Thus, how can we explain the Digital Divide considering both economic and political factors affecting the use of the Internet?

In order to investigate how political and economic factors affect worldwide Internet distribution, I use these as dependent variables. I regress both indicators on the Internet Penetration Rate as the dependent variable.

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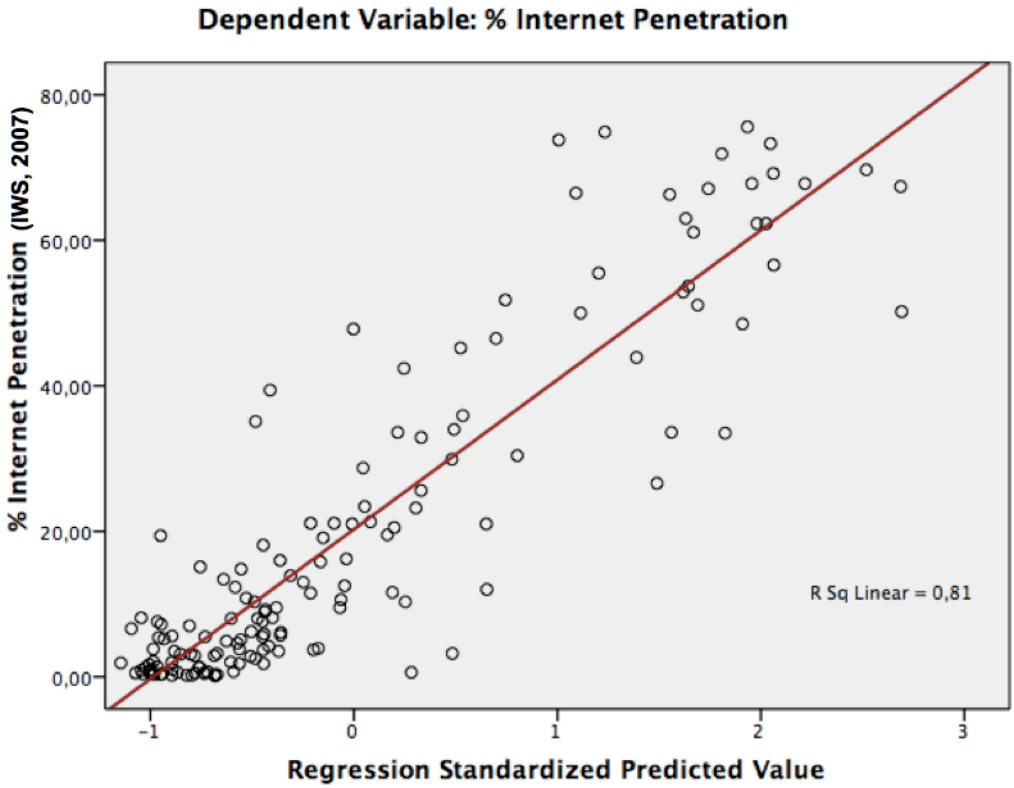
Table 3.1

OLS Regression of Internet Penetration (2007) on PPP GDP xCapita (2007) and Polity (2007)

	Internet Penetration
Economy	.001*
(PPP GDP xCapita)	(.000)
Level of Democracy	.605*
(Polity)	(.137)
Constant	-.562
	(1.177)
N	190
R-squared	.81

* p ≤ .001 (1-tailed test). Standard errors in parentheses
Source: PPP GDP xCapita (UNDP, 2007); Polity (Polity IV Project, 2007)

Figure 3.7 – Political and Economic Effects:
Predicting Internet Penetration (2007) with PPP GDPxCapita (2007) and Polity (2007)



Note: Internet Penetration (Source: *Internet World Stats, November 2007*); PPP GDP per Capita (Source: *UNDP, 2007*); Polity (Source: Polity IV Project, 2007) – N=190

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The resulting regression provides interesting evidence with resulting estimates that are highly significant. Political and economic factors combined explain 81% of variation in the worldwide internet distribution.

The coefficient estimates (B) imply that the variation of 1000 dollars in PPP GDP xCapita of a country leads to a change of 0.001 % in Internet Penetration Rate. In other words, taking into account only the PPP GDP xCapita and excluding all the other variables, the economic gap between United States and China would lead to a 50% difference in Internet Penetration.

At the same time, the variation of 1 unit in POLITY, measuring the Level of Democracy, implies a change of 0.605% in Internet Penetration Rate. Taking into consideration only the political predictors, the difference in the Level of Democracy between the same countries compared above would result in a 10% difference in Internet Penetration.

The *Beta* coefficient in the table above gives the standardized estimates. This reflects the impact of all variables measured in the same scale. Its value shows that the economic factor (PPP GDP xCapita) is by far a more important predictor for explaining the Internet Penetration Rate; in fact, it is nearly five times more important than the political factor.

4.3) Mapping the Digital Participating Divide

Within the framework of the Network Society, the issue of Internet access is but one of the major issues. The Internet has been lauded as an open space to which anyone who wants to can contribute. It is also because of its plurality that the Internet has become an important participatory instrument. The interactivity and the customization of the Internet, which have already been addressed, are considered among its defining characteristics. Because of this, we may also observe other effects of the Internet on the Network Society, such as the decentralization and deterritorialization of communication sources and processes (Barney 2004). These are also important characteristics of the Network Society.

As a result, it is useful to map out who has access to the Internet's content and who does not. I argue that the Digital Divide is not only a problem of access to the Internet's contents; it is also important to explore from where this content comes from. If the Internet is made by the people who use it, the interesting question follows: who has the instruments to make the Internet? Is the Internet representative of cultures and countries worldwide?

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In order to explore this issue, I map the worldwide distribution of Internet Hosts, of Internet Protocols (IP) and of Internet Domain Names. The "host" is the infrastructure of the Internet which stores websites. Normally the Internet Service Providers manage the "host". The IP is what makes the Internet Host and its contents accessible via the Internet. This means that the IP may refer to both the Internet Host, as well as to the Web services provided by it. While each Internet Host can store many websites, each website refers to only one Internet Domain Name. The World Wide Web is made-up of websites and its entire content is the sum of all the websites published online. I consider the act of publishing a website an active contribution to the Internet's content. Thus by mapping the distribution of the worldwide internet hosts, we can see what the available Internet infrastructure for each country is like. This is indicative of how easy it is for people living in these areas to be not only users but also contributors to the Internet. The number of IPs allocated to each country is indicative of the permanent active internet users living in it. Moreover, exploring the distribution of owners of Internet Domain Names is significant as it is representative of the number of these IP addresses spreading contents on the Web. This provides information on the origins of the contents of the World Wide Web and of their worldwide distribution. This allows a mapping of the existing worldwide digital inequalities in producing the internet's content, and therefore in contributing to the Internet.

4.3.a) Internet Hosts

In order to map the distribution of the Internet infrastructure, I map the geographical distribution of the worldwide hosts. The "CIA World Factbook" [33] is the source for this data.

[33] cia.gov/library/publications/the-world-factbook/index.html;

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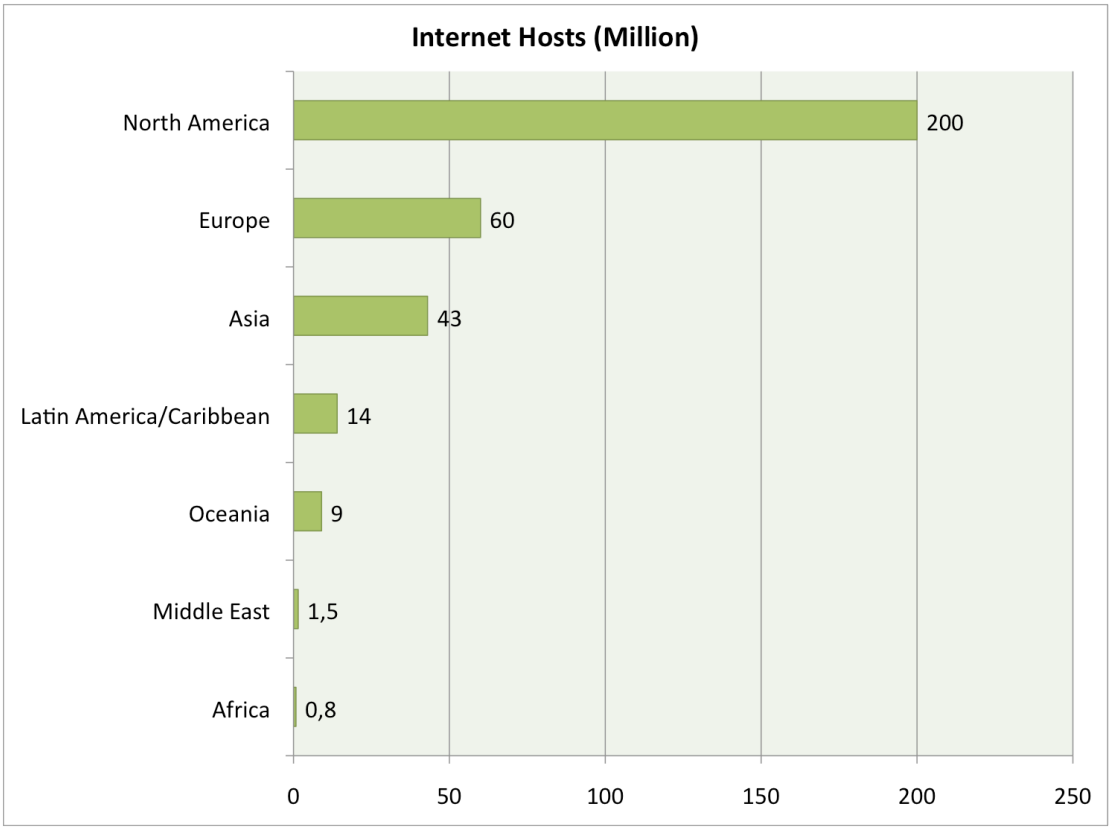

Figure 3.8 - Worldwide Internet Hosts Distribution

(*Source: CIA World Factbook, November 2007*)

The graph above (figure 3.8) shows that North America manages approximately 200 million Internet Hosts. This is almost four times more than the number of hosts based in Europe (60 millions). The Asiatic region with its 40 million hosts is not so far from the European number. Latin America and Oceania manage only approximately 15 million hosts, respectively. Meanwhile, the Middle East and Africa have a very low number of Internet Hosts. These data show a very unequal distribution of the Internet infrastructure.

So far, I have highlighted the existing correlation between economic factors and the distribution of internet users worldwide. But do economic factors affect the distribution of the Internet infrastructure? Is there a correlation between economic factors and the distribution of Internet Hosts around the world as well?

Running a correlation between the PPP GDP xCapita and the distribution of Internet Hosts within each country, measured by the Host Penetration variable, gives a positive answer to this question. The correlation of 0.68 is significant at the 0.01 level (two tailed). This brings us to conclude that economic factors also affect the distribution of internet infrastructure.

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4.3.b) IP Allocations

Another measurable value of the Internet is the distribution of IPs allocated to each country. The IP address refers to nodes of the Internet. These can be Internet Host servers, Internet Providers and Websites. This means that measuring the IP allocation gives an indication of the distribution of active users of the Internet worldwide.

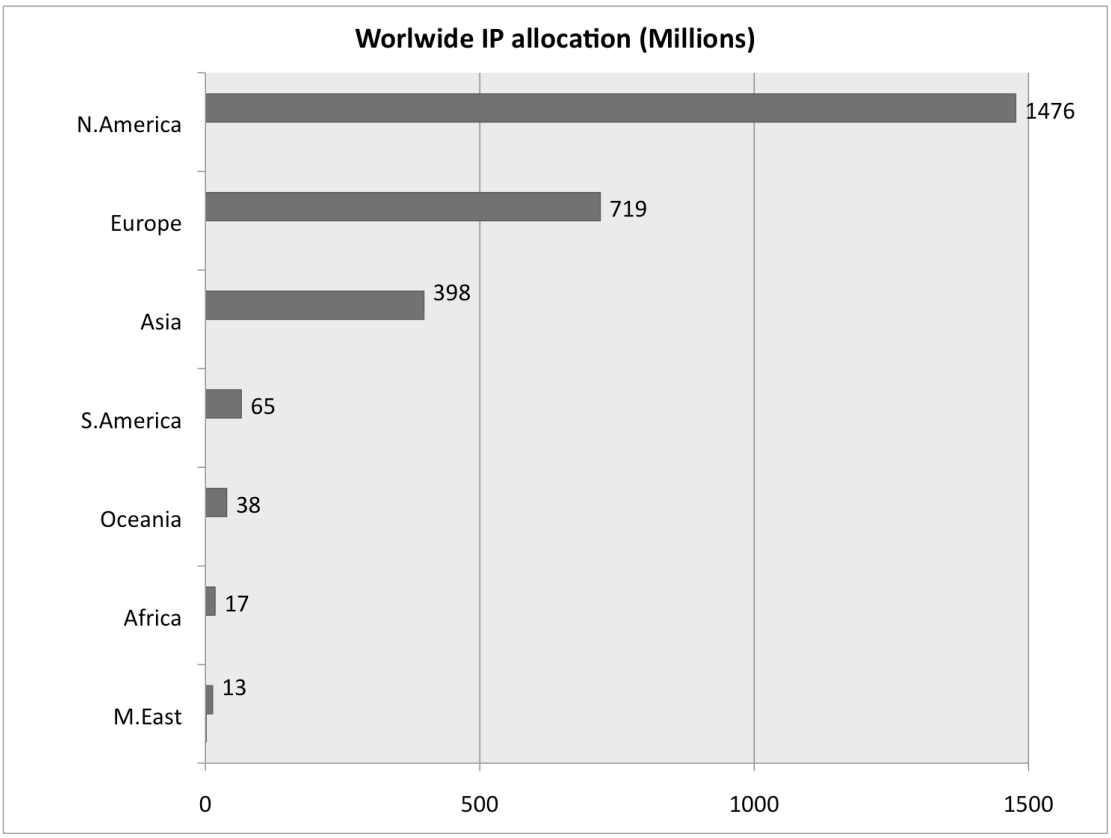

Figure 3.9 – Worldwide IP allocation
(*Source: DomainTools, March 2008*).

The figure above (figure 3.9) looks very similar to the one depicting worldwide distribution of the Internet Hosts: most IP addresses are concentrated in North America (1.477 million). This value is double that of those allocated in Europe (720 million). The Asian continent hosts 398 million IPs: a quarter of the number of hosts in North America. The number of hosts decline sharply for the remaining parts of the world: South America (65 million), Oceania (39 million), Africa (18 million) and Middle East (13 million).

For the same reasons already explained regarding the importance of the Internet Penetration Rate, the measurement of IP allocation rates on the size of the entire population of each

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country is also important. Following this approach, the IP Penetration Rate (IPPR) is obtained by the relation of both these indicators. Here the value is expressed in percentage terms.

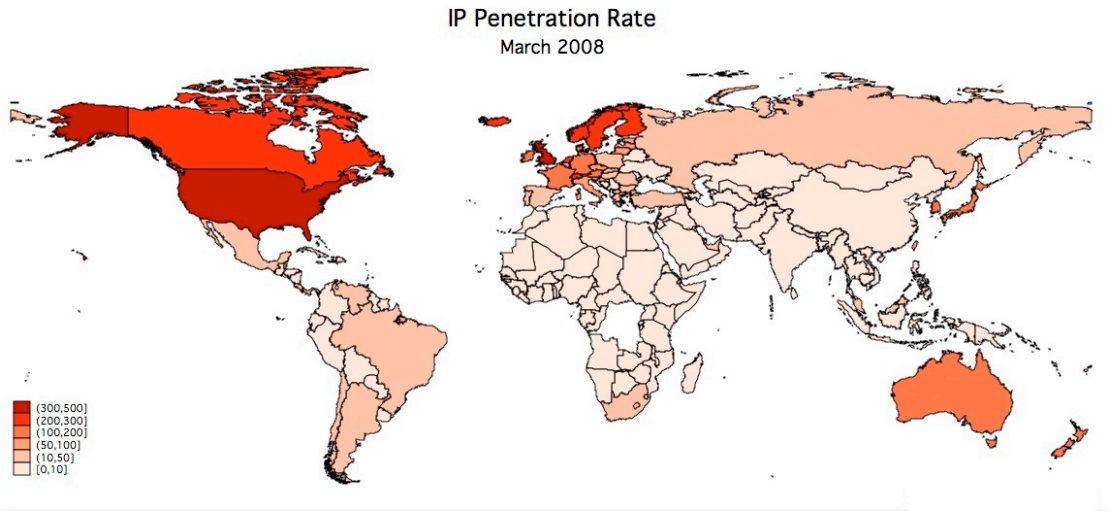

Figure 3.10 – Worldwide IP Penetration Rate, Value in %

(*Source: Domain Tools and World Gazeteer, November 2007*)

Figure 3.10 shows a ranking which is very similar to that describing the Internet Penetration Rate. Here the United States is the country having the highest value of IPPR. This is 464%, meaning that the allocated IP addresses in United States are approximately four and a half times more than its population. European countries are next highest in IPPR values. While the United Kingdom has a very similar IPPR to that of the United States (438%), the rate decreases significantly with Norway (285%), Switzerland (261%) and Iceland (248%). Not so far from the values of Japan (110%), Singapore (106%) and Hong Kong (102%), South Korea has a higher IPPR than other Asiatic countries (114%). As for the IPR, Israel, with its 86% IPPR, is the only Middle Eastern country that appears among the top 30 countries. In Africa the value of the IPPR is very low in all countries. In South Africa the rate is 23%, which is the highest IPPR compared to other African countries.

4.3.c) Internet Domain Sites

As explained above, each Internet host can hold many Websites, and each of these refers to an Internet Domain Name. It is important to note that the World Wide Web (WWW) is but a small part of the Internet. It is, in fact, just one of several applications using the Internet, such

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as E-Mail, Peer-to-Peer Networks, Instant Messaging tools, and so on. It is not simply a technical clarification to stress that the Internet is only a network system, based on interconnected computers around the world, which transmits data. Several services can use this data transmission networked-based system. These carry different functions depending on the aim for which they are used. Thus, the Internet is made up of various tools which include the WWW.

However, it is also true that the WWW is the main way in which people access and spread content to a global audience through the Internet. Since this is the case, if we are interested in exploring worldwide inequalities in making the Internet, mapping where these contents come from is highly significant. Are the contents of the Internet representative of all countries worldwide? Do we receive information from the Internet equally from people living all over the world? Once we have explored who accesses the Internet, one more question arises: who contributes to shaping the Internet? I argue that, within the framework of new research on the Digital Divide, this is a topical question which needs investigating.

Below, I map the distribution of Internet Domain Names in relation to the entire population of registered worldwide domain names.

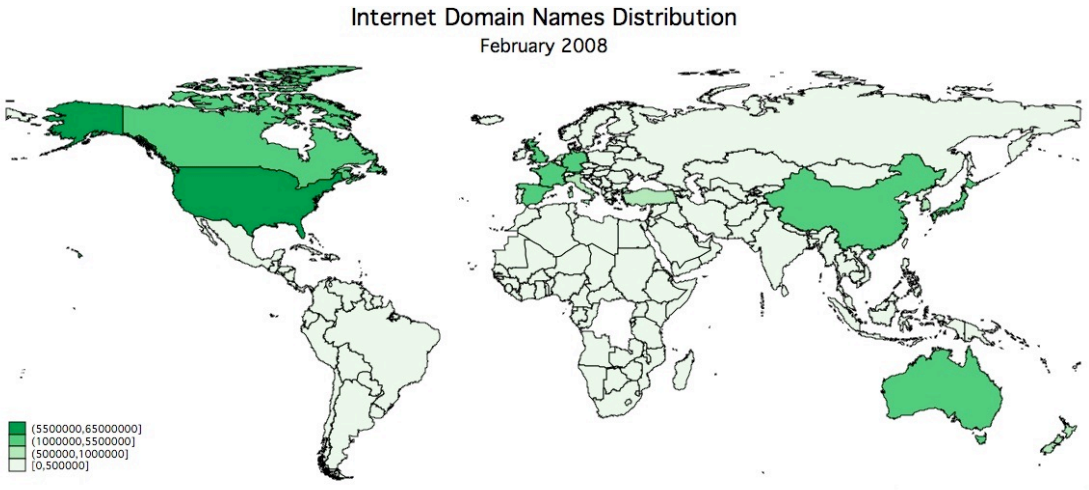

Figure 3.11 - Worldwide Domain Names Distribution

(*Source: Web Hosting, February 2008*)

The graph above (figure 3.11) shows that the United States hosts 41% of the total worldwide Websites. The Internet Domain Name being the main method through which content is

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published on the Internet, this value also means that 41% of the Internet is shaped by people based in the United States. This value falls to 11% of Websites registered by Germany. The percentage then decreases quickly to 1% hosted by a few countries. Brazil is the last country listed in the graph (figure 3.12) with a number of Websites higher then 1%. After this, the remaining worldwide countries host the remaining 5% of Websites. Considering the aggregate data, we can conclude that 16 countries in the world shape 79% of the Internet, and the United States has the greatest hegemony in this respect.

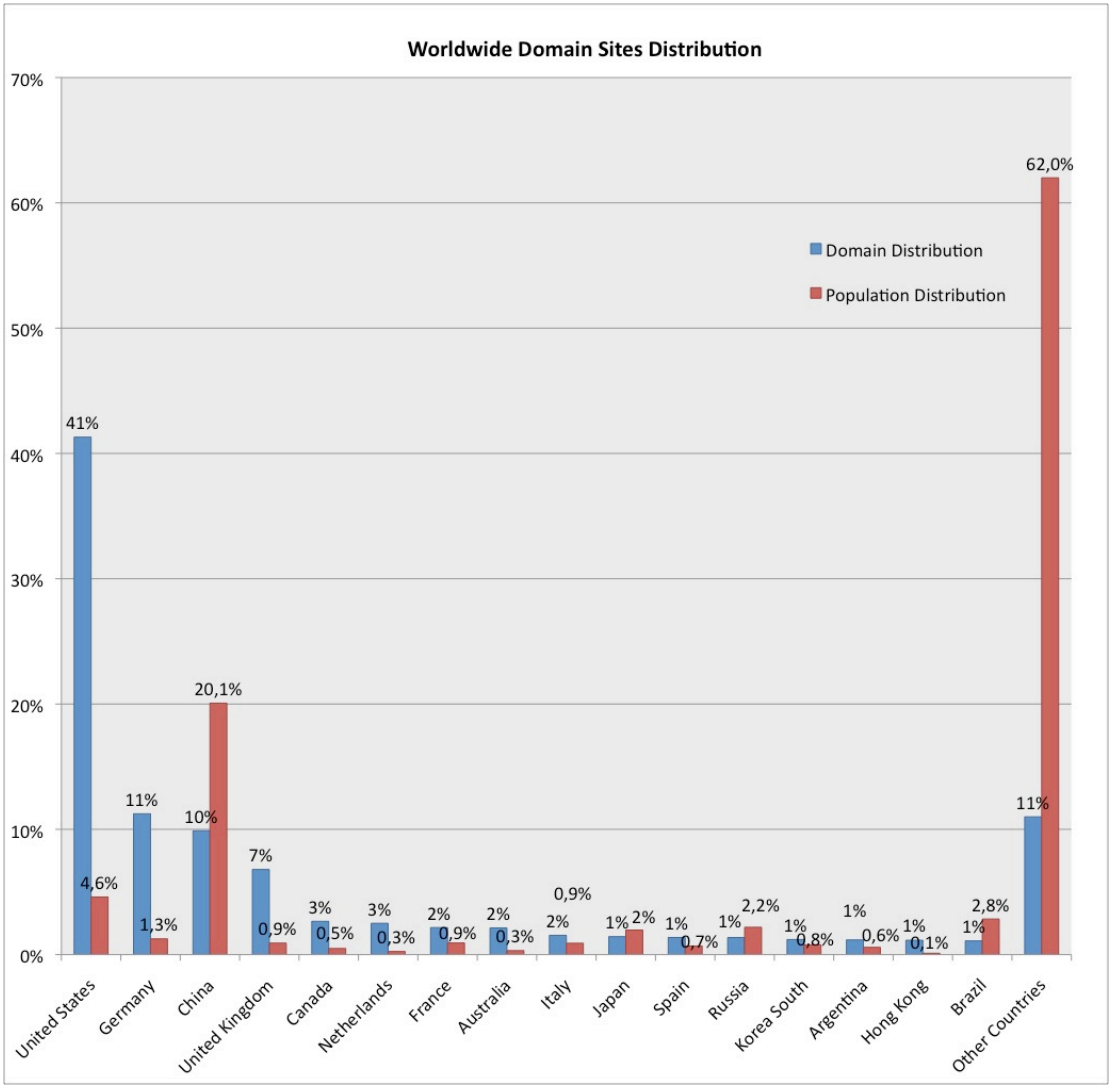

Figure 3.12 - Worldwide Domain Names Distribution & Worldwide Population Distribution

(*Sources: Web Hosting, February 2008; WorldGazeteer, November 2007*)

Comparing the distribution of the Internet Domain Sites with the distribution of the population worldwide (see figure 3.12), it is possible to answer the question previously posed.

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But what about the Digital Divide in making the Internet? Just 4,6% of the population living in the United States manage 41% of the World Wide Web. On the other hand, 62% of the worldwide population publishes 11% of the world's websites. This population is spread across the remaining 174 countries. Considering the population of China, this makes a great difference in the framework of this trend. Twenty percent of the world's population lives in China, but only publishes 10% of the world's websites. This allows us to consider that a very limited part of China's population is active in producing websites. If we include China's population in the category of the other 174 countries having a number of websites less than 1% of the total amount, the inequality in making the Internet is clear. 82% of the population owns only 21% of the websites worldwide, while the remaining 18% of the population based in only 15 countries manages 79% of the World Wide Web.

It is also true that many websites publish content from people not necessarily living in the countries where the Website is registered. There are many examples of this. The most important phenomenon is the rising number of web blogs which are often hosted by blog hosting service websites. These could be registered in one specific country, offering web space to bloggers residing anywhere else in the world. However, the aim of this study is to map the worldwide inequalities in shaping the Internet. The most commonly used blog hosting services (e.g. blogspot by google) give very limited power for designing the blogger's own blog page. According to Barney (2004), this form of customization enabled by Internet is superficial. However, within the framework of almost one hundred million mapped websites, I consider this an important but secondary aspect of the map of Internet-making so far proposed.

5) Conclusion

The question of defining the global dimension of the Digital Divide was the starting point of this chapter. The history of the Internet was useful for exploring the process of shaping the global network linking countries across the planet. Framing the concept of the Network Society was important for introducing the causes and effects of the Digital Divide. This theoretical introduction led me to find suitable indicators for mapping the Digital Divide. Focusing on its specific aspects, the maps provided enable us to investigate the current status of the existing digital inequalities around the world.

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The analysis highlights that the Digital Access Divide is still highly correlated with economic factors. Furthermore, the additional value of the research thus far proposed is the study of how political factors influence the distribution of digital inequalities. The obtained results confirm the expectation that the democratic status of governments has a positive impact on the diffusion of the use of the Internet.

In spite of these confirmations, this chapter also brings to light important news for further research on the topic. The investigation stresses that most of the population of internet users is no longer based in North America. Rather, today the Asiatic continent has become the region with the highest population of internet users. This is significant in showing how the gap in accessing the Internet is following a normalization trend (Resnick 1998) in its distribution. However, when measuring the Digital Participation Divide, a less optimistic scenario comes to light. This shows an overwhelming hegemony of the United States in managing the Internet's infrastructure and, especially, the Internet's contents. This is highly significant in terms of the worldwide distribution of people contributing to the Internet, stressing a serious gap between regions of the world in shaping the Internet.

In this chapter, I described a scenario which highlights the necessity of appreciating that a real overcoming of the Digital Divide will only be achieved when the entire world enjoys equal access to the Internet and equal possibilities of contributing to it, according to real local needs and contextual specificities.

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Chapter Four
4. The Digital Social Divide

1) Introduction

The global perspective of analysis of the Digital Divide thus far proposed maps the existing differences in access to the Internet between countries worldwide. It highlights how the Internet is more accessible in Western and some Asiatic countries than in the rest of the world. However, this does not mean that people living in the "connected" countries have equal access to the Internet. Access is also unevenly distributed within the national framework. While the Digital Global Divide refers to the existing inequality in using the Internet from a cross-national perspective of analysis, here, the Digital Social Digital Divide refers to the unequal use of the Internet within the same country depending on socio-demographic factors.

This chapter answers the key question: why do people living in the same country not have equal access to the Internet? How can we explain the Digital Divide in each country? What are the social factors causing the Digital Social Divide?

The Internet Penetration Rate used in the previous chapter provided the percentage of the population in each country having access to the Internet. Here, I explore the reasons for this internal digital inequality. This chapter aims to answer the questions proposed above by exploring the social stratification which affects the inequalities in using the Internet in each country.

In this research the concept of the Digital Participation Divide to which I refer connotes the gap between those who are active in using the Internet, and those who are passively influenced by it. Using this definition, I will map the gap in each country between those with access to the Internet, and those without. I also aim to answer the question: How do people use the Internet? Focusing on those people who have access to the Internet, I look at how they use it.

In order to address these questions, I have divided this chapter into three main parts. In the first part, I provide the framework of the social dimension of the Digital Divide that I will use in my investigation. In the second part of the chapter, I explore how social factors affect the existing differences in access to the Internet in European countries. Finally, in the third section,

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I explore how social factors affect the differences in *using* the Internet in each national context for those who access the Internet.

2) Framing the Digital Social Divide

2.1) What is the digital social divide?

From a cross-national perspective of analysis, the Internet has been hailed as a technology important for overcoming many types of gaps existing between countries around the globe. At the same time, from a national perspective of analysis, scholars, institutions, and governments believe that the Internet can improve social opportunities within state borders. The Internet now holds a central place in many of our social, cultural and political activities on a daily basis. It is increasingly also becoming an important instrument for supporting social services such as education, health, governance, job market searches, and banking. Because of this, the Internet offers the possibility of improving the efficiency of numerous activities central to our lives, while for governments it can facilitate the efficiency of bureaucracy and improve its governing capabilities. Furthermore, the Internet, via the World Wide Web, instant messages and VoIP protocols, Peer to Peer networks, and e-Mails, allows for better communication, strengthening links and ties between citizens and public institutions. For all those reasons, public institutions are increasingly investing resources in developing ICTs platforms that can be useful in this framework.

At present, however, the Internet is still far from being equally accessible to all of a country's population. As has already been stressed, the Digital Divide is, in fact, not simply related to the differences existing between countries worldwide but also exists in each country, affecting inequitably the use of digital resources amongst its citizens. This is the dimension of the Digital Divide that Norris defines as the Social Divide (Norris 2001). This dimension of the Digital Divide is considered an impediment to the realization of a society that would offer equality of opportunity to all its members. The need for governments to address this issue is underscored by the possibilities raised above for greater communication and service potential through Internet use, as well as by the current reality of inequality of opportunity through its lack of availability.

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2.2) First analysis on the phenomenon

As noted earlier, the United States was the first society to be affected by the Internet. It should thus not be a surprise that the first analysis of the Digital Divide came from the American government. In fact, as introduced in the first chapter of this research, the American Department of Commerce first identified this problem in 1993. The result of the investigation on the issue was the first extensive work on the Digital Divide entitled "Falling through the Net" (NTIA 1995). Since that time, the Internet has become a transnational instrument, potentially useful also for other governments worldwide.

In the attempt to frame the topic in a more optimistic light, in 2000, the European Union (EU) launched the "e-Europe Action Plan". This plan aimed to study projects of social inclusion, addressing private companies and public institutions, and encouraging them to work together.

Today, countries around the world are designing national projects to make the Internet more accessible to their own citizens. In many cases, these projects focus on improving the infrastructure of the Internet. Others aim to spread knowledge, educate citizens on the use of the Internet and teach them so-called e-skills.

Most of these projects also seek to explore the causes of the Digital Social Divide. These causes are investigated in relation to the social stratification in each country, identifying differences in access to the Internet between inhabitants. So far, a number of categories have been identified as causes contributing to the gap in access and use of the Internet. Scholars relate the phenomenon to three different social reasons of inequality: *demographic status,* such as gender, age, race (Chinn & Fairlie 2006; Hoffman & Novak 1998; Loges & Jung 2001; Margolis & Fisher 2003; Servon 2002), *social categories,* such as level of education, employment, income, marital status (Goldfarb & Prince 2008; Robinson et al. 2003; Van Dijk 2006; Warschauer 2004) and *geographical* reasons, such as the difference between urban and rural dwellers (Chen & Wellman 2004; Hindman 2000; Warf 2001). Still others refer to inequalities in using the Internet existing between people with highly refined search skills and those lacking, or, between people with physical disabilities and those without (Baker et al. 2009; Dobransky & Hargittai 2006).

To date, research on this topic has produced very similar points of view, with most scholars finding the same causes to explain the dimension of the Digital Social Divide. The first study on the issue, "Falling through the Net", highlighted the lack of computer use and Internet access among poorer households in United States: those with only a high-school level of education;

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the Afro-American and Hispanic population; women; and people living in rural areas (NTIA 1995). With data updated to 1999, Norris (2001) verified whether in European countries some of these same social categories were still the causes of inequality in access to the Internet. Moreover, Norris (2001) also investigated the relevance of additional categories. In her analysis, she reports on the impact of each of these categories. Measuring the "income" factor between European countries, her research highlights that richer households were online almost three times more than their poorer counterparts. The "education" factor affects Internet access considerably as well. Norris (2001) confirms that, in Europe, people with a "college level" of education use the Internet seven times more than those who ended their studies at age 15. In contrast, the "gender" factor does not impact seriously the use of the Internet in most European countries. Norris noted that this was particularly true for Scandinavian countries, while, in contrast, this was not so much the case for Mediterranean countries. The author also examined the categories for "occupation" and "generation". As for the first, Norris found that managerial workers use the Internet twice as much as manual workers. Norris was particularly interested in the "generation" category, because it could shed light on what we can expect in the future regarding Internet access. Investigating the data collected in her work, she found that the youngest group (18-25 years old) was ten times more likely to use the Internet than the oldest group (65+ years old). This meant that one-third of under 25-year-olds were online. This value was far greater than the 3% of the over 65-year-old group. The figures for the middle two groups lay between these two extremes. These findings are in line with the global trend of younger people increasingly accessing the Internet.

Norris expected that, because the youngest generation was already online in 1999, today the use of the Internet would be extended to older groups as these cohorts age over time. The question arises: Is this expectation confirmed by the data today? What is the current social stratification in Internet access?

3) Mapping the Digital Social Divide

With the global dimension of the Digital Divide, I explored the gap in Internet access in relation to the structural aspects of each country, such as economic and political factors. These are the same conditions shared by citizens living in the same country. Following this, in order to explore the gap in Internet access in each country, we must relate the internal Digital Divide to

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other factors. Focusing on the national level of analysis, the citizen's socio-demographic factors differ. This is why, here, I map the Social dimension of the Digital Divide according to socio-demographic indicators such as: gender, education, occupation status, and income.

In order to verify whether today the normalization theory is confirmed, as Norris expected (2001), it is necessary to include in this analysis countries sharing similar structural conditions, such as socioeconomic development status, political systems, and cultural traditions. This approach for comparison is what Przeworski and Teune (1970) define as being the "most similar system" classic design logic. The factors common to the societies being compared do not therefore explain their differences. Following this logic, here, I compare EU Member countries.

Despite the fact that the countries comprising the EU still differ in many socio-cultural respects, all of them can be considered to have "post-industrial" societies (Przeworski & Teune 1970). In fact, they share major socio-political and economic characteristics, in terms of democratic government, economic conditions, efficient welfare system, and the like. In fact, social stratification is also very similar in all the European countries, yet, they have very different ethnicity and race representations (Norris 2001). This is why I do not include this factor in my investigation.

In order to verify whether the predictions generated by the diffusion models are confirmed today (see chapter 1), I compare data related to the first decade of the Internet age that was collected by Norris in 1999, to more recent data that I collected in reports up to the year 2007.

Norris explored the European Union in 2000 (EU-15), using *Eurobarometer* as source for her data. Eurobarometer provides data collected by conducting a biannual survey. Here, I use *Eurostat* as source for my data related to the current configuration of the European Union including 27 countries. Eurostat provides macro-economic data. This kind of data is more appropriate for the descriptive statistics that I use to explore the current social dimension of the Digital Divide.

The investigation I propose below is divided into two parts. First, I explore how social factors affect Internet access. In the second part, I focus on how the same factors affect Internet use.

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3.1) Accessing to the Internet

Eurostat reports its data on Internet access in both the previous configuration of the European Union, made up 15 countries, and the most recent one, made up 27 countries. Moreover, these data refer to a time frame which includes the previous four years. This allows us to explore the level of Internet access in a time perspective analysis, measuring the gap existing between the old EU, and the new EU with its East European members. The graph below shows this gap.

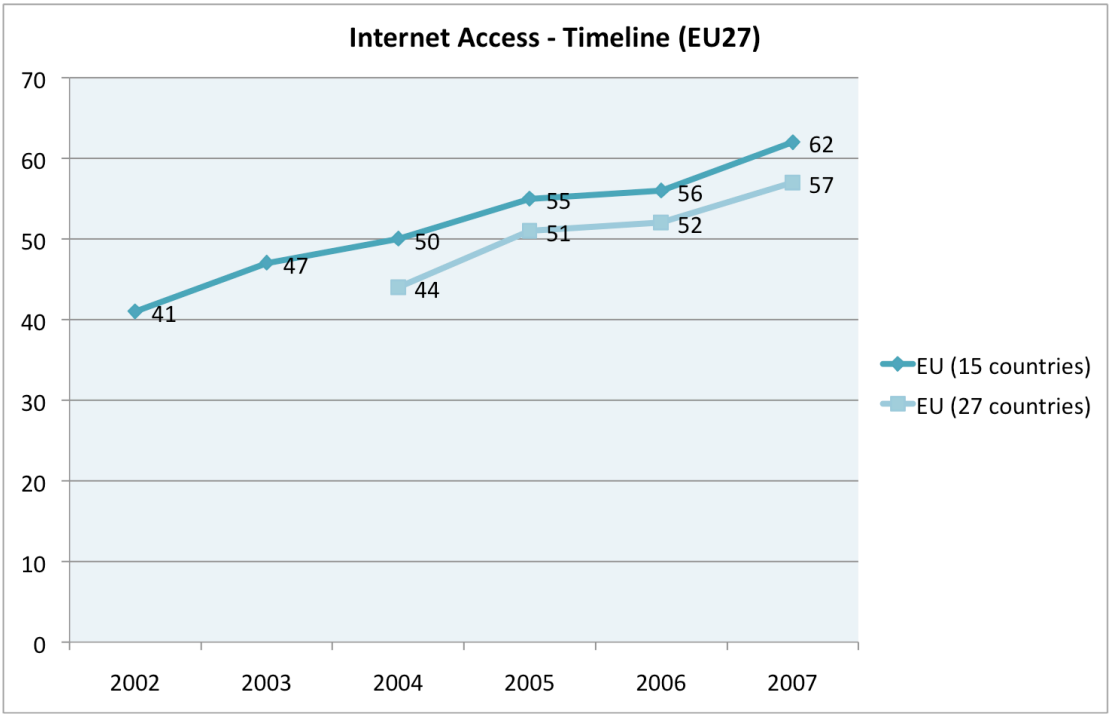

Figure 4.1 - Internet Access European Union – Timeline

(*Source: Eurostat, March 2008*)

The figure 4.1 shows that countries which were early members of the European Union have higher rates of Internet access than the newer members. However, Internet access has increased dramatically, by approximately 20% over the past six years. The gap between the older European Union countries and the newer ones is approximately the same as it was 6 years ago. This begs the question: how do social factors affect inequality of Internet access?

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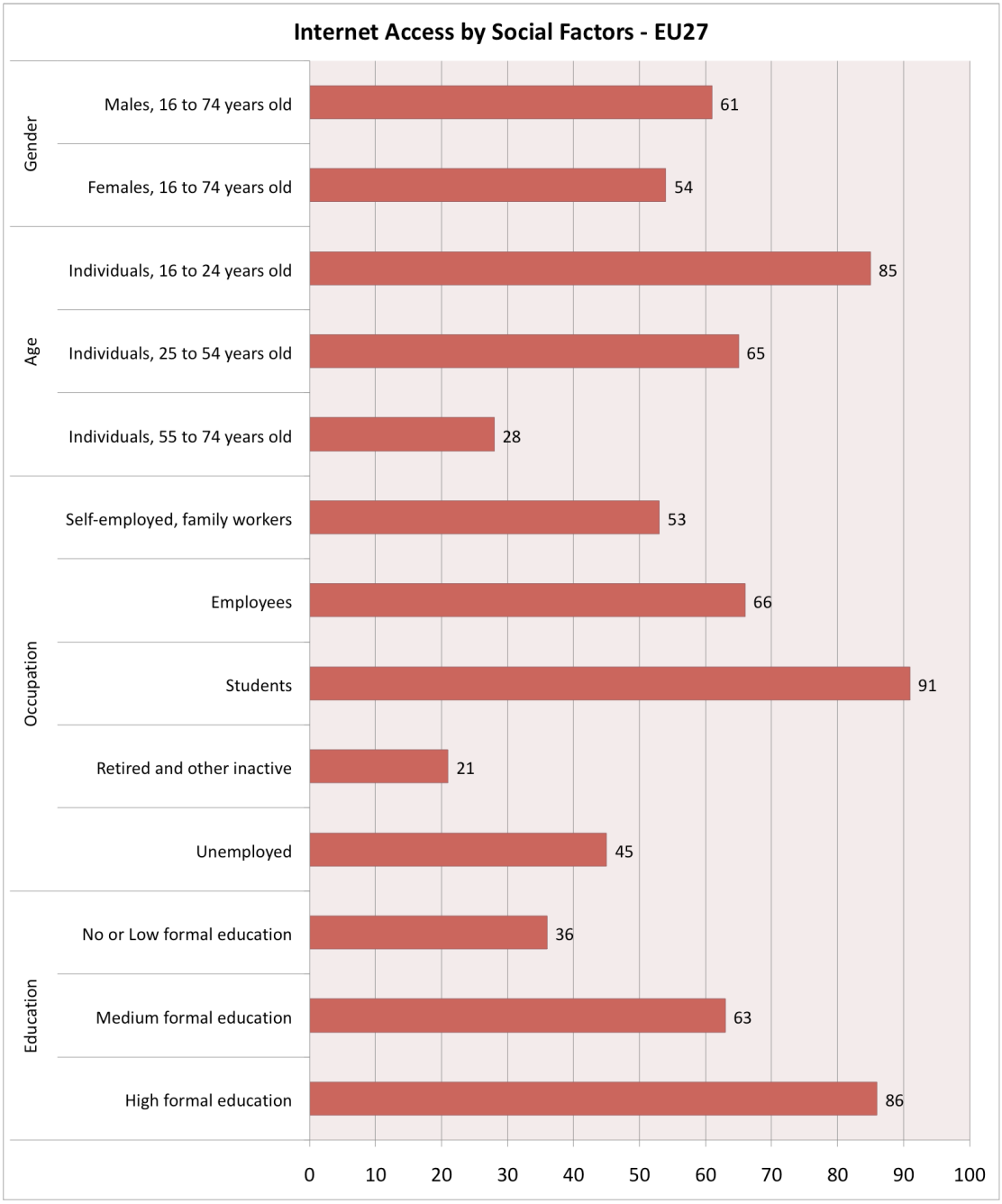

Figure 4.2 - Percentage of Internet Access by Social Factors – EU27

(*Source: Eurostat, March 2008*)

Figure 4.2 provides a snapshot of the unequal access to the Internet by socio-demographic factors. However, it does not say which social factors cause the unequal access to the Internet. With the investigation proposed below, I aim to answer this question.

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Table 4.1

Logistic Regression of Internet Access on Socio-Demographic Factors

	Internet Access
Gender (male)	.10 (.07)
Age	-.06*** (.00)
Income	.20*** (.01)
Urban Area	.30*** (.11)
Education	.67*** (.05)
Employed	.52*** (.07)
Student	1.72*** (.12)
Scandinavian Area	.98*** (.25)
East Area	-.52* (.28)
Constant	.26 (.34)
N	21816
Pseudo R-squared	.436
Correctly classified	89.43%

*** p<0.01, ** p<0.05, * p<0.1 (1-tailed test) – Robust standard errors clustered by country in parentheses

Source: European Social Survey (2008, wave 4)

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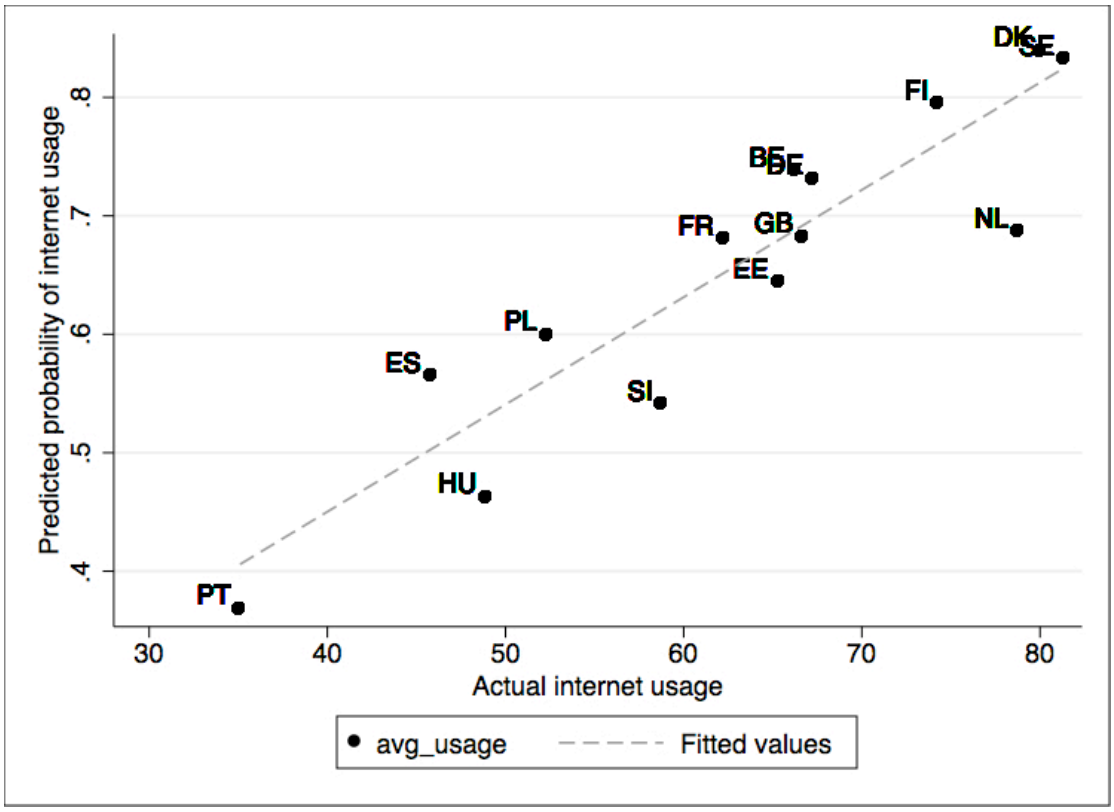
Figure 4.3

Predicted probability of Internet Access based on Socio-Demographic Factors



Source: European Social Survey (2008, wave 4)

Note: N = 2.1816

The Eurostat dataset provides macro-economic data at the country level. In order to run a regression which explores in depth the unequal access to the Internet depending of socio-demographic factors across EU member countries, I use data at the individual level provided by the European Social Survey (2008, wave 4). I use normal logistic regression to predict internet access (dependent variable)[34] from a set of socio-demographic variables. Table 4.1 shows evidence with resulting estimates that are highly significant. In EU member countries, socio-demographic factors explain 43.6% of variation in access to the Internet. The model classifies 89.43% of observed cases (N. 2.1816). Figure 4.3 shows additional evidence of the model fit averaged across countries.

The socio-demographic variables included in the regression are: gender, age, income, place of residence (urban or rural area), education, occupation status (employed, unemployed, student), country region (Scandinavian, East and Western area). Table 4.1 shows that only the

[34] The dependent variable is coded 1 in the case when the respondent has access to the Internet, and 0 otherwise;

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variable gender is insignificant, showing how gender is not determinant on internet access as it was in previous analyses of the Digital Divide. In contrast, all other socio-demographic factors are significant. Higher levels of income and education, being employed, unemployed or student, living in urban areas and in Scandinavian countries, determines a positive impact on internet access. At the same time, increasing age and living in a East European country determines a decrease in internet access.

To conclude, with the socio-demographic factors, the gender variable no longer determines the unequal access to the Internet. Rather, socio-demographic factors are still highly significant for explaining the unequal access to the Internet across European member countries. However, despite this finding, it is difficult to conclude that socio-demographic factors are still an obstacle to accessing the Internet, as they were in the first decade of the Internet age. Rather, in countries with low levels of internal digital divide percentage, I expect that people access and use the Internet according to their own needs. From the analysis reported in chapter 3, European member countries have higher percentages of internet penetration. I expect then that the Internet is highly accessible to everyone and socio-demographic factors are no longer an obstacle for access to the Internet. Rather, people access the Internet according to their own needs. Socio-demographic factors are then determinant to explain the fragmentation of needs in accessing and using the Internet.

3.1.a) Gender

So far, the gender factor has been investigated widely as one of the causes of unequal Internet access (Norris 2001). Until 2000, corresponding to the conclusion of the first decade of the Internet Age, research on the subject provided differing findings (Norris 2001). Research by Pew Internet and American Life highlighted that women and men accessed the Internet equally (Pew 2000). This conclusion has been hailed as the achievement of gender parity in Internet access. However, the same year, AC Nielsen's Net Watch[35] surveyed thirteen nations in North America, Europe and Asia, and reported different results. They found that men accessed the Internet almost twice as often as women. Bolt and Crawford (2000) provided one explanation: they argue that women are less likely to use computers because, due to the

[35] AC Nielsen. October 25, 1999. NetWatch. www.acnielsen.com/products/reports/netwatch;

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characteristics of the education systems of these countries, women begin in high school to distance themselves from science and technology issues.

Yet Norris (2001) provides different findings. The author highlights that in the countries that she compared there is almost parity between men and women regarding Internet access. This is particularly true in Scandinavia (Finland, Denmark and Sweden). According to this data, Norris (2001) concludes that the "gender" factor is not a good predictor of the Digital Social Divide, because no inequality can be noted from her analysis. Today the European Union includes more countries than those explored by Norris, thus new considerations can be made.

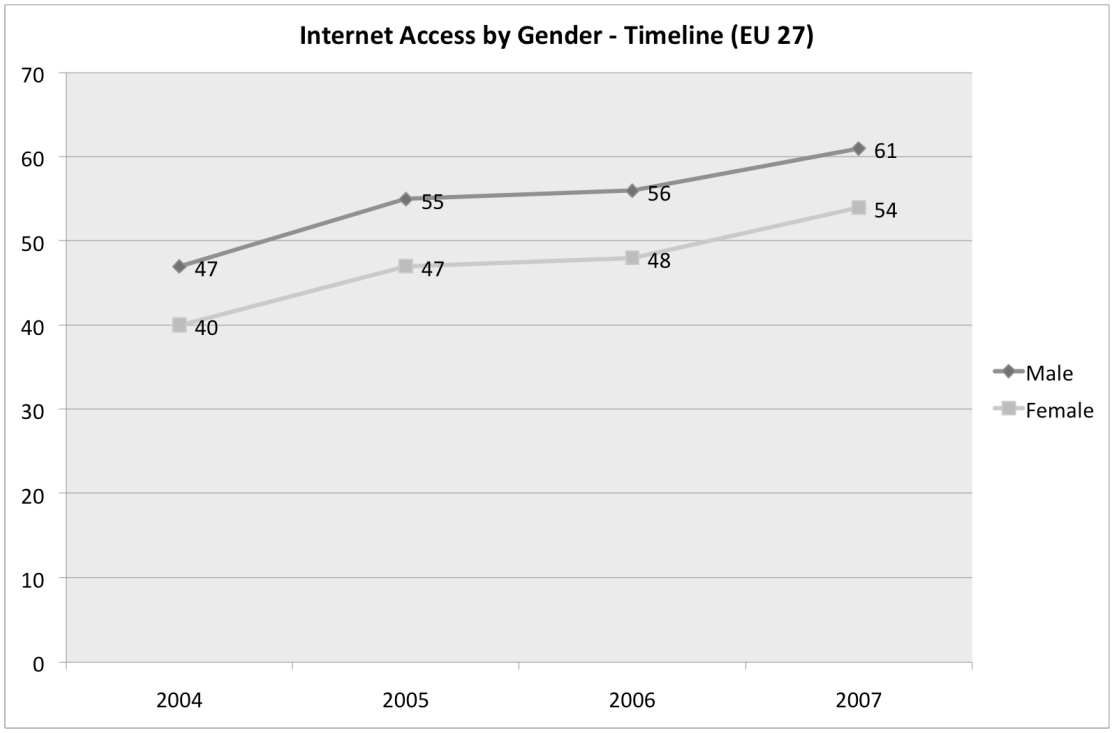

Figure 4.4 - Percentage of Internet Access by Gender – Timeline EU27

(*Source: Eurostat, March 2008*)

The figure 4.4 shows the average gap in Internet access, by gender, in the current configuration of the EU (including 27 countries), along a time frame of 4 years. In contrast to the conclusion provided by Norris, this graph indicates a gap exists between men and women regarding Internet access. In fact, in 2007, there is a 7% point gap. Moreover, from the 2004 to 2007 this gender gap remained approximately constant in relative terms. Does the recent inclusion of Eastern European countries affect the gender gap value average, which would lead us to a different conclusion from that proposed by Norris?

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The graph below provides a more extensive analysis including data referring to each country and the aggregate data of both EU configurations, the EU-15 and the EU-27.

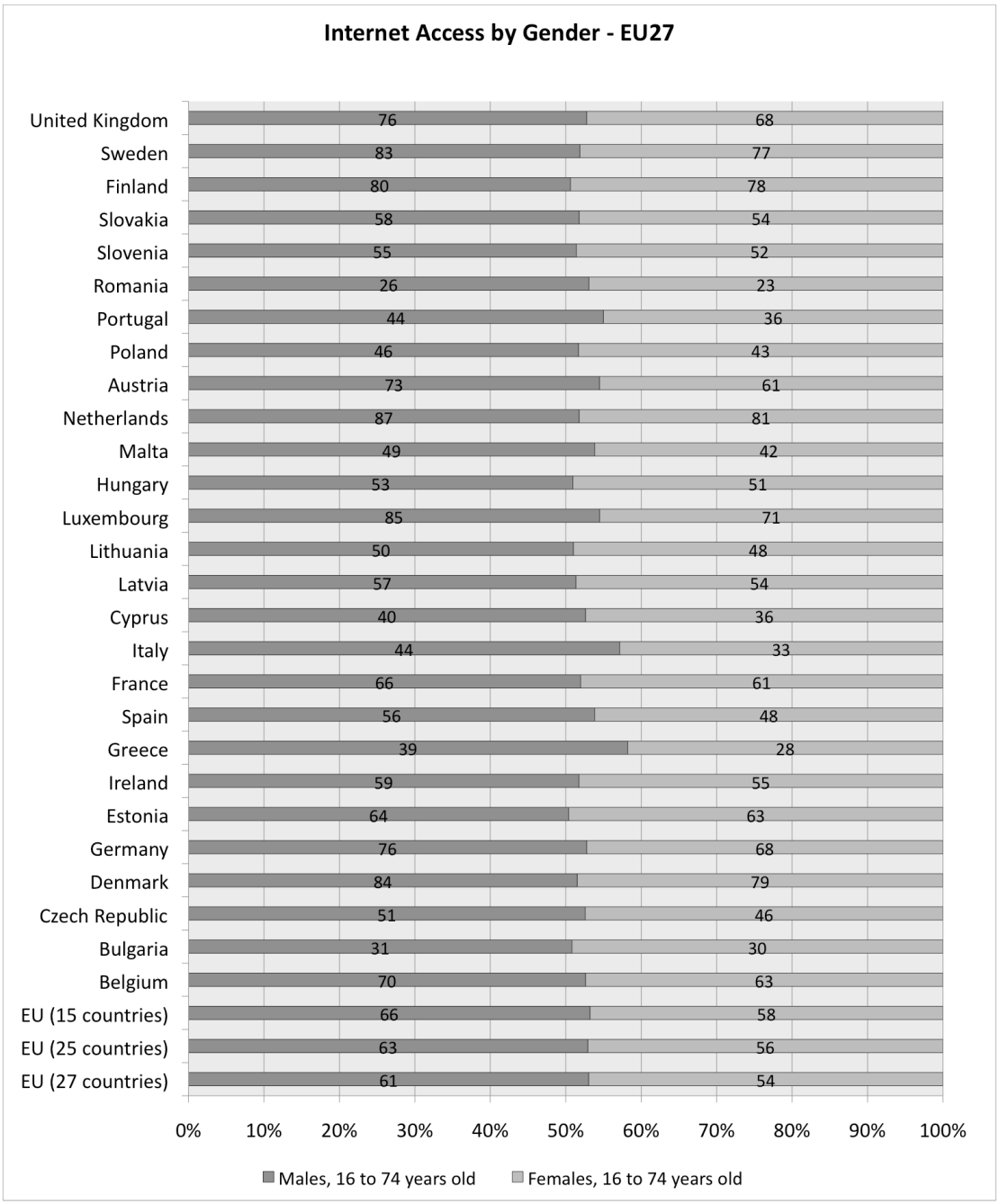

Figure 4.5 - Percentage of Internet Access by Gender – EU 27

(*Source: Eurostat, March 2008*)

The graph above shows that today there is no significant difference between the EU-15, measured by Norris in 2000, and the new EU-27. Rather, while in the EU-15 configuration, the gender gap stands at 8% points, in the current EU-27 this value in fact decreases to 7% points.

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This is because, in exploring the gender gap across the new East European countries, we find that this gap is actually lower than in the rest of the EU. In these new EU countries this value ranges between 1 to 3% points. The data presented here allow us to confirm that in Scandinavia there is a lower gender gap in Internet access than in the Mediterranean: in the Scandinavian countries this value is approximately 5% points, which is the half value of the 10% points commonly registered in the Mediterranean countries.

According to general economic, political, educational and health-based criteria, measured by the "The Global Gender Gap Report" and published by the World Economic Forum (Hausmann, Tyson & Zahidi, 2007), Scandinavian countries (Sweden, Finland, Denmark) have the most gender equality societies. Data here proposed on the gender gap in accessing the Internet reflects then the existing general gender-based inequalities among regions in Europe.

3.1.b) Age

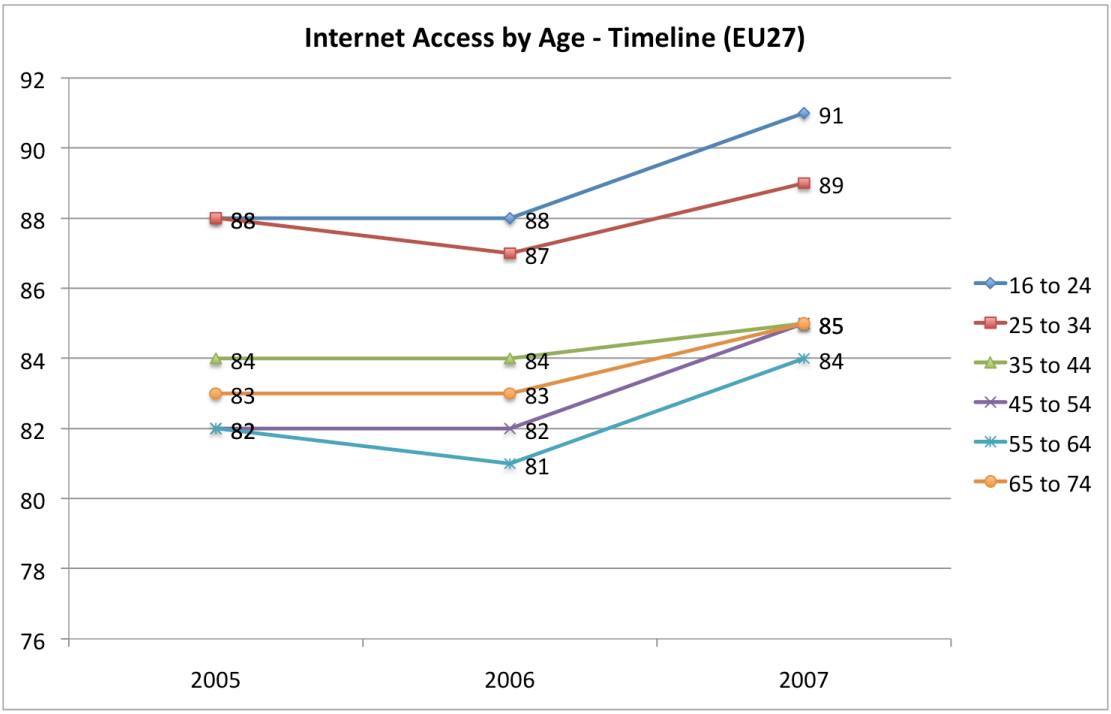

Figure 4.6 - Percentage of Internet Access by Age – Timeline EU27

(*Source: Eurostat, March 2008*)

Comparing the current data on Internet access by age groups with those presented by Norris (2001), we see a dramatic increase in Internet access for all age groups. All groups show a

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markedly similar trend, with the Internet today accessed by approximately 85% of people over 35 years of age. This value is very far from the nearly 10% registered by Norris (2001).

As for younger people, in 1999 only an average of 50% of people from 16 to 24 years of age accessed the Internet, while today it is used by more than 90% of people in the same age group. This value is very similar to those occupying the 25 to 34 years-of-age cohort group. This means that approximately 90% of people younger than 35 years of age access the Internet.

Furthermore, these data show that the gap between those under 35 and those over 35 who access the Internet is not as large as it was in the first decade of the Internet age, with the current difference being only approximately 5 percentage points. However, it does show that a gap in Internet access by age group still exists. Today, younger people are more likely to access the Internet compared to older people. It is also true that people included in the youngest group explored by Norris ten years ago are now a part of the 25-34 years-of-age cohort group. As noted above, this age group today exhibits a very similar value to the youngest age group. These data demonstrate that the youngest group of ten years ago has not stopped accessing the Internet today, despite the increase in age.

I argue that this means that the age does not affect Internet access as such. Rather, the small difference still existing between the under 35 group and the over 35 group is related to the fact that for the people included in the first group, the Internet has been a part of their daily activities since their youth. They are continuing to use it as daily instrument also in the more advanced stages of their life. It is, then, easily predictable that they will not stop using the Internet as they get older. This also means that the youngest groups, who will be older in the next decade, will also continue using the Internet, which in turn will also increase the percentage and number of Internet users for the older groups in the future. It is then possible that the age gap for Internet access will narrow in the future.

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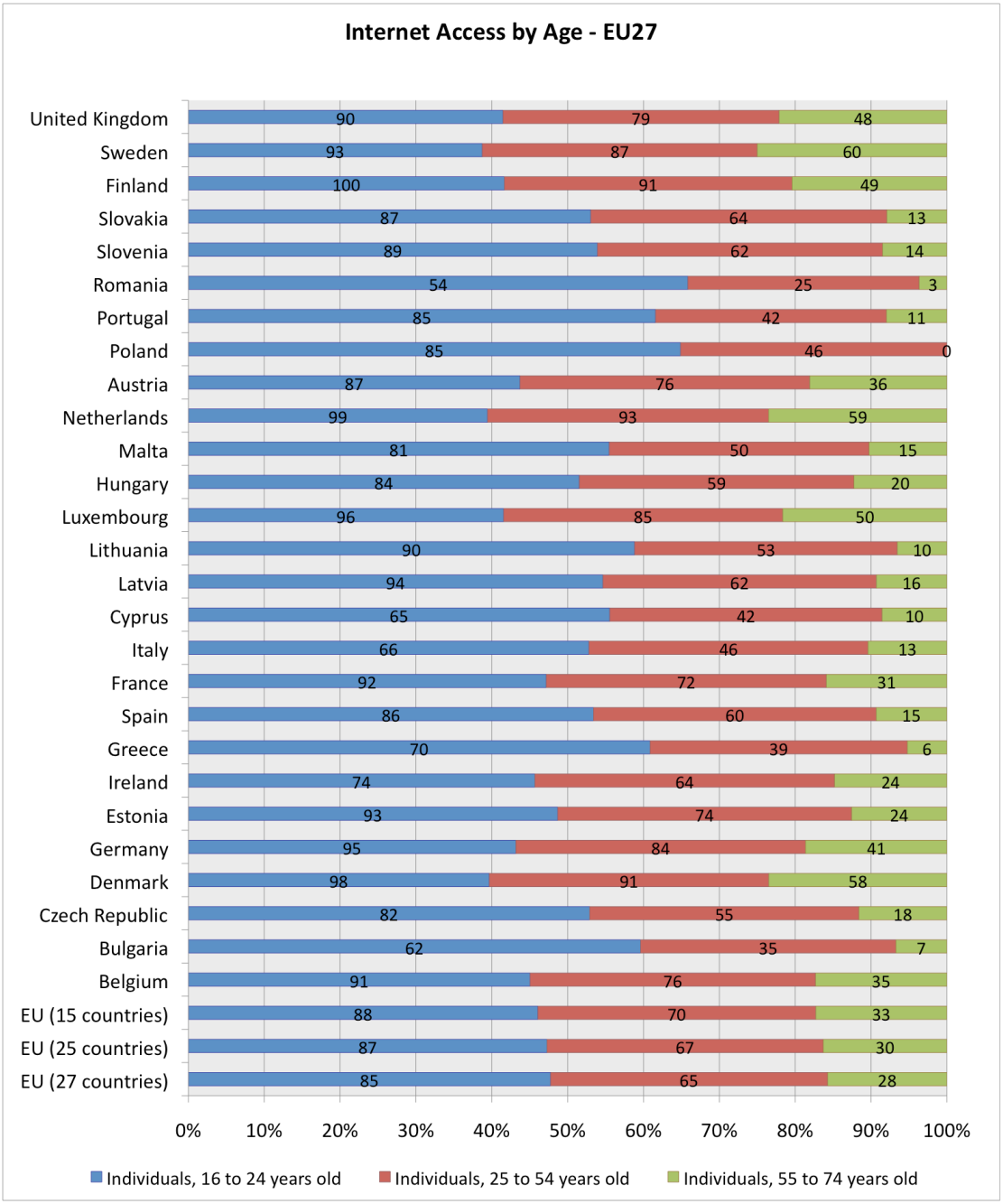

Figure 4.7 - Percentage of Internet Access by Age – EU 27

(*Source: Eurostat, March 2008*)

3.1.c) Occupation

Norris explores the gap in Internet access by occupation status, mapping two main categories: *managerial* and *manual workers*. According to her data, she concludes that managers and professionals are approximately twice more likely to access the Internet than those who are employed in other white-collar jobs, as service sector employees. Further, managers are

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approximately three times as likely to access the Internet as manual workers, while the rate of Internet access of the unemployed falls to just below that of manual workers (Norris 2001).

These results presented by Norris confirm the expectation that job status affects Internet access. It seems that jobs in certain categories are more likely to make use of the Internet, or even to be more Internet-based. These conditions make the Internet more accessible for employees in these job categories. Meanwhile, the Internet is not integrated in manual workers' daily workload or responsibilities. They must access the Internet for personal use, using their own technologies from home, in their own time and at their own expense. These conditions may reduce their access to the Internet.

Today, the Eurostat data set provides the current status of Internet access by a more variegated typology of occupation status than those explored by Norris. Furthermore, these categories differ from those introduced thus far. This does not allow splitting the occupational status into these two main categories, managers and manual workers. Eurostat instead identifies the categories in accordance with ESA 1995 (European System of National and Regional Accounts of the Community). Following the new system of classification, here I explore the categories of:

- *Students*, defined as individuals participating in educational services covered by the data collection. The number of students enrolled refers to the count of students studying in the reference period, the school/academic year;

- *Employees*, defined as all persons who, by agreement, work for another resident institutional unit and receive remuneration;

- *Self-Employed persons*, defined as persons who are the owners, or joint owners, of the unincorporated enterprises in which they work. This category includes paid and un-paid family workers;

- *Unemployed,* who during the reference week has not worked for pay or profit for at least one hour, or had jobs from which they were temporarily absent;

- *Retired* referring to those who have ceased their working activity for reasons of old age.

The figure below shows the trend of Internet access by occupational status herein described, and its variation over the past 4 years. Unfortunately data related to the categories "Self-employed family workers" and the "Employees" are only available up to 2006. However, data

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available for the previous years are sufficient for helping us reach some conclusions.

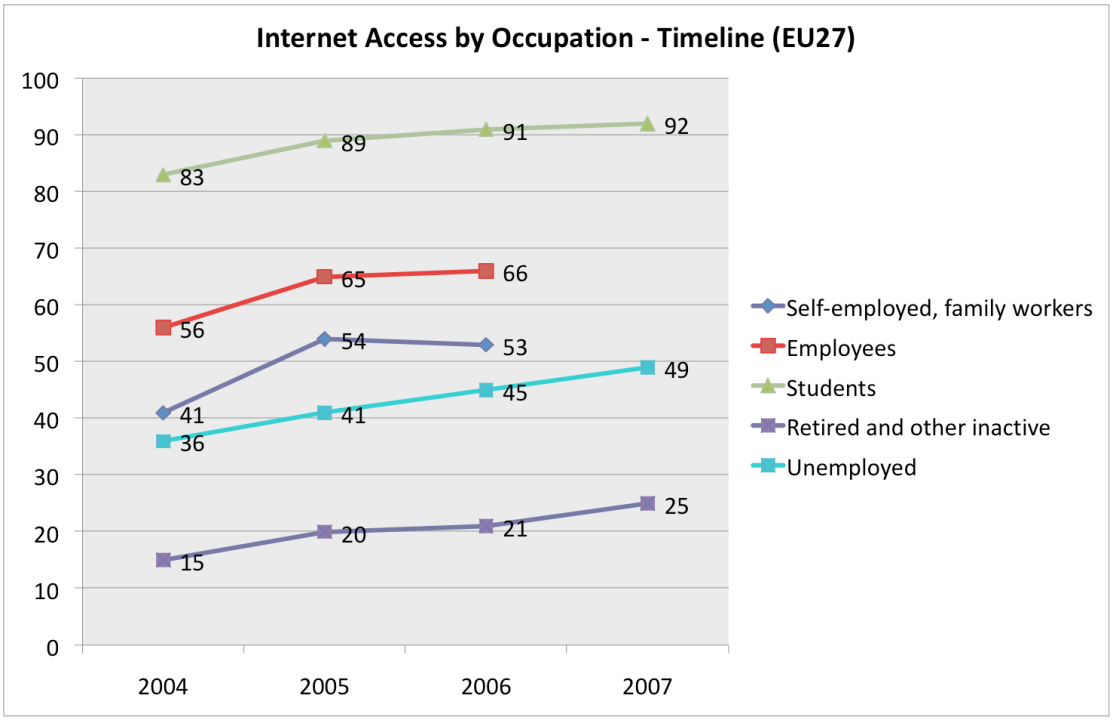

Figure 4.8 - Percentage of Internet Access by Occupation status – Timeline EU27

(*Source: Eurostat, March 2008*)

The graph 4.8 shows that occupational status is still relevant regarding Internet access. "Students" are the group most likely to access the Internet. This can be explained by their school-related activities of researching and studying, which are likely to require Internet use. But, it may also be explained by the fact that students tend to be members of the younger age cohort group. "Employees" are the group second-most-likely to access the Internet. This underscores the fact that the Internet is largely used in the workplace, so it must be accessible by workers. This could also explain why the "self-employees", including the "family workers" have a high rate of Internet access, but this group falls below the "employees" group in companies or other similar job conditions. However, it is also possible that jobs in the category of "self-employees" do not require use of the Internet. A very similar level in Internet access is reported for the "Unemployed" group (49%), while Internet access for those who are "retired" falls to 25% in 2007. Comparing the 4 years presented here, all of the categories show an increase in use of the Internet. This makes the gap in accessing the Internet by occupation status approximately constant over these years.

These data can be further juxtaposed with those related to "age". Following this the "student" category approximately overlaps with the "younger groups" presented in the

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framework of the "age" category. Both of these categories are in fact comprised of those accessing the Internet more than others. In the same way, "retired" people are in fact the same people as those in the "older group" from the "age" category: both of these categories are less likely to be accessing the Internet.

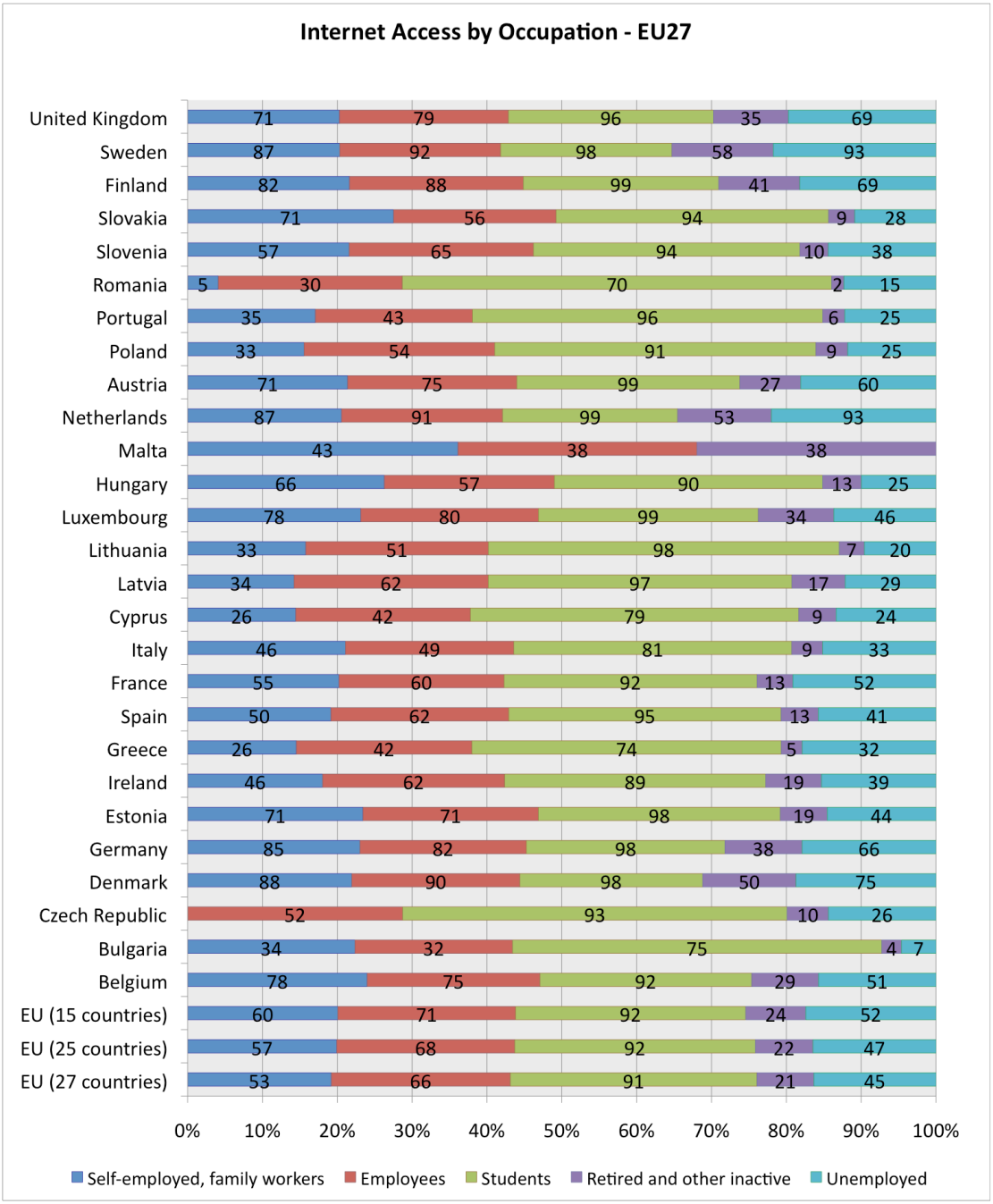

Figure 4.9 Percentage of Internet Access by Occupation status – EU27

(*Source: Eurostat, March 2008*).

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3.1.d) Education

Thus far, the level of education is a significant factor affecting Internet access. Based on data from the 1994 U.S. Population Survey, Wilhelm (2000) concluded that the education factor was the strongest determinant for explaining Internet access when compared with other social factors. While Wilhelm's conclusion refers to data on the United States, Norris reaches the same conclusion using more recent data from the EU (15 countries). In 1999, people with a college education accessed the Internet seven times more frequently than those who left the education system at 15 years old (Norris 2001).

The graph below highlights that today, the education factor is still a very strong determinant of Internet access. Each category presented here differs in the rate of Internet access by approximately 25 percentage points. Even so, from 2004 to 2007, every group increased its level of Internet access. This increase occurred at the same rate for each group. Thus, the gap between the groups also remained the same.

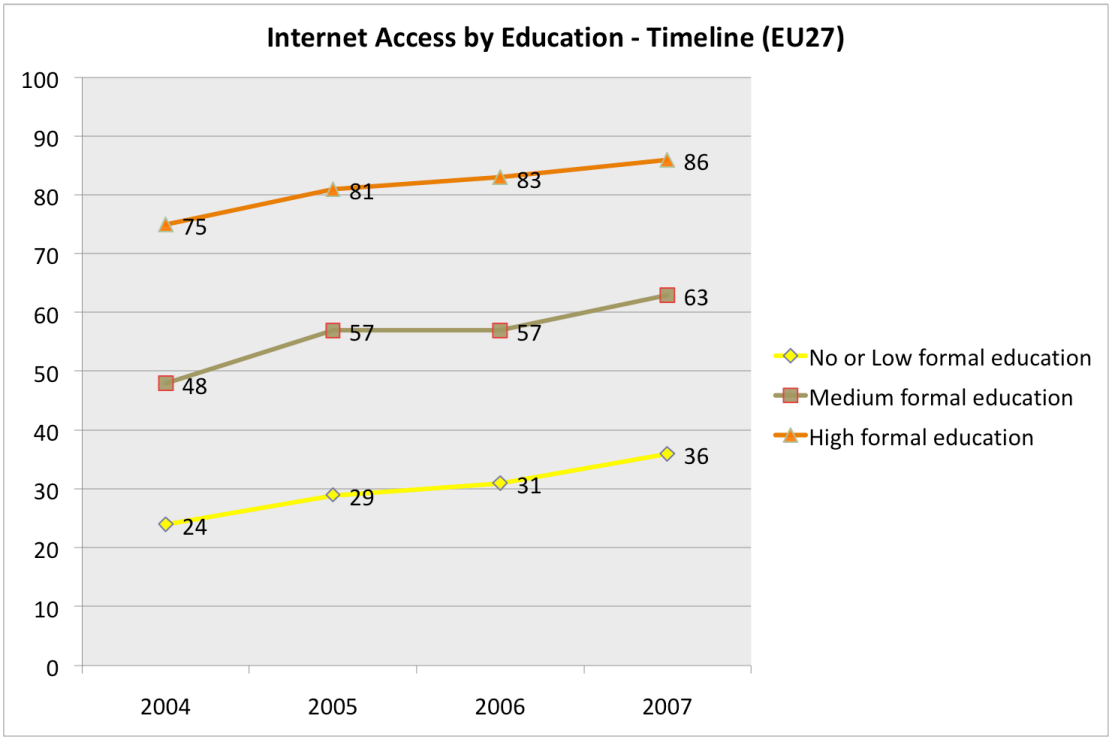

Figure 4.10 - Percentage of Internet Access by Education status – Timeline EU27

(*Source: Eurostat, March 2008*)

The explanation for this inequality in access to the Internet by educational achievement is not very different from those provided for the inequality based on occupational status. In fact, people with a higher level of education are more likely to use the Internet for work, be it in the

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workplace or at school or University. In both locations it is common to have free and easy access to the Internet and to the hardware necessary for connection (Norris 2001). Moreover, the analysis highlights the continuity between occupation status and the level of education in accessing the Internet. This is why the level of access to the Internet by educational status overlaps with those referred to by that of occupation. People with a higher level of education can be people who are still "students" or people with a higher status of occupation. Thus, in both cases the occupational status matters in determining levels of Internet access.

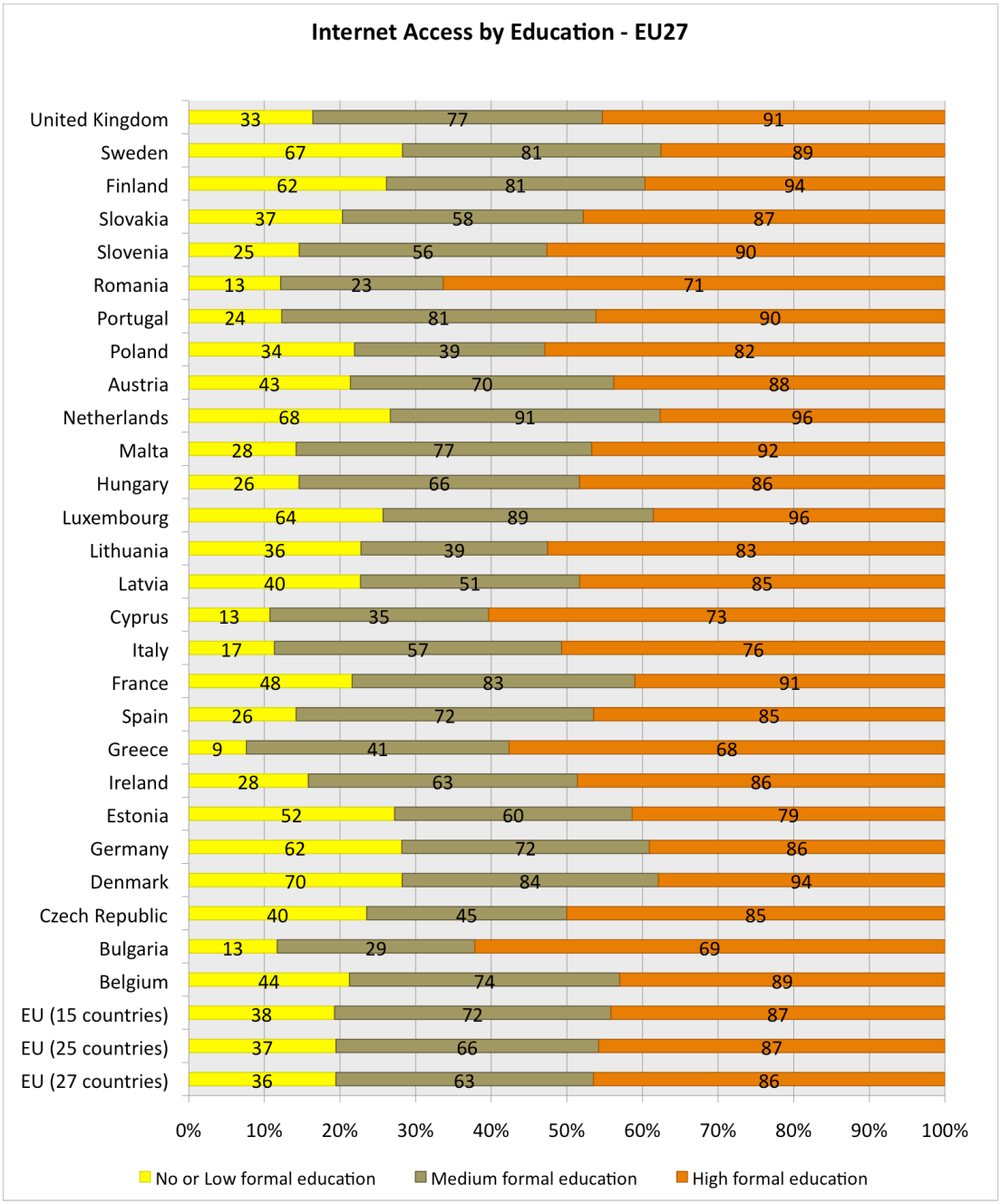

Figure 4.11 - Percentage of Internet Access by Education status – EU27

(*Source: Eurostat, March 2008*)

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3.2) Using the Internet

The data presented up to this point has highlighted the fact that in this second decade of the Internet age, the European online population has increased. This increase has involved all of the social categories included in the data. As has already been stressed, research to date has focused on exploring how social factors affect this trend in Internet access.

However, in this field of research, there is still a need to explore how people use the Internet. The following question arises: once people access the Internet, how do they use it? Do social factors affect Internet use?

Eurostat collects data on this topic in the form of 15 different ways of using the Internet in Europe. Here, I classify these into four main categories in order to simplify the analysis:

- for *Communication*: sending/receiving e-Mails, other communication uses (chat sites, etc…), telephoning over the Internet/teleconferencing;
- for *Services*: finding information about goods and services, interaction with public authorities, internet banking, obtaining information from public authorities, seeking health information on injury, disease or nutrition, looking for a job or sending a job application;
- for *Free Time*: playing/downloading games and music, using services related to travel and accommodation, downloading software;
- as *Information media*: reading/downloading online newspapers/news magazines, listening to Web radios/for watching Web television;

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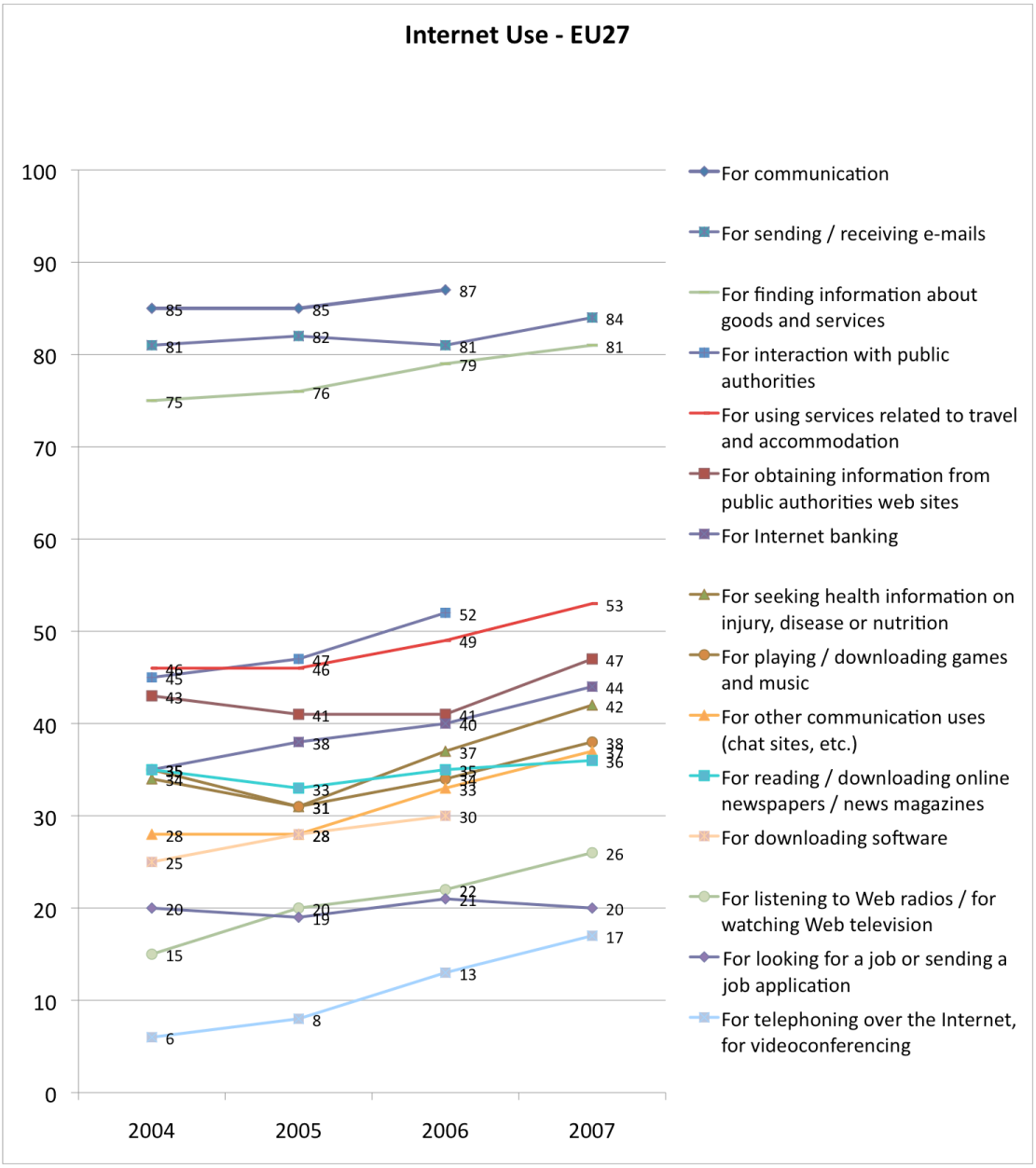

Figure 4.12 – Internet Use EU27 – Timeline

(*Source: Eurostat, March 2008*)

Figure 4.12 highlights how the Internet is mainly used for communicating and receiving information. In fact, these activities comprise approximately 80% of the total Internet use. Under the category of communication use, e-Mail is the main tool used (87%), while the 37% uses "chat" and the 17% uses voice communication system, such as Voice over Internet Protocol (VoIP) and videoconferencing tools.

Approximately 50% of Internet use refers to accessing services. This is the second most popular category of Internet use. Accessing services includes: Interaction with public

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authorities (53% in 2006), obtaining information from public authorities (47%), internet banking (44%), seeking health information on injury, disease or nutrition (42%). By contrast, using the Internet for looking for a job or sending a job application is used by just 20% of the population.

An average of 40% of the population uses the Internet for spending free time, such as: for seeking travel and accommodation information (53%), playing/downloading games and music (38%) and downloading software (30% in 2006).

It is surprising that the Internet is used by an average of only 31% of the population as Information media. Thirty-six percent of them use the Internet for reading/downloading online newspapers and news magazines, while only 26% use it for listening to Web radios or for watching Web television. Furthermore, the use of the Internet for reading online newspapers and news magazines is, together with its use for job-seeking, the only use of the Internet which has not increased in the last year. This trend contrasts with all of the other uses of the Internet, which register an increasing trend of approximately four percentage points in the last year.

However, some aspects of Internet use must be investigated further. Below, I aim to explore the different uses of the Internet in relation to the social factors already identified.

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3.2.a) Gender

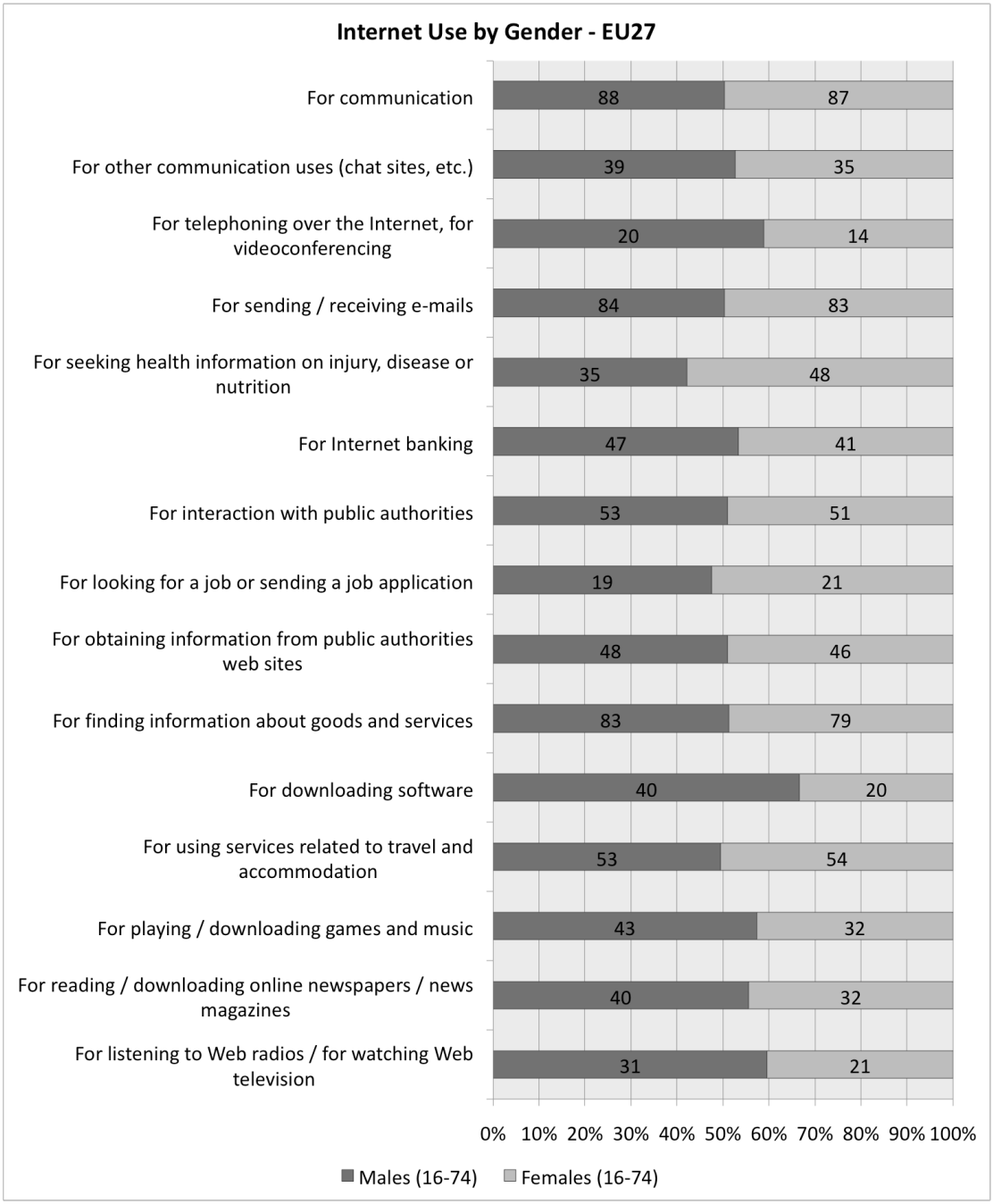

Figure 4.13 – Percentage Internet Use by Gender – EU27

(*Source: Eurostat, March 2008*)

The graph shows (figure 4.13) that gender is not a strong predictor of Internet use in most of the cases presented here. There is not a significant gap between men and women in using the Internet for communicating. All the tools for communication are used at approximately the same level by both genders.

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These data also show a very similar pattern of Internet use by gender for accessing services online. This indicates that there is no significant difference by gender in using the Internet for communicating or interacting with public institutions. Men (47%) use the Internet more than women (41%) for Internet banking services, while woman are more likely to use it for seeking health information on injury, disease or nutrition (48%) than men (35%).

The most significant gaps in using the Internet are those related to what I identify as "free time" uses. In fact, in this case the gap between men and women is at 10% for playing/downloading music and for downloading software. By contrast, there is no gender-based difference in using the Internet for seeking travel information.

As for the last category related to using the Internet as information media, men are more likely than women to use it. The gap between men and women in this case is 10% points.

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3.2.b) Age

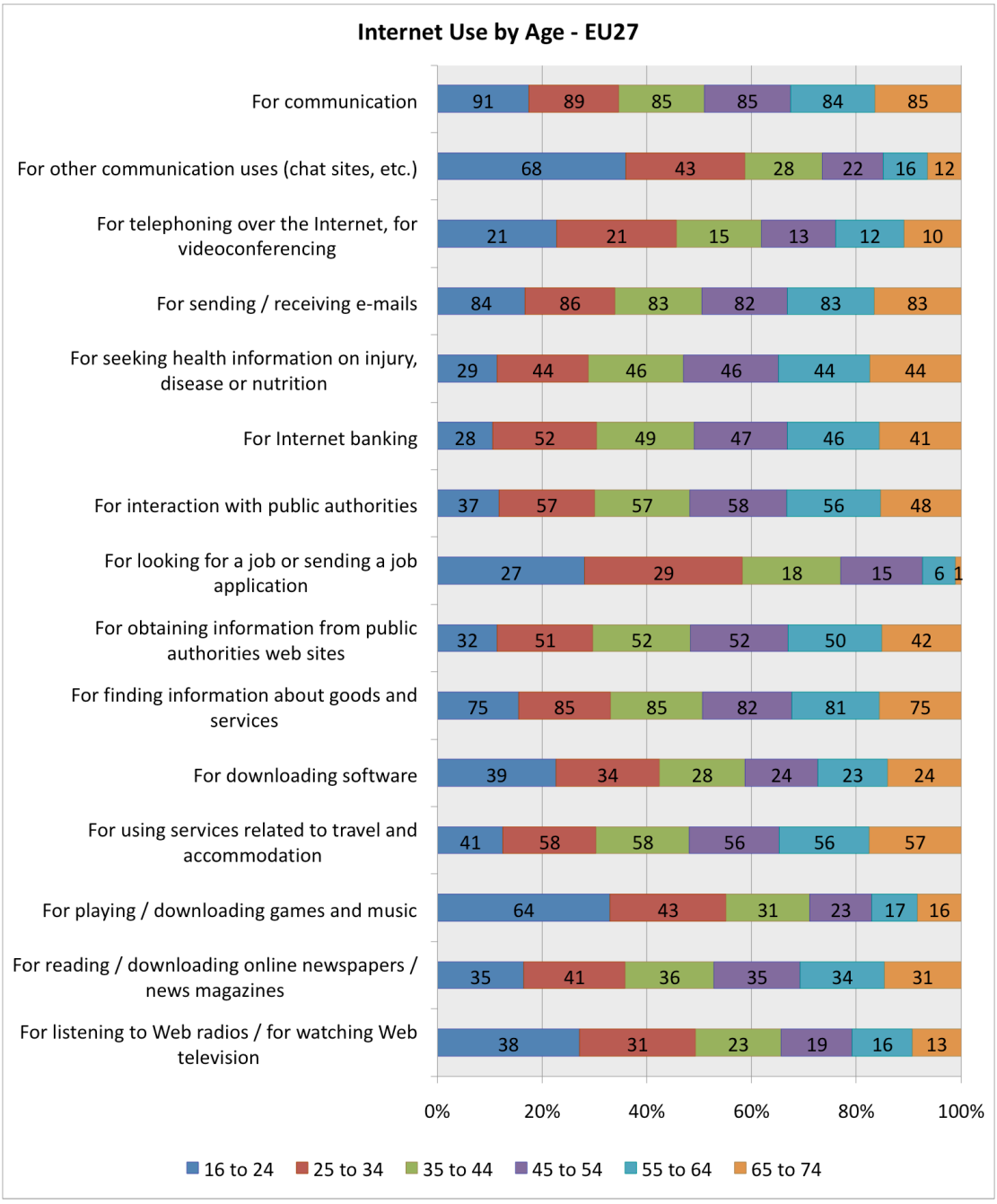

Figure 4.14 – Percentage Internet Use by Age – EU27

(*Source: Eurostat, March 2008*)

The figure 4.14 above shows that the Age factor significantly affects Internet use. The percentage reflecting Internet use for communicating is approximately the same for all age groups. This is particularly true for e-Mailing (84% by younger, 83% by older). However,

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younger groups are more likely to use newer forms of communication via the Internet, such as VoIP (21% by younger, 12% by older). This gap increases for the use of chat tools (68% by younger, 12% by older).

In contrast, those in the youngest group are not the heaviest Internet users for the purpose of accessing services published on the WWW. In fact, here, this group exhibits the lowest percentages. The reason for this may be that younger people are not yet involved in those activities for which the Internet is a useful instrument. This hypothesis is confirmed by fact that the only service largely used by the youngest group is that for seeking a job. Here the youngest group is the second in using this service, behind the 25-34 year old group; this is the age groups normally engaged in job-seeking. By contrast, only 1% of people in the oldest group (who are likely to be retired) use the Internet for job-seeking.

The gap Internet usage by age is notably higher for those uses pertaining to the spending of free time. As would be expected, younger people (64%) use the Internet for "playing/downloading games and music" at a rate 50% higher than the oldest group (16%). Even so, this gap falls to 15% in reference to "downloading software". However, younger people do not use the Internet as frequently for seeking travel facilities (41%), while all other age groups use the Internet for this reason, at a rate of approximately 58%.

In seeking information, the youngest group is more likely to use the Internet as information media than the older ones. Yet, this mostly applies to new media; if the gap between younger (13%) and older (38%) groups is approximately 25% in relation to using the Internet as web radio and television, this gap disappears in reading newspapers and magazines online. In fact, in this case, approximately 35% of the population included in all of the categories use the Internet with this goal.

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3.2.c) Occupation

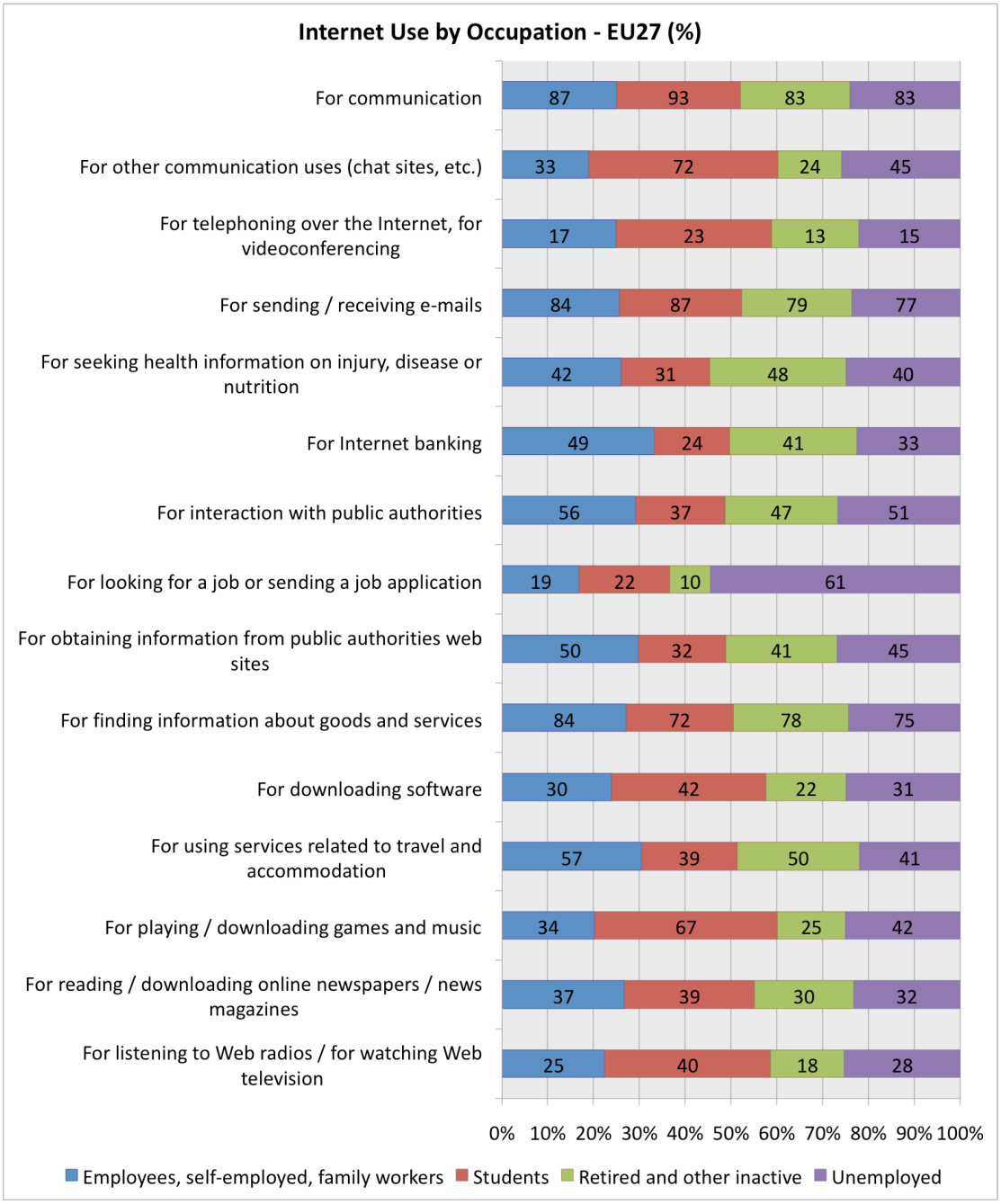

Figure 4.15 – Percentage Internet Use by Occupation – EU27

(*Source: Eurostat, March 2008*)

From the figure 4.15, it is possible to affirm that people's occupational status strongly affects the form of their Internet use. This is why the variation in using the Internet is high in nearly all of the occupation categories presented.

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Students use the Internet more frequently than others for communicating (93%). These data overlap with those already presented on Internet use by Age, in that younger groups are more likely to use the Internet for communicating. However, the gap in using the Internet by occupation status is approximately the same for all the categories. The use of chat lines is an exception. In this case the unemployed rank second after students in the frequency of their use of this instrument with a very high 45% reporting chat use, in contrast to the low use reported by employees (33%) and the retired (24%). Students may be expected to use this tool because, as has already been stressed, the youngest group is more engaged in using the Internet for communication. Rather, the use of chat lines by the unemployed could be explained as a way for spending their free time.

As for the use of the Internet for accessing services, the student category has the lowest values in using these tools, while other occupational status groups use the Internet for this goal approximately equally. In addition, it is interesting to note that the retired - in other words older people - are more likely to look for information about health and injury, while the unemployed use the Internet dramatically more often than the others for seeking a job (61%).

The analysis of Internet use for spending free time by occupational status is more difficult to analyze because the results vary so significantly. This kind of use in fact greatly depends on the kind of free time each user has. As for playing/downloading games and music, students are more likely to use the Internet for these kinds of activities (67%) compared with the other occupational groups. Yet the unemployed rank second, behind the students, in this category of use, with 42% using the Internet for such activities. This confirms that the unemployed are also likely to use the Internet for spending their free time. On the other hand, for seeking tourist facilities, employees (57%) use the Internet more than others. Ranking second in this kind of use is the retired group, with 50% using the Internet for this activity, while this value falls to 41% for the unemployed and to 25% for students.

As for obtaining information from the Internet, all of the categories use the Internet in approximately the same way. This is particularly true when it comes to seeking information from digital newspapers, even though students are more likely to use new web technologies for listening to web-radio and watching web-television (40%).

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3.2.d) Education

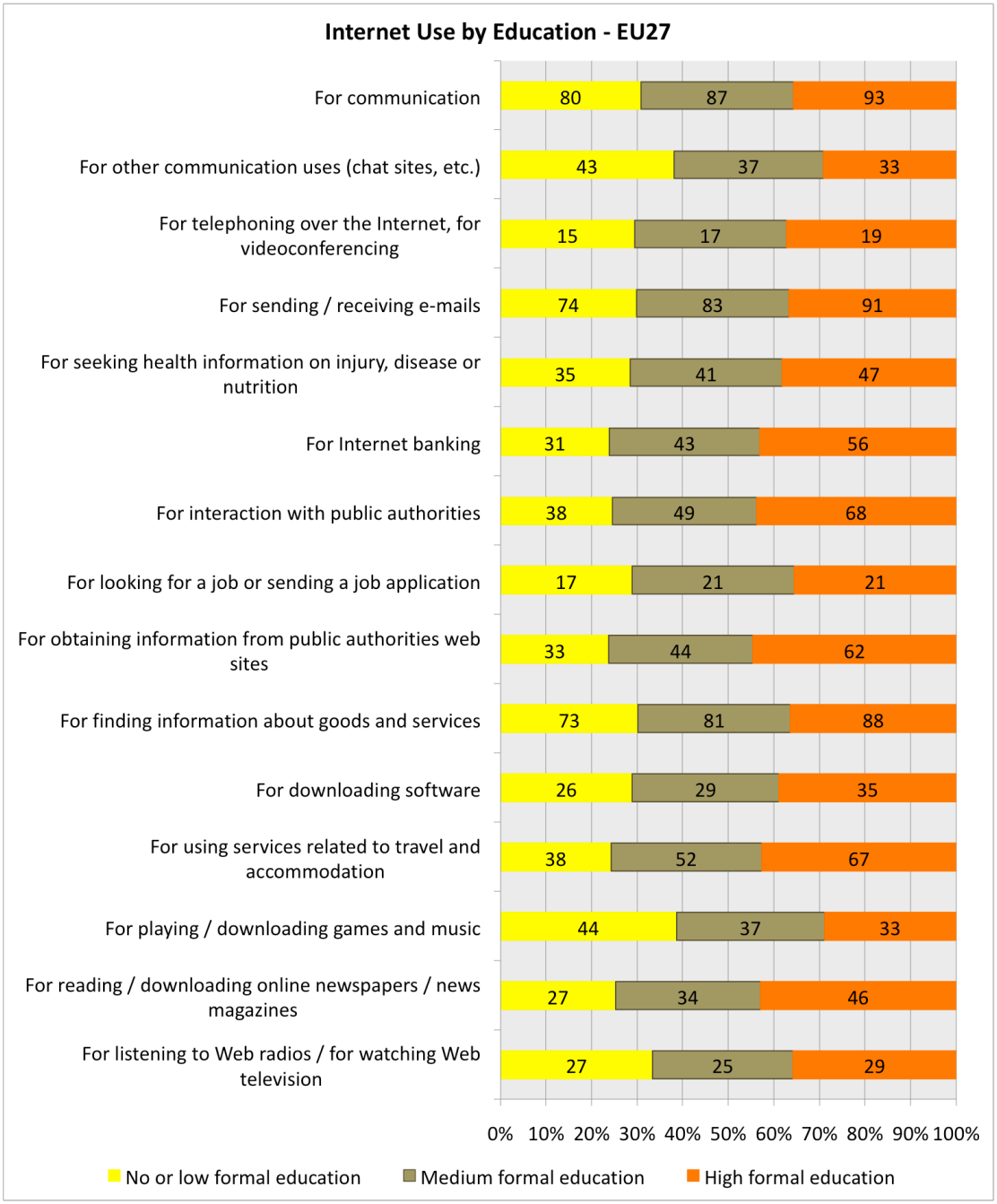

Figure 4.16 – Percentage Internet Use by Education – EU27

(*Source: Eurostat, March 2008*)

Figure 4.16 highlights the fact that the level of education significantly affects Internet use. In fact, for almost all of the categories presented, Internet use is greater the higher the level of education. The gap between those having the highest level of education and those having the lowest is approximately 20% for all types of Internet uses that have been presented in this chapter. This phenomenon holds steady across educational levels: people with an educational

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level in the middle range of the population quite consistently also rank in the middle level of Internet use. There are only two uses of the Internet for which the trend is inverted: Internet use for "playing/downloading games and music" and for "communicating via chat tools". In spite of the fact that chatting has been included in the "communication" category, it is also a form of communication that can be used as a way of spending free time. With this consideration in mind, it is possible that those with lower levels of education are more likely to use the Internet for spending their free time than for using other services that are available online.

Probing further into this line of analysis, we find that 43% of people having a lower level of education use the Internet for chatting, while only 33% of people with a higher level of education use the Internet for that purpose. By contrast, those with higher levels of education use e-Mail (91%) and VoIP (19%) tools more than those with lower levels of education. As has been pointed out, this gap may be explained by considering chat-lines as a communications tool that is more closely aligned with spending free time than purely for communicating, whereas E-Mail exchange and VoIP and videoconferencing tools are used for what may be considered more "pure communications" activities, as well as for work-related reasons.

The trend already highlighted in the context of Internet use by level of education is strongly confirmed when we consider the use of the Internet for accessing services. Here, in most of the uses reported, the percentage of Internet users is higher for each type of use, the higher the level of education. However, when it comes to job-seeking activities, the percentage using the Internet for this activity remains quite constant across education levels.

As noted above, people with a higher level of education use the Internet more often than other groups for spending their "free time". The exception is for downloading/playing games. Here only 33% of the population with a higher level of education use the Internet for these activities, while 44% of those having a lower level of education use the Internet for playing games and downloading.

Concerning the last category: using the Internet as information media, people with a higher level of education access digital newspapers and magazines more frequently (46%) than those having a lower level of education (approximately 26%). In contrast, the percentage of people using the Internet to listen to web-radio and watch web-television is approximately the same (27%) regardless of educational attainment.

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4) Conclusion

The aim of this chapter was to provide the social dimension of the Digital Divide. In order to reach this goal, scholarly research related to the first decade of the Internet age on this aspect of the Digital Divide was introduced as the starting point of my analysis. This was useful for exploring some theorized expectations on the current status of the Digital Social Divide. In order to verify whether those expectations may be confirmed at present, I mapped the current status of inequality in accessing and in using the Internet along socio-demographic factors in the European Union.

Comparing the updated data I have used in my research with those representing use in the first decade of the Internet age, it is possible to arrive at two main conclusions. First, the findings above demonstrate that Internet access has increased significantly for all of the categories presented. However, at least in relative terms, this increase has occurred at approximately the same rate for all of the groups. The relative gap between socio-demographic categories still exists. Since we can conclude that the gap in Internet access between the different socio-demographic categories has not decreased over the past decade in relative terms, the social dimension of the Digital Divide is still an important determining factor regarding inequality in access to and use of the Internet.

Based on the empirical evidence presented above, we may conclude that neither the *normalization* nor the *stratification* projection has yet been borne out in reality. This does not mean that both are wrong. Rather, the possibility exists that it is simply still too early to test whether and how each theory can contribute to our understanding and expectations for the future of Internet access and use.

Despite the fact that access to and use of the Internet have approximately doubled over the past ten years, the normalization theory has not been validated because the gap between groups with different socio-demographic characteristics still exists, which means that the social dimension of the Digital Divide is still highly significant.

The empirical analysis presented here also refutes the predictions of stratification. As explained above, stratification projection predicts that the gap in Internet access in relation to social factors would increase over time, since those who already had access to the Internet due to their privileged social position would have reinforced their own advantages thanks to the fact

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that they use the Internet more than others. This particular gap however has remained constant over the last decade, which runs counter to the diffusion theory's expectations.

Even so, these findings beg further questions: How are we to explain the fact that, despite overall increasing levels of Internet access, socio-demographic aspects still affect the social dimension of the Digital Divide, just as was the case during the first decade of the Internet age? Can we expect that this gap will decrease in the future? Today, can we still define this inequality in access to the Internet as a Digital Divide?

If neither of the dominant projections in the scholarly literature - normalization and stratification - has been borne out by the empirical data, I argue that some other explanations must be sought. A few are provided here. This chapter's research underscores the reality that today the Internet is more easily accessible in EU countries. Subsequently, in the framework of the EU, social factors are no longer an obstacle for accessing the Internet, though they are still relevant to how people use the Internet.

In the final part of this chapter, I explored the influence of social factors on Internet use. Despite the differences that were noted, the analysis in fact brings to light how Internet use is indeed highly predictable according to the socio-demographic characteristics of its users.

The Internet is a form of media, as was the case for other mass media in the past, when these become more easily accessible within society, their use begins to be diversified (Norris 2001). I believe that, today, the Internet is more or less equally accessible to all people living in countries with economic and political conditions similar to those presented above. However, they will make use of it based on their own interests and needs. This is why the socio-demographic factors introduced in this chapter are still relevant.

Following this line of reasoning, in this chapter I have made the argument that at present, if we refer to the Digital Divide in terms of the existence of obstacles for accessing the Internet, it is not appropriate to attach this notion to the social stratification of each society.

It would therefore also be inappropriate to continue to define the Digital Divide as the diversification in Internet use determined by social factors. Rather, in countries where the Internet is already universally accessible, the Internet has become a mature media. This is why, both today and in the future, use of the Internet will be determined by the specific needs and socio-demographic characteristics of the individuals comprising society in the various countries across the planet.

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Part Three

Second Research Strategy:

The Digital Politics Divide

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Chapter Five
5. Digital Politics Divide

1) Introduction

The Internet has been welcomed as an instrument with the potential to strengthen democracy. Although public use of the Internet is a considerably recent event, we are already beginning to understand its concrete influence on politics. As Castells and Sey (2004) observed, its influence is no longer proclaimed as fate but now established by observation. Today, despite our ability to rely on empirical evidence, the debate in this field of research is still clustered around some key questions. There is still no agreement on whether we are witnessing an increase or a decrease in political participation in this Internet era. Research still has not provided commonly shared answers on the following questions: Are people more likely to practice politics thanks to the Internet? And, if so, how does this happen? Does the use of the Internet increase civic engagement?

The lack of clear answers to these questions prevents us from understanding how the Internet influences democracy. In this framework yet more questions remain unanswered: Does the Internet support the processes of democracy? If so, how?

Finally, in the framework of this study, if we are able to positively answer these questions, we can finally empirically explore whether and how the unequal distribution of the Internet obstacle its influence on politics: Does the Digital Divide influence politics? Does the unequal use of the Internet cause inequalities between democratic countries? Does the unequal distribution of the Internet mirror its inequality in politics?

In the following part of this research, I address these questions. I argue that the Internet influences politics depending on the social, economical and political framework in which the Internet is used. Here, I explore how different political actors shape the use of the Internet depending on the practice for which the Internet is used.

In order to test my arguments, I address the second research strategy of this study (See chapters 6th, 7th and 8th) using a social constructivist approach. I address the empirical part of this research in order to bring to light*: how does politics shape the use of the Internet? How does the*

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democratic status of a country influence the use of the Internet to practice politics? How do the various political actors shape their use of the Internet to achieve their aims?

In this chapter I first frame the current status of the research on political participation. Second, I explore how the various instruments that the Internet offers fit in this scenario. Finally, with the various usages of the Internet to practices politics, I single out which political actors I shall focus on for the empirical part of my research in the following chapters (chapters 6th, 7th and 8th).

2) Political engagement, today

After scholars welcomed the advent of the Internet as positive for strengthening democracies, and given the dramatic increase of the use of the Internet today, we would expect that politics is presently benefiting from it. This, however, is far from being the case.

In contrast to the expectations so far proposed about how the Internet influences politics by energizing political participation, scholars argue that we are witnessing today a serious disaffection of people from politics. The debate on the topic asserts that the main trend registered in the last years in many liberal democracies is voter decline (Dalton 2000; Franklin 2004; Gray & Caul 2000). Many explanations have been provided in this regard.

Some scholars argue that the decline of voters is related to the fact that political parties have lost touch with the social base of support in the framework of the post-industrial age (Dalton 2000). Social classes and groups have become less heterogeneous compared to what they were in the 19th and early 20th century. Social fragmentation makes parties less able to represent all peculiarities of society. Himmelweit, Humphreys and Jaeger (1985) have noted that people generally have weak party identification, declining party membership and more volatile voting behaviour.

Other scholars highlight that political parties have changed their organization and strategies over the last thirty years. Kirchheimer (1966) argues that they switched from "mass" to "catch-all" parties. The first characterized the European political scenario between the late 19th and mid-20th century, when there were more coherent ideologies. In order to integrate their social base of voters, political movements were based on local branches, incorporating associations, such as trade unions, into their organization structures (Duverger 1954; Rokkan & Lipset 1967).

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Today, on the other hand, "catch-all" parties tend to focus exclusively on obtaining electoral success by supporting vague ideological claims designed only for "catching" as many voters as possible. They identify their issues on their personal leader's charisma, using modern communication techniques. This strategy also includes a reduced impact of local branches. The result is that political parties do not speak to specific social classes. They do not characterize their political goals around specific issues. Rather, they make a vague political aim to catch central voters. Those voters who have even stronger political opinions then have difficulty in identifying themselves with these parties (Duverger 1954; Rokkan & Lipset 1967). While Kirchheimer (1966) focuses this analysis on European cases, Chadwick (2006) points out how American parties are also good examples of "catch-all" parties. The professionalization of communication techniques, the focusing of electoral campaigns media, the importance given to the personality of political leaders, and the weakness of the social base of political parties, make the American political scenario a perfect example of the "catch-all" trend today (Chadwick 2006).

A further reason for disaffection of voters from political parties in the United States and United Kingdom is the increase in campaign-spending over the last thirty years. This causes the involvement of private funding, making politics less dependent on the local base and more dependent on private interests. In Europe, Katz and Mair (1995; 2009) argue about the so-called "cartel party system". This consists in alliances between parties for establishing electoral rules and fund raising systems useful for themselves. This affects the political scenario by decreasing the importance of party competition.

The American case is a good example for introducing also what scholars define as the "professionalization of politics". With this, they refer to the fact that in the last decades political campaigns are characterized by the rise of a new class of experts of political communications, so called "spin doctors". These are journalists, opinion makers, and advertising agencies. They make political campaigning a personal contest. This scenario raises the political disaffection of voters who view political events with much cynicism (Davis 2002; Franklin 2004; Gitlin 1994; Scammell 1995; Wring 2004). In this condition, the professionalization increases the interest of media in politics, creating a permanent political campaign (Blumenthal 1980; Heclo 2000). People look to this as a moving of political parties disconnected with society, and concerned only with the elite. Politicians in the media sphere appeared as independent actors, not linked to the party and no longer linked to specific democratic rules.

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In contrast, extending the concept of political participation to other forms of political practice, many scholars disagree with the idea that we are witnessing a general decline in interest in politics (Dalton 2008; Norris 2002). They argue that today political participation is more flexible and less predictable than in the past. This is why political practice is becoming more various. Today, many new forms of political participation exist. Thus, if it is true that political parties decline, people are more politically engaged in new social movements and radical or protest parties (Kriesi 1995; Jordan 1998). In other words, if voters decline, on the other hand, there is a rise in single-issue campaigning, and other political practice (Chadwick 2006).

The literature offers extensive research on political behaviour. However, in the framework of this research, the various arguments so far discussed let us conclude that two contrasting scenarios overlap. First, scholars expect that the spreading of the use of the Internet should impact positively on democracy by increasing political participation. In contrast, researchers highlight a decrease in political participation. In what follows, I explore how the Internet fits in this scenario.

3) Internet and Politics

3.1) From expectations to empirical evidence

The debate on how the Internet impacts the political sphere has been rich with contributions since its advent. In the 1990s, scholars approached research in this field interested in the interactive potentials of the Internet (Rheingold 2000; Wellman et al. 1996), which was expected to be determinant for politics (Bimber 1998; Gibson & Ward 1998). The Internet was hailed as the opportunity to realise the ideal of direct democracy (Slaton 1992; White 1997), and some agreed that if the Internet failed in reaching this goal, then its impact on politics would be minimal. Meanwhile, Coleman (2005) points out that this scenario did not take into consideration established institutional procedures of representative democracy, which have been mistakenly considered obsolete.

In one of the first empirical studies on the phenomenon and its relation with the unequal access to the digital technologies, Norris (2001) focused on how the Internet might improve

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government and empower civil society. She points out that the Internet may impact on politics by increasing competition between political parties, political groups and empowering social movements. As for this last aspect, the Internet may in fact facilitate organization capability and offer multi channels of expression for spreading opinions (Norris 2001). In order to summarize the impact of the Internet on politics, Norris (2001) provided the "Virtual Political System" model. Here the focus is on how intermediary organizations link state and citizens. In this framework, the impact of the Internet on politics depends on how institutions benefit from opportunities offered by the Internet to improve and strengthen these connections. Other studies explore the relationship between Internet and politics from a broad range of analytical perspectives. Scholars stressed that the Internet could develop civic engagement by creating connections between affinity groups (Diani 2001b; Van Aelst & Walgrave 2002) to develop knowledge on specific political issues for citizens (Bimber 2001), and to increase the ability to compare multiple points of view (Howard 2005). Others have been interested in the potential of the Internet in enabling self-expression, facilitating the spread of personal and local claims (Della Porta & Mosca 2005). The Internet has also been hailed as an opportunity to create new forms of political participation (Wright 2004), and to support traditional political behaviour with a new tool for voting (Mendez & Trechsel 2004; Alvarez & Hall 2004). The Internet has also been greeted as an instrument to better link citizens and political institutions, and finally, as a new space to discuss politics (Fearon 1998; Price & Cappella 2002). All these new conditions have been considered useful for strengthening democracies by enlarging political participation.

To conclude, the debate on the topic can be summarized along two opposite arguments: some scholars argue that the Internet is creating new spaces of politics which are determinant for strengthening democracies, while other scholars point out that the Internet is a space to practice "politics as usual" (Margolis & Resnick 2000). Many middle ground conclusions have been provided between both opposite arguments.

A decade since the advent of the public use of the Internet, the framework of research in this field has evolved. Debate on how the Internet impacts politics has grown dramatically (Chadwick & Howard 2009; Trippi 2004; Alvarez & Hall 2008). By using the ISI Web Science[36] index, Chadwick and Howard (2009) show that from 1995 to 2006 the number of articles about the Internet and politics has grown from 50 to almost 450 articles. Considering that the index does not include all scientific journals, books, papers and conference presentations, this data is

[36] Thomsonreuters.com ;

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even more indicative of the increasing interest in this field of research (Chadwick & Howard 2009).

Thanks to this, today we rely on more empirical evidence on the influence of the use of the Internet in politics (Hardy & Sheufele 2005; Howard 2003), thereby giving more substance to the debate. The famous conflict between "cyber-optimists" and "cyber-pessimists" has converged towards a more balanced optimism. The former have discovered that ICTs are not a democratic panacea, while the latter cannot so easily deny the usefulness of digital technologies for facilitating political practices. Today, we may conclude that the use of the Internet to practice politics has not revolutionized democracy, as it was predicted by cyber-optimists. Nor has there been any radical reorganization of political institutions, or massive political inclusion of citizens thanks to the Internet.

3.2) Overcoming the lack of research

I argue that the expectations of the Internet to impact on politics failed due to a technodeterminist approach. The Internet was erroneously considered a technology which as such, could influence human action no matter the context. I agree with Hindman (2009) who argued that, so far, research in this field failed by assuming that the Internet would revolutionize the established framework of politics over time. This erroneous assumption is not new (Hindman 2009). The telegraph and rotary press, and more recently radio and television (Barnouw 1966; Bimber 2003; McChesney 1990), were welcomed with similar enthusiasm. New technologies however are not so determinative (Hindman 2009). Rather, they develop their influence on society according to the characteristics of the cultural, political, economic and historical conditions in which they thrive (Barber 2003).

Here, rather than question how the Internet changes politics, I explore how the Internet exerts an influence depending on the framework and conditions in which its use is shaped. In the framework of politics explored in this study, I then explore how different political actors design Internet use to practice politics in different national socio-economic and political frameworks.

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3.3) Constructing the political meaning of technology

In order to explore the fragmentation of the influence of the Internet in politics across countries, I use a social constructivist approach. The "social construction of technology" (SCOT) approach is in tune with the epistemological needs of this study (see chapter 2 for further details). Bijker and Pinch (1984) cluster the SCOT concept around the idea that the sociology of a technology must be explored according to the contextual specificities in which the use of the technology is embedded. In other words, people construct the meaning of a technology within social groups by using it according to the socio-economic, political and cultural specificities of the context in which they act.

Given the cross-national comparative dimension of this study, the SCOT approach is not directly applicable here. However, as I have already highlighted in the methodology chapter of this study (see chapter 2), the SCOT approach inspires my second research strategy by addressing it in three stages: *extracting the technological artifact*, *identifying the social groups*, *contextualizing the technological framework*. While the SCOT approach has been designed to apply this strategy at a micro-level, within a qualitative framework, and along an historical perspective, I have adopted the three stages for my macro-level, statistical based, and contemporary perspective of analysis. The SCOT approach inspires my theoretical framework which addresses the operationalisation I apply in my study. This determines my data gathering along which I design my transitional comparative research strategy.

In the next sections: first, I extract the technological artefact by identifying the instruments of the Internet; second, I identify the social groups, by singling out the political actors around which I cluster my investigation on the construction of political meaning of the Internet; third, I relate their use of the Internet to the country specificities in which they act. I include in my analysis the contextual specificities that I identified in the first research strategy (see chapter 3 and 4): the Digital Divide, economic and political factors.

4) The instruments of the Internet

The Internet has evolved since its beginnings, and its influence on politics has changed due to the rise of the many new applications of the Internet. From the first Bulletin Board System

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(BBS)[37] to the Web 2.0,[38] today the Internet offers a variety of tools for the practice of politics. This evolution then produces different effects, to which researchers must provide new arguments. For instance, Chadwick and Howard (2009) argue that in 2002 the proliferation of the Blog was something that scholars had underestimated. Today, the self-expression allowed by blogs has been welcomed as a very important form of making politics (Sunstein 2007; Hindman 2009).

In a previous chapter, I stressed that the Internet is not only the World Wide Web (see chapter 1). I argued that the Internet is a flexible platform made up of various instruments enabling people to reach different goals in the practice of politics. Today politics benefits from new applications introduced with the Internet. These tools increase the impact of the Internet by empowering its networking characteristics, enabling the creation of large political digital communities, and generating further political debate and political contents (Mossberger et al. 2008). Today, there is a rising interest in developing tools specifically for practice politics online in a standard fashion. The Voting Advice Applications (VAA), like EU-Profiler[39], are key examples in this regard. But the Internet also offers numerous instruments that can be used and tailored to one's wish. As already stressed in the first chapter, I argue that we shape the use of the Internet according to our social, economic and political needs. There are many uses of the Internet, and only some of these are for practicing politics. In order to explore the relation between the Internet and politics, scholars should address the focus of their research depending on the tool of the Internet they are referring to in their research. Below, I introduce some of them.

4.1) From the BBS to the Web 2.0

The use of the Internet to practice politics started before the introduction of the Bulletin Board System (BBS). BBS consists of a very simple text graphic similar to videotext,[40] and it

[37] BBS is a system of information storage reachable via dial-up connections;

[38] With this label, Tim O'Reilly (2003) refers to the evolution of the WWW with continuously new characteristics ;

[39] The EU-Profiler is a Voting Advice Application developed by the European University Institute in collaboration with the NCCR Democracy University of Zurich and the Vrije Universiteit of Amsterdam, for the election of the European Parliament in 2009. The Eu-Profiler included all 27 European member states. The EU-Profiler has been awarded with the World E-Democracy Forum Award;

[40] The videotext was a media used in the late '80s to spread information under simple text graphs format to user receiving those with a computer-like terminal;

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was largely used before the evolution of the Internet as it is known today, under the form of WWW. Each BBS had a phone number you needed to call to have access to its information. Software communities greeted this simpler form of the WWW with enthusiasm because it was the first instrument of the Internet allowing the spread of information and contents from one source to many. BBS offered also the other characteristic greeted with the Internet: interactivity. BBS was interactive by allowing its visitors to post messages. Thanks to this, people used BBS to create affinity groups sharing digital-text documents, software, and in many cases, debating about political issues (Levy 1984).

The WWW is the evolution of the BBS. Today, it is commonly assumed that the WWW plays a role in spreading information and the claims of political groups. It is an important channel of communication through which political communities can provide information about their activities and publicise their positions on specific topics. Exploring the WWW is therefore useful for understanding how political communities use the Internet to create their own channels of communication (Della Porta & Mosca 2005). In most cases, the WWW hosts information on how political communities use the Internet as a platform facilitating coordination for protest events (Calderaro 2010). This is why, to explore the website of a political community is useful for collecting information on its identity and obtaining the political contents published there.

Today many new applications of the Internet create social networks, allowing interaction and cooperation between people. The most commonly used applications of the Internet today are to be found in the WWW. Tim O'Reilly (2005) refers to this evolution of the WWW with the label *Web 2.0*. Research on the relation between the Internet and politics is recently largely focused on this particular area of the Internet. But, what is the Web 2.0?

O'Reilly (2005) clusters his definition of the Web 2.0 around seven main characteristics of the WWW: "the web as platform", "harnessing collective intelligence", "data is the 'Intel inside'", "the end of the software release cycle", "lightweight programming models", "software above the level of a single device", and "rich user experiences". Looking at these principles with a political science lens, Chadwick and Howard (2009) identify these as: "the Internet as platform for political discourse; the collective intelligence emergent from political web use; the importance of data over particular software and hardware applications; perpetual experimentalism in the public domain; the creation of a small-scale form of political engagement through consumerism; the propagation of political content over multiple applications; and rich user experiences on political websites" (p. 4).

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The (1) *Internet as a platform for political discourse* consists of the increasing interactive nature of the WWW. People can receive information from it, but they may also contribute information to it. The WWW has become scalable in that people can personalize the kind of information they wish to receive and they can spread their own information among people included in their social network. This use of the Internet has the consequence of sharing political claims and debate, and thereby the coordination of people. In 2004, during the American presidential primary and electoral campaigns, examples emerged in this regards with the extensive use of the web site Meetup[41] (Chadwick 2006; Hindman 2009). More recently, the use of Web 2.0 has most conspicuously made its mark during the political campaigns for the last American presidential campaign. For instance, in January 2007 the presidential candidate John Edwards announced his candidature via a video broadcast by YouTube.[42] More recently, during the American presidential campaigns of 2008, both candidates, Obama and McCain, largely used Web 2.0 tools, including YouTube. This also marked the introduction of the Internet in political campaigns.

The Web 2.0 is the tool which best realises the concept of (2) *collective intelligence* proposed by Pierre Lévy (1997). Thanks to the structure of Web 2.0, people can easily produce self-generated contents, and share these with others. Simple tools included in the Web 2.0 platform enable the coordination of different communities to produce collective goods. The *WIKI* is largely used to create self-generated content websites. The Wiki is a technology running on the WWW allowing the cooperation of people to generate "web contents". The key example in this regard is the online encyclopedia Wikipedia,[43] based on Wiki technology.

The facility of publishing information on the Internet brings us to the third theme of the Web 2.0: (3) *the importance of data*. Spreading information on politics and politicians has been possible since the advent of the Internet. However, spreading information through Web 2.0 tools make control over this process even more difficult than before (Stromer-Galley 2000). Moreover, today the information of the WWW is more visual than before, providing pictures and video, its impact on people is more efficient.

The Web 2.0 is the tool of the WWW which most facilitates (4) *public perpetual experimentalism* on the WWW and practicing politics. The last American campaign confirms this point, where

[41] www.meetup.com ;

[42] You Tube offers an open publishing service for video contents, www.youtube.com ;

[43] www.wikipedia.org ;

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many forms of fund-raising took shape, community groups were created, and video-speeches by politicians were spread (Chadwick & Howard 2009).

The fifth and sixth themes can be summarized as the power of the WWW to (5 and 6) *create and access self-generated contents* which empower people to become the sources of information. At the same time, the proliferation of information flows becomes easier and more accessible to a variety of online sources.

This is also thanks to the last characteristic pointed out by (O'Reilly 2005): that of (7) *rich user experiences on political websites*. The Web 2.0 platform supports software applications enabling the interaction with contents published on webpages. People can also contribute by modifying contents published by others. The result is a continuous process of improvement of information, in cooperation with other people. This approach is similar to that of FOSS (see chapter 8).

Scholars have welcomed the advent of the Web 2.0 as an opportunity to increase the impact of the Internet for making politics. Others argue that the Web 2.0 has not introduced anything that was not already possible with the previous form of the WWW. All the characteristics so far introduced of the Web 2.0 were already included in the Internet under different forms. However, we cannot deny that today multimedia contents, such as video, pictures and audio, social networks tools and self-generated content tools are becoming more and more integrated into the WWW.

To conclude, in my research I refer to the Web 2.0 as the current capability of the WWW to further converge many of the characteristics of the Internet.

4.2) Internet beyond the Web

The Internet has been welcomed also for its potential to develop political communities. This is why focusing only on the WWW, or its earlier forms as BBS, is not enough. The weakness of this approach is that it does not provide information on the use of new technologies in political communities. Rather, the political community is made up of continual interaction and debate, which today is influenced by network-based technologies as well. In this regard, Kavada (2009) stresses how the: "empirical evidence connecting the movement's decentralized architecture with its use of the internet is relatively scarce. This gap is compounded by a more general lack of research in the internal processes of social movements" (p.199). The cause of this lack may be

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explained by the fact that, such as highlighted by Polletta (2002), "Our failure to tackle these questions reflects our inclination to see organizations as actors rather than as made up of actors and their interactions" (p.225). The impact of new technologies on political communities involves also facilitating these internal interactions. As Castells (2004) points out, the culture of the network society is not made of content but of process. Indeed, digital technologies make this a network-based process. Research in this field cannot disregard that some political communities are engaged in debating and testing new forms of interaction through the Internet. One of the aims of their political activities is to fit the digital instruments to internal processes in order to strengthen their democratic condition. As I will argue later (see chapter 8), the free software movement is a good example in this regard.

So far, electronic mail (E-Mail) is one of the instruments of the Internet more popularly used for interacting between people. This is because it remains today easily accessible and a quick way of communicating via the Internet. E-Mail facilitates communication within an organization, along local, national and transnational lines, and as such it may create or strengthen relations between organizations and external actors (Diani 2001a). Brundidge (2006) has found that political discussion via E-Mail is a positive predictor of political participation. E-Mails are useful for creating debate not only between two people – one to one communication – but also with a community – one to many.

An E-Mailing List (E-ML) allows this. E-ML is an automatic system of E-Mails exchanged between people. These are sent to the electronic addresses of the subscribers to the E-ML. This digital tool is what Diani (2001b) defines as a "communication technology allowing the creation of discussion groups between people interested in common topics. These conditions encourage interaction and polyadic debating dynamics" (p. 120). The aim of E-MLs is to provide a space for debating on specific issues, creating interaction between its subscribers. An E-ML has the same advantages as E-Mail. It is the digital space in which individuals can be directly and actively involved in debates, overcoming time lag, geographical distances and often hierarchical dynamics existing in some communities. Compared to other digital instruments creating social networks, such as "online forums", E-ML does not require WWW support, but only minimal technical resources. To send and receive E-Mails does not require sophisticated technology and high-speed Internet connection, thereby overcoming any eventual obstacles in the framework of the Digital Divide. These conditions make E-ML a more inclusive instrument than others. It is an asynchronous way of communicating, but the speed with which one can receive and reply to E-Mails allows dynamic interaction. This is particularly appropriate when a continual

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coordination between people is needed. Research confirms how the Internet facilitates communication in political communities through E-Mails (Calderaro 2010), but also how it facilitates communication between political communities and other people.

If E-mail and E-ML are useful instruments for facilitating interactive processes which enable debate among communities, the Instant Messaging tools allow people to talk synchronically across geographical barriers without any costs. At the beginning, the Internet Relay Chat was the most common technology used for this purpose. Today, the Voice Over Internet Protocol (VoIP) is the technology through which software such as Skype[44] allows synchronic multimedia interaction, creating new spaces to coordinate political events or to debate about politics (Mossberger et al. 2008). Rather, the Peer to Peer (P2P) architecture allows the spreading of multimedia information following a many-to-many form of communication (Benkler 2006; Ito 2008). P2P is particularly well known as an instrument for sharing entertainment media contents, such as music and movies. But, more importantly, P2P networks support the exchange of all sorts of other data.

I looked at how the Internet has evolved offering an increasing number of instruments. I also clarified that the various instruments of the Internet are used differently for the practice of politics.

But the question remains: how do different political actors and institutions customize the use of the Internet for their political aims? How do political practices benefit from the use of the various instruments that the Internet offers? In what follows I address these questions.

5) Framing E-Practices

So far, we have explored the relationship between Internet and politics from various perspectives of analysis. We saw that the Internet facilitates the coordination between people debating about politics, allows easier access to information, and provides different instruments enabling people to express their political struggles, more than was ever possible with traditional media. A plethora of different labels have been coined in order to define the several uses of the

[44] www.skype.com ;

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Internet to practice politics. Some of these include: E-Democracy, Digital Democracy, E-Government, E-Voting, E-Participation, Digital Engagement, E-Campaigning, E-Petitions, E-Consultation, E-Protest, E-Mobilization.

When exploring the relationship between Internet and politics, in order to avoid the risk of overlapping these labels, we should clarify first which kind of political practice we are talking about. Cammaerts (2008) suggests that we should make clear if, for instance, we are referring to: how political parties and candidates use the Internet for their political daily activities, or how they use it for their political campaigns. Are we concerned with how public institutions use Internet-mediated tools to involve citizens in their activities? With respect to voting, how does the use of the Internet facilitate the process? Can we say that the Internet creates new spaces for debating, and facilitates an increase in public consciousness on political issues? Can we say that the Internet plays a role in facilitating the mobilization and coordination of social movements?

By addressing these questions, we are able to organize the different definitions of political practice on the internet that the literature offers. We may then refer, for instance, to the concept of *E-Campaign* to look at how political parties use internet tools to design communication strategies aiming to optimise visibility and obtain voters' support from citizens. The Internet is commonly used not only during a turnout period, but also for permanent campaigning (Farrel & Webb 2000; Gibson et al. 2003; Norris 2000). *E-Government* is used to define how public institutions use the Internet to communicate with their citizens. *E-Voting*, meanwhile, is the process of using the Internet to enable citizens to vote online. *E-Consultation* is the use of electronic communication technologies for consultation and is complimentary to existing practices. Some of the uses of the Internet by social movements may be defined as *E-Protest*. This definition includes forms of protest performed by social movements in which the Internet is used to decentralize the spreading of alternative information, to create adversarial positions, and to coordinate protests (Cammaerts 2008). The Internet facilitates all these political practices, inherent to a healthy democracy. This is why the use of the Internet to practice politics is most commonly defined as Electronic Democracy (*E-Democracy*).

Trechsel, Mendez, Schmitter, and Kies (2003) argue that E-Democracy "consists of all electronic means of communication that enable/empower citizens in their effort to hold rulers/politicians accountable for their actions in the public realm. Depending on the aspect of democracy being promoted, E-Democracy can employ different techniques: (1) for increasing the transparency of the political process; (2) for enhancing the direct involvement and

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participation of citizens; and (3) for improving the quality of opinion formation by opening new spaces of information and deliberation" (p.10). Van Dijk e Hacker (2003) define *digital democracy* as "a collection of attempts to practice democracy without the limits of time, space, and other physical constrictions, using information and communication technology or computer-mediated communication instead, as an addition, not a replacement, for traditional [...] political practices" (p. 1). Both definitions stress the role that new technologies play in facilitating the process of democracy in terms of political practice.

The concept of democracy includes a broader sense of political participation that goes beyond the formal political processes and the interaction between public institutions and citizens (Almond & Verba 1980). The wealth of democracy is then supported by different forms of political practice. These may be taken on by different political actors depending on their aims, conditions and use of different tools. I argue that each of these combinations produces different results. In other words, the Internet fits differently into politics depending on the framework in which it is used. This implies that we can provide as many answers to our questions about the relationship between the Internet and politics as there exist different forms of political practice. I argue that each of these forms shapes the use of the Internet.

In what follows, I single out the political actors that I will examine in the empirical part of my research. I will then look at how different political actors use the Internet according to the kind of political practice they promote. My focus is first on how political parties shape the use of the Internet to get people involved in "conventional" forms of political participation, such as voting and participation in established processes of governance. Second, how citizens as simple members of the public use the Internet to perform civic engagement. Finally, I investigate how social movements shape the use of the Internet to practice what Marsh (1977) defines as "unconventional" forms of political practice: those practices and tactics run by a "non-institutional side of politics, outside the realm of conventional or orthodox political participation (i.e. voting, being a member of a political party, lobbying), and on the other hand, do not equal severe political crime, such as terrorism" (p.42).

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5.1) Political parties

Since the advent of the Internet, scholars have welcomed with optimism the support offered by the Internet for political parties and their candidates (Morris 1999; Gibson et al. 2003). This is because the Internet provides more opportunities than traditional media for self-publicity (Ward & Vedel 2006). The several tools provided by the Internet, E-mail and WWW, including social network tools, support direct communication between political party leaderships and the general public (Ward & Vedel 2006), which can encourage them to vote (Mossberger et al. 2008). We are also witnessing the first use of the Internet as a tool for voting (Alvarez et al. 2009). However, there is no agreement on the relationship between the spreading of information through the Internet and its influence of increased voting turnout. Some scholars argue that people receiving information from the Internet are more likely to vote (Tolbert & McNeal 2003), while others highlight that there is no relationship between online news and participating in politics through voting (Tolbert & McNeal 2003). Since it is commonly thought that political parties are hierarchical organizations and that they produce communication flows from their headquarters to people outside (Zittel 2009), there is however agreement on identifying a top-down trend of the use of the Internet, whereby political parties seek to involve people to practice politics. For this reason, Blumler and Coleman (2009) include the use of the Internet by political parties in their category of "E-Democracy from above".

5.2) Social Movements

If we narrow the concept of democratic politics to only a few elements and forms, we deny the importance of many other political dynamics whose raison d'être is to ensure democracy. We know for instance that the concept of democracy is not only about the effective organisation of executive and legislation power (Cammaerts 2008). Mass public participation in the formal political process is another important characteristic of democracy (Norris 2001). There are yet many other elements aimed at support democracy. In the framework of research on social movements, scholars pay attention to the role that the Internet plays in facilitating grass-roots forms of political participation. In this case, the Internet is considered a useful instrument for connecting transnational social movements (Bennett 2003). According to Tarrow (2005), the Internet facilitates coordination between political groups, shifts political aims from a local to a transnational dimension, and links struggles worldwide. Scholars have paid attention to how the Internet supports social movements in creating independent and powerful channels

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of communication (Della Porta & Mosca 2005). The Internet then may also facilitate the coordination in political communities (Calderaro 2010; Diani 2001a). Blumler and Coleman (2009) include the bottom-up flow of communication generated by social movements in their category of "E-Democracy from below". With this, the authors refer to various forms of grassroots collective action for which the Internet offers autonomous communication channels "to interact beyond, around and across institutionally-controlled communication channels" (Blumler & Coleman 2009, p.117). In this framework, the Internet is used to energize so-defined "unconventional" political practices (Barnes & Kaase 1979; Marsh 1977).

5.3) Citizens

If E-Democracy from above is run by public institutions to involve people in 'conventional' political practices, and E-Democracy from below refers to how social movement organizations use the Internet to energize 'unconventional' political practices, the question then arises: How does a simple member of the public use the Internet to contribute to political life? How do citizens shape the use of the Internet to practice politics?

Mossberger, Tolbert, and McNeal (2008) define "digital citizenship" as "the ability to participate in society online" (p.1). *Digital citizens* use the Internet to practice civic engagement. Authors define "civic engagement" as a "multifaceted concept, consisting of political interest, political discussion, and political knowledge" (Mossberger et al. 2008). According to Mouffe (1992), a citizen is not "someone who is the passive recipient of specific rights and who enjoys the protection of the law" (p. 235). Rather, citizens are able to actively reshape their own identities and their social environment (Rodriguez 2001). Today, the Internet allows citizens to be not only receivers of information, helping them to form a voting preference or to inspire them to join some campaign or participate in demonstrations. Rather, in the framework of the media landscape, citizens may use the Internet to spread information, create new spaces to debate on politics, form affinity groups, and run grassroots campaigns. This is what has been defined as "citizens media" (Rodriguez 2001) where citizens are understood as simple members of the public. By contributing to the media landscape, citizens are able to influence both "conventional" and "unconventional" political practices.

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5.4) The model

The use of the Internet facilitates both internal communications in political communities, for instance between party members or social movements activists, and between different kinds of political actors (Kies 2010). In the second research strategy of this study I focus on this last form of communication. With the various actors that we may include in this analysis, the scheme below (figure 5.1) shows the model illustrating the political actors and their communication ties that I explore in the following empirical part of this research.

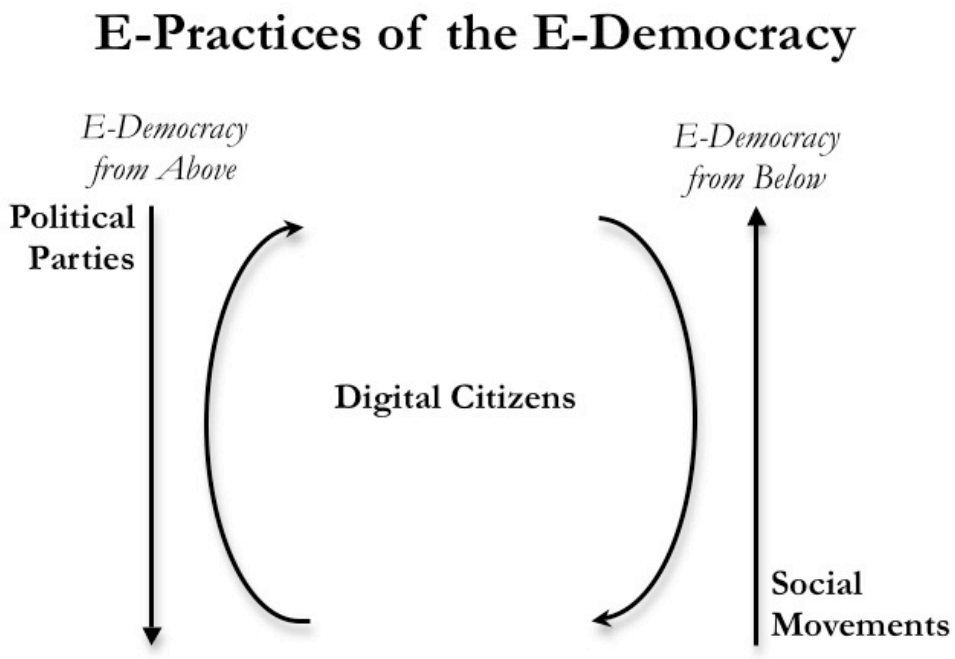

Figure 5.1 - E-Practices of the E-Democracy

Political parties use the Internet to energize political participation by communicating with their voters or potential voters. In this framework, the Internet is used following a top-down approach to engage people in "conventional" political practices. In contrast, *social movements* use the Internet from the bottom-up to generate grassroots independent channels of communication and coordinate mobilizations. Finally, *citizens* can also influence both "conventional" and "unconventional" political practices as simple members of the public by contributing to the media landscape. In doing so, these citizens become active participants in the construction of political knowledge.

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The categories I propose here should be not considered as rigid divisions between the various forms of political practice. Every political actor may perform both "conventional" and "unconventional" political practices. They may also overlap different forms of political practice. The same tool of the Internet may be used by all of three political actors. The scheme below provides an abstraction of the scenario of E-Practices that I explore in the following empirical part of this research. The three main political actors I propose should be seen as trends of the use of the Internet in a flexible manner, since these are permanently in mutation, evolving with the technology and the users' creativity.

6) Conclusion

I have highlighted in earlier chapters that the Internet is not equally distributed worldwide: this is what we understand as the Digital Divide. I explored the gap in access and use of the Internet from a global and social perspective of analysis in chapters 3 and 4. With this chapter, I framed the use of the various tools of the Internet, and argued that different political actors use these tools depending on their political practice. Now, the question arises: how do different political actors use the Internet according to national conditions? How do various divides, including the digital one, affect the use of the Internet to practice politics? If the Internet has been welcomed as a tool potentially able to strengthen democracy, it is commonly thought that the risk is that only people who have access to Internet can benefit from it. Indeed, countries with a lower use of the Internet cannot take advantage of it. According to this scenario, the Digital Divide may also increase the gap existing in democracy worldwide.

A question then arises: Does the Digital Divide determine the use of the Internet to practice politics? Or, more in general, how do national conditions influence the use of the Internet to practice politics?

The next chapters address these questions by mapping and framing the worldwide inequality in using the Internet in the framework of the political sphere. Following the lines of the three categories of political participation, in what follows I explore empirically how the use of the Internet is shaped by the political actors to practice different forms of politics. I will then introduce specific case studies and I will illustrate how the Digital Divide influences the unequal distribution of the political practice via the Internet.

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First, I explore how institutions use the Internet to energize "conventional" forms of political engagement. Here, I explore how the Internet fits with top-down uses of the Internet. Among the various examples in this regard, my focus is on the worldwide distribution of *political parties* on the WWW. I then explore how national conditions, such as the Digital Divide, economic and political factors explain the unequal distribution of political parties on the WWW worldwide.

Second, I explore how *citizens* use the Internet. My focus is on how, by using the Internet to circulate information as simple members of the public, citizens contribute to increasing public political knowledge. I provide a snapshot of unequal use of blogs worldwide. By comparing two case studies, I investigate how the influence of blogs on politics depends on the national framework in which citizens use them.

Third, I explore in depth how the Internet is used by *social movement* organizations. Among the various bottom-up uses of the Internet, I investigate how the Internet may be not only an instrument to practice politics but also a claim as such. My focus is on the Free Software Movement, as a key example of social constructing of technological meaning.

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Chapter Six
6. Digital Political Parties

1) Introduction

The goal of this chapter is to explore the unequal presence of political parties on the Internet. Since the advent of the Internet, great attention has been paid on how political parties would benefit from being present on the Internet. Gibson and Ward (2009) identify three main lines of research in the field: first, the intra-party arena, referring to the use of the Internet by political parties to facilitate communication amongst its members; second, the inter-party arena, referring to how political parties use the Internet to compete with each other in campaigning; and third, the systemic-arena, referring to how political parties reorganise themselves so as to seize the new opportunities offered by the Internet.

In this chapter I investigate how the Digital Divide fits in this scenario by directing my investigation onto two main dimensions: first, I map the distribution of political parties on the World Wide Web. Second, I explore whether their unequal distribution may be explained by the Digital Divide and by other national conditions, such as the democratic and economic status of each country.

2) Virtual Political Parties

Scholars have paid attention on how the Internet might facilitate better communication between politicians and citizens. In contrast with this expectation however, research has noted that Internet remains mainly used as a one-way flow of information: from politicians to the public (Johson 2003; Levin 2003; Ward et al. 2003). In this way, the Internet has been employed just like a traditional media (Johson 2003; Levin 2003; Ward et al. 2003). Coleman (1999) has also questioned the quality of the information, arguing that in some cases while it may be good quality it is not easily accessible.

Scholars also argued that the Internet would have a positive impact on mobilizing voters, though we are yet to have empirical evidence on this (Castells & Sey 2004). Ward, Gibson and

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Lusoli (2003) point out that in the UK only 38 percent of political party web sites offer visitors the opportunity to become members online. In the opinion of other scholars, politicians do not make the most of the Internet to interact with citizens (Browning 2001; Gibson and Ward 2003; Levine 2003). Ward, Gibson and Lusoli (2003) highlight that less than a third of UK political parties websites allow interactions. Even when politicians try to interact with citizens by opening forums, the experiments are questionable (Gibson and Ward 2003).

All this research bring us to conclude that the general enthusiasm on the Internet as a useful tool for politicians, political parties and political campaigns, has not yet been founded with evidence of more inclusive and participatory politics. So far, research concludes that the websites of official political parties have not provided the opportunities expected of the Internet.

At the same time, research on other aspects of the Internet provides interesting counter arguments. The advent of the Web 2.0, for instance, has been lauded as a great opportunity to energize political participation by enabling easy interaction between political parties and voters. This is also confirmed in those cases when web sites provide political opportunities, such as those designed with social network tools. As was highlighted in the previous chapter (see chapter 5), evidence can be found in the case of the last American Presidential election. With her idea of "cyber party", Helen Margets (2006) explores how ICTs offer the opportunity to expand political parties at the grass roots level. By using Web 2.0 tools, political parties may encourage the direct involvement of people in their activities, such as in contributing to parties' campaigns with money, signing petitions, or even participating in consultations on policy issues.

To summarize, Chadwick (2006) singles out three key-points of the debate about how the use of the Internet may influence the political party landscape:

Internet increases (1) *party competition*. Marginalized new parties and non-party political movements may benefit from the Internet to raise their visibility. In many cases, minor political groups suffer from being small. With the Internet as a cheap medium, as well as more accessible than other communication technologies, they can compete with richer parties at a similar level of visibility. The Internet allows minor political parties to reach potential supporters similarly to main parties. The effect of this situation is an increase of pluralism, enabling citizens to better identify with specific claims motivating their political engagement. This may have the consequence of increasing voter turnout. Older media, such as the printed press and the television, still have great power in providing information and making advertising campaigns.

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However their form of communication is not as rich and fragmented, as is that of the Internet. The Internet allows the spreading of larger amounts of information permitting people to examine political issues according to their own interest and needs. They are better able to form their own opinions, and thus are more likely to take part in political debates. The democratization of the Internet for making and receiving information is more likely to have an impact in a general framework of democracy.

Still according to Chadwick (2006), the Internet may also (2) *diffuse power* among citizens, increasing grassroots control over political leaders and candidates. The network structure of the Internet facilitates continued relations between candidates and their supporters who have then more power in controlling their leaders. This interaction can help politicians refine their political programs responding to the demands and expectations of supporters expressed with the Internet. At the same time, parties are able to coordinate their supporters more easily and quickly to mobilize them for instance in key moments of campaigning and fundraising. This is more likely to motivate people to be politically engaged and support their candidates more actively.

In spite of these new trends, Chadwick (2006) identifies the third key-point, also summarized by Morris (1999) in his normalization thesis, and defined by a few others (Davis 1999; Margolis & Resnick 2000; Resnick 1998), as (3) *institutional adaptations*. This argues that, in shifting the form of doing politics to the Internet, political institutions regulate the Internet's innovative potentials by reproducing the same trends as in off-line politics. While during the 1990s the Internet was the space hosting a proliferation of political websites whose visibility was not linked to the wealth of politics, today conditions have changed. Larger political parties and their candidates are now able to make their Internet communication techniques more effective. More incisive websites and talented staff are likely to work for the wealthiest political parties. They will also have better resources to increase their ability to converge media strategies, integrating television and Internet campaigns into one online and off-line form of communication. Party competition risks being weakened by this, where the Internet is reduced to merely another space in which the already existing political inequalities in off-line politics are perpetuated.

Beyond party competition and the electoral landscape, parties also use the Internet for internal purposes. Analysis in this regard focuses mainly on how the Internet facilitates communication and coordination among local branches and headquarters, and in-groups. Scholars interested on the use of the Internet by political parties started their earliest research focusing on the use of the Internet for internal purposes. Smith and Webster already in 1995

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highlighted that the three main UK political parties were using ICTs to develop their internal communication since the early 1980s (Smith & Webster 1995). Gibson and Ward (2003) also confirmed this scenario in a later research on the UK party landscape. However, despite this early interest on the topic, scholars developed a limited scope of research. Empirical findings confirm that political parties use the Internet to develop internal communication with emails and the WWW. But, scholars also argue that this use is limited. Critics point out that the Internet has been used mainly to facilitate coordination among elites, rather than connection with members (Gibson & Ward 2009). According to Gibson and Ward (2009), we may expect that the spreading of Web 2.0 tools may change this scenario, though further research needs to be conducted to test this.

Today, it is still difficult to conclude that politicians and political parties make the most of the Internet. It is also difficult to generalize findings on how political parties use the Internet. The use of the Internet is fragmented and we are still experimenting how to include the Internet in political processes. In some cases the Internet changes faster than our capacity to understand how to use it. However, in the framework of the network society, the question is not only how political parties use the Internet, but rather whether they do at all. Given that using the Internet for making politics is something increasingly common especially in Western liberal democracies, political parties which are not on the WWW risk being excluded from political competition. In other words, the Internet could improve *pluralistic competition* if those parties with less resource could learn to use the Internet as effectively as their more well-off counterparts. The opposite scenario, of not using the Internet, could be fatal to these poorer parties. Hence a *digital political parties divide*, at least in Western liberal democracies, could have a serious impact on democracy.

The question that now remains open here is: do political parties have equal access to the Internet? Does the Digital Divide affect the presence of political parties on the Internet? Or, rather, does the democratic status of a country influence the distribution of its political parties online?

In the following part of this chapter, I provide answers to these questions: first, I map the worldwide distribution of political parties online. Second, I explore the reasons for their unequal presence on the Internet.

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3) Mapping political parties online

So far, most of research on the presence of political parties on the WWW has been focused on the national level. Attention has been paid on the use of the WWW from political parties in the USA (Druckman et al. 2009), and, in Europe such as, for instance, in the UK (Gibson et al. 2005), and in Italy (Newell 2001). However, research in this field lacks of a cross-national perspective of analysis. As I said earlier, we rely on only a few examples in the literature. In contrast, with this chapter, I explore the distribution of political parties on the Internet from a worldwide perspective. I compare the presence of political parties online from the same 190 countries that I explore in this study. I then contextualize the use by political parties of the WWW, by relating their presence online with the level of Digital Divide, economic and political factors.

In most cases, analysis at the national level explores whether and how political parties are online, by investigating the instruments that political parties include on their webpages. The exploration that I conduct here includes more than 3000 political parties from 190 countries worldwide. The great size of this comparative data does not allow me to enrich my exploration with data on the quality and the efficiency of websites. As I argue below, I am interested only on the unequal presence of political parties online.

3.1) European Political Parties on the WWW

One of the first comparative studies on political parties online was run at the European level by Trechsel, Mendez, Schmitter, and Kies (2003). Here, authors compared the presence of parliaments and political parties online across all 25 European member countries. The authors included in their analysis only those political parties which had more than 3 percent of seats at the election of the European Parliament in 1999. The report explored a total of 144 political parties.

Given that political parties included in the analysis gained a relevant amount of seats in the parliament, all political parties explored in the report were relevant in their countries of origin. The report does not focus then on whether political parties are online. Rather, the research question was clustered around how political parties use their websites. In order to address this investigation, the authors created an index aggregating six evaluating indicators: information

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provision, bilateral interactivity, multilateral activity, user-friendliness, presence of networking tools, and political parties' mobilisation potential.

Empirical findings highlighted a significant variation of the use of websites from political parties across European countries. However, in most of the European countries, political parties did not use forms or other tools to interact with website visitors. Trechsel, Mendez, Schmitter, and Kies (2003) concluded that political parties used websites mainly to circulate information about their activities and claims, as a mono-directional channel of communication. The authors also explored the causes of the variation in use of the Internet. Empirical findings led authors to reject the hypothesis that the Digital Divide and economic factors are determinant. Neither the nature of the party system and the colour of political parties affect the quality of websites. The report found no relations of causality to explain the variation in the use of the WWW by political parties across European countries. However, the analysis is updated to 2003 and refers to European countries with very similar political systems. I argue that a further dimension of the presence of political parties needs to be investigated here. Following a cross-national perspective of analysis, the question arises: What is the scenario at the global level?

3.2) Worldwide Political Parties on the WWW

Norris (2001) conducted one of the first analyses on political parties online from a worldwide perspective. By using data updated to June 2000, the author highlighted that North America was the continent with the highest amount of political parties online. These were about 41 parties per country. The United States was the country with most political parties online (67 parties online). In Western European countries, an average of 24 political parties were online. In South America, the Middle East and Africa, less than 5 political parties had a website. By comparing this data with those referring to the unequal distribution of internet users, Norris (2001) highlighted that the distribution of political parties online by countries is similar to the map of the Digital Divide. Political parties were more online in countries with a low level of Digital Divide. However, even if it appeared that the unequal distribution of political parties on the WWW followed the same worldwide inequalities in accessing the Internet, Norris (2001) also noted that there were too many exceptional cases providing a different picture. Further explanations were then required. By comparing the trend of the distribution of political parties online with other data, she confirmed that the Digital Divide was the strongest predictor to explain the unequal distribution of political parties online, though the

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economic and democratic status of each country also played a role in this regard. Political parties were 18 times more likely to have a website in richer countries than in poorer ones, and they were six times more likely to be online in countries with established democracies than in autocratic regimes.[45] Norris (2001) concluded that established democracies were more likely to have political parties online. In autocratic countries, where the political landscape is characterized by a one-party regime, party competition is restricted and hence the proliferation of political parties online seriously hampered.

Norris's analysis (2001) refers to a scenario quite different to today. Ten years ago, the Internet was a new tool in most of the countries worldwide. The Digital Divide was at its first stages of normalization, and its size was determinant for the use of the Internet in all fields, including its use in the political domain. Conclusions provided by Norris (2001) about the impact of the Digital Divide on the distribution of political parties online matched with the arguments largely debated in this field at the time. These argue that the Digital Divide is the most determinant obstacle to influence politics via the Internet. However, here I criticize this conclusion, arguing that given the new scenario in which the Internet is more accessible, we have to look at other explanations. In previous chapters I highlighted how today the size of the Digital Divide has changed (see chapter 3). By following a normalization trend, the Digital Divide in terms of distribution of internet users is narrowed compared to ten years ago. Despite the continued serious concentration of owners of Internet domain names in a few countries, it has become easier to open a website today, thanks to the rapid spread of know-how. I then expect that the Digital Divide plays a minor role in explaining the unequal distribution of political parties online pictured below. Rather, I argue that the unequal distribution of parties online is determined by other national factors. In the domain of politics, I argue that political factors play a more relevant explanatory role. I expect that the distribution of political parties online is more determined by the democratic status of countries, rather than the Digital divide and economic factors.

In order to test this expectation, I first map the worldwide distribution of political parties online today. I then explore how this data is understood in relation to the Digital Divide, and to the political and economic status of each country.

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[45] Norris defines democratic and autocratic regimes according to the level of democratization measured by the Freedom House Rate (1999);

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3.1.a) Digital Political Parties Divide

Norris (2001) drew her data from 'Elections Around the World'. Today, this source is no longer available. I use data offered by World Internet Access Report (WIA Report)[46] run by the University of Washington. The WIA Report's dataset includes political parties that participate in national party competition. However, in the case of countries where political parties are illegal, the WIA Report also includes political parties without a proper party institution in the data set, referred to as "joke parties".[47] The WIA Report then cross-check the list with information available on Wikipedia. In order to discover how many of these political parties are online, the WIA Report uses the search engine Google. Thanks to this data, I show below the unequal presence of political parties on the Internet. I then analyze how this presence has changed over the last decade.

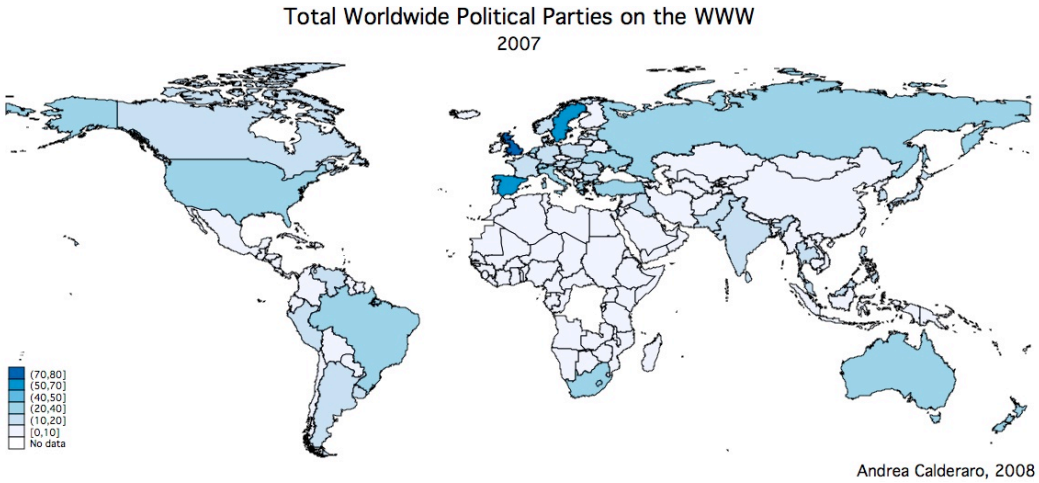

Figure 6.1 - Worldwide Political Parties on the WWW

(*Source: WIA Report, University of Washington, January 2008*)

The map above (figure 6.1) shows that most of the political parties which have a website are based in Western countries. The United Kingdom is the country with the highest number of political parties online (79). Spain (68), Sweden (52) and Italy (37) follow. This data reflects the use of the Internet by political parties. However, this picture depends also on the number of political parties within each country.

[46] www.wiareport.org;

[47] www.wiareport.org/index.php/57/political-parties-online-in-the-muslim-world ;

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3.1.b) Web Party Penetration

In chapter 3 on the global Digital Divide, I explained how in order to map the use of the Internet, it is important to explore the distribution in each country. The Internet Penetration Rate (IPR) was the indicator for this. For the same reason, I argue that it is important to explore the relationship between the total amount of political parties for each country, and the total amount of parties with a website. The Web Party Penetration (WPP) is the indicator here. I calculated this by normalizing the number of political parties online with the total amount of political parties in each country. The map below shows the WPP for each country.

Figure 6.2 – Percentage of Worldwide Political parties on the WWW. Ratio of *online/total*, %
(*Source: WIA Report, University of Washington, January 2008)*

The picture above (figure 6.2) is very similar to the figure mapping the worldwide Internet Penetration Rate. In 20[48] countries all political parties (100%) have a website. Italy follows, where 97 percent of political parties are on the WWW, and Greece with 95 percent. In contrast, in 22[49] countries no political party is present online.

[48] These are: Switzerland, United States, Canada, Japan, Denmark, Norway, Slovenja, Hungary, Belgium, Cyprus, Finland, Ireland, Luxembourg, Maldives, Malta, Saudi Arabia, Barbados, Equador, Colombia.

[49] These are: Azerbaijan, Brunei Darussalam, Burkina Faso, Central Africa, Comoros, Congo, Ghana, Indonesia, Iran, Kazakhstan, Kiribati, Korea North, Laos, Niger, Oman, Papua New Guinea, Qatar, Samoa, Solomon Island, Swaziland, Turkmenistan, United Arab Emirates.

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3.1.c) Political Parties on the WWW: over the Time

I already mentioned that scholars commonly highlight that the Internet plays an important role in increasing competition between parties. Yet the Internet has also evolved, potentially increasing its impact. If all of these considerations are true, I expect that, today, compared with data a decade old, the number of political parties on the WWW should have increased as dramatically as the use and development of the Internet. The table below (table 6.1) compares data from 2000 and 2007. It provides a snapshot of the trend on the presence of political parties on the WWW over seven years.

Table 6.1
Worldwide Political Parties on the WWW

	Total Political Parties	*Parties with a Website*	*Ratio*
2000			
Developed	262	224	85
Developing	995	259	26
Total	1257	483	38
2007			
Developed	733	570	78
Developing	2351	898	38
Total	3084	1468	48

Source: WIA Report 2008, University of Washington, January 2008

Note: N=190

Table 6.1 provides aggregate data of political parties worldwide. It splits off the data into two categories. Each of them is divided into further two statuses. First, the *developing* category distinguishes countries according to their status of development calculated by measuring specific criteria. The source here is the CIA Factbook, which includes market-oriented economies of states members of the OECD. Just like for the United Nations Statistical Office,

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the designations "developed" and "developing" are intended here purely for "statistical convenience"[50] and do not express a "judgement about the stage reached by a particular country or area in the development process".[51] This category distinguishes between "developed" and "developing countries". Below, I analyze political parties worldwide on the WWW along a time frame of seven years. Below, I compare countries in relation to *economic* status.

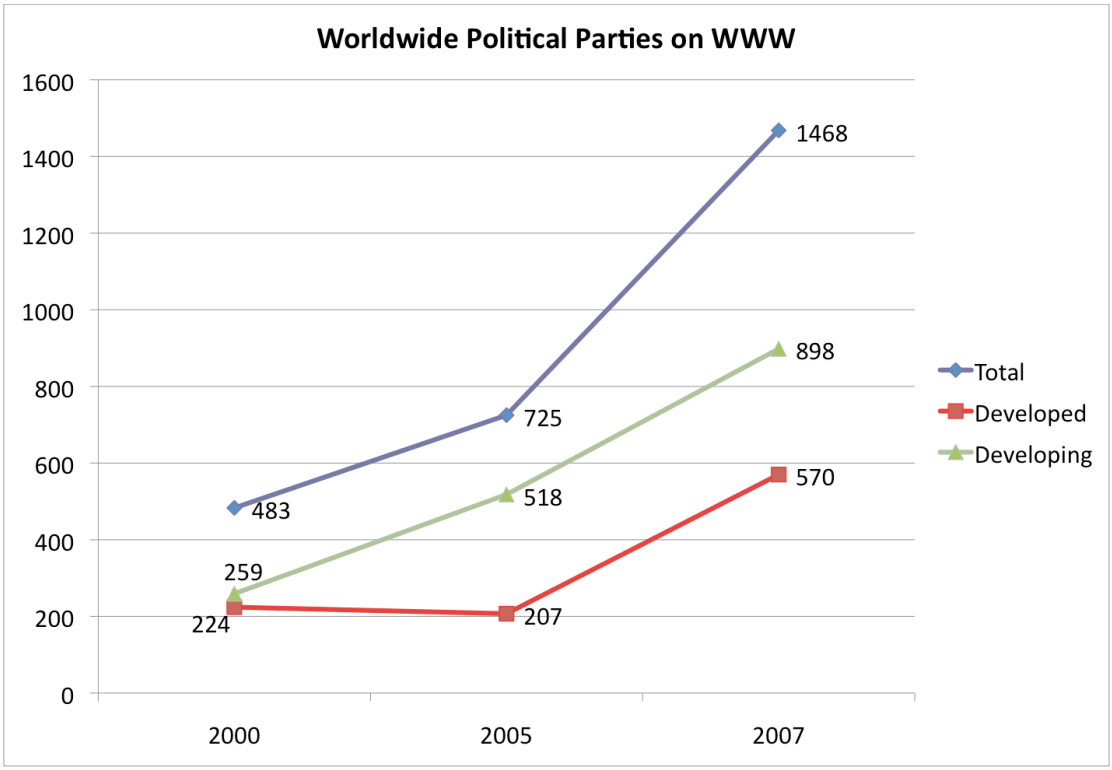

Figure 6.3 – Timeline Worldwide Political parties on the WWW, N=190

(*Source: WIA Report 2008, University of Washington, January 2008*)

The graph above (figure 6.3) charts the same trend described in Table 6.1 by comparing aggregate values of political parties online. It shows that, from 2000 to 2007, there has been a significant increase of political parties on the WWW. Looking at the *economic* category, we see a serious difference between "developed" and "developing" countries. The graph shows that political parties in "developing" countries are more likely to be online. However, the WIA Report (2008) points out that this is likely to be improved over time. It is important to highlight that many improvements have been introduced in collecting these data since 2005. In the past, "joke political parties" were included in the data set. In 2007, the WIA Report research team

[50] unstats.un.org/unsd/methods/m49/m49.htm ;

[51] *ibidem* ;

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decided to include into its analysis only political parties that propose candidates for elections. "Joke parties" are then excluded by this last analysis. However, this decision did not affect countries where political parties are illegal. In these cases, the WIA Report research team decided to keep including joke parties in the data set.

Finally, we are able to test the expectations proposed at the beginning of this chapter: does the Digital Divide affect the unequal presence of political parties online? Or are other contextual factors such as the political and economic status of a country more important?

3.3) Causes

I ran a multivariate regression in order to address this question. The presence of political parties worldwide on the WWW (*Web Parties on the Web)* is the dependent variable here. I use the Digital Divide indicator for 2007 (amount of *Internet Users*), democratic indicator (*Polity IV*), and economic status (*PPP GDPxCapita*). I do not use the normalized values of internet users (*Internet Penetration Rate - IPR*) because, as highlighted in chapter 3, this is already correlated to the value of the democratic status of the country. By including this variable in the regression, we would violate the exogeneity assumption typical of standard regression analysis.

Table 6.2

OLS Regression of Political Parties online on Internet Users, Democracy, and Economy

	Political Parties Online (Ratio)
Internet Users *(x million)*	.156* (.093)
Level of Democracy *(Polity)*	.965** (.355)
Economy *(PPP GDP xCapita)*	.001*** (.000)
Constant	27.67 (3.049)
N	190
R-squared	.365

*** p<0.01; ** p<0.05; * p<0.1 (1-tailed test) – Standard errors in parentheses

Source: Internet Users (Internet World Stats, November 2007); PPP GDP xCapita (UNDP, 2007); Polity (Polity IV Project, 2007)

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The resulting regression (table 6.2) provides interesting evidence with resulting estimates that are highly significant. The amount of the Internet population, political, and economic factors combined explain 36% of the variation in the worldwide presence on the Internet of political parties. A *F test* of joint significance indicates that the model has strong explanatory power compared to an intercept-only model. The model also shows that the level of the Digital Divide, measured with the amount of internet users per country, is less significant than other indicators.[52]

The coefficient estimates (B) imply that the variation of 1 unit in *Polity IV*, measuring the *Level of Democracy*, implies a change of almost 1 percentage point (0.96) in *Political Parties on the WWW*. Increasing the number of *Internet Users* by 1 million raises the percentage of *Parties on the WWW* by 0.156. Increasing *PPP GDP xCapita* by 1000 dollars, which is roughly the difference in *PPP GDP xCapita* of a country leads to a change of 0.001 percentage points in *Political Parties on the WWW*.

In conclusion, the direct effect of economic and political factors on the presence of political parties on the WWW is stronger than the direct effect of the dimension of the Digital Divide measured by the number of internet users. However, as I showed in chapter 3, the Digital Divide is in turn strongly affected by democratic and political variables. The evidence clearly shows that democratic and economic conditions are the most important determinants of the use of the Internet for political purposes by political parties.

4) Conclusion

This chapter explored the unequal use of the Internet by political parties. As I argued above, this is an example of a top-down use of the Internet to promote "conventional" forms of political participation. I have, first, explored how politics may benefit from the use of the Internet in the framework of party competition. I have also highlighted that research in this field still lacks empirical evidence about whether, and how political parties make the most of the Internet to promote themselves. I also argue, that given the increased centrality of the Internet in the framework of politics, the unequal presence of political parties on the WWW risks

[52] I tested for multilinearity correlation among the independent variables. None of them is correlated beyond the 0.5 ;

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weakening the plurality of the political landscape.

This is why, in the second part of this chapter, I explored the unequal distribution of political parties on the WWW worldwide. Inspired by the "social constructivism of technology" approach, I have investigated which factors of the "technological framework" are more significant for explaining how political parties use the Internet unequally. By exploring national conditions such as the level of the Digital Divide, the economic and the democratic status, I addressed this question. Empirical findings led me to conclude that the Digital Divide is not the most determining factor explaining the unequal presence of political parties online. Rather, economic and democratic conditions are more determinant in explaining the unequal use of the Internet by political parties. To conclude, political parties shape the use of the Internet according to the political and economic framework in which they are performing.

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Chapter Seven
7. Digital Citizens

1) Introduction

Citizens may be politically active as members of a political party or of a social movement. But citizens may also be politically active in their own personal way. In this chapter I am interested in these particular citizens, who are not engaged in "political conflict on the basis of a shared collective identity" (Diani 1992, p.13)[53]. Rather, they are individuals practicing their civic engagement as simple members of a larger community (Putnam 2000).

Today, the Internet allows citizens to be the receivers of information, enabling them to make voting preferences or to decide to join a campaign or participate in a demonstration. But citizens may also actively use the Internet to spread information, to create new spaces for political debate, form affinity groups, and run bottom-up forms of campaigning. Citizens, as simple members of the public, may then generate grassroots "unconventional" political practices (see chapter 5 for details).

In the previous chapter, I explored how political parties use the Internet to spread information about their profile and activities. In this chapter, I explore how individual citizens use the Internet. This will then lead us to the following chapter where I explore how social movements use the Internet to spread their claims and help enlarge communities of people sharing common struggles, and how they address political engagement via "unconventional" forms of political practices. But citizens can also stand alone, alongside these two contrasting political actors: political parties and social movements.

In what follows, I explore, first, how citizens perform their political practice by using the various instruments offered by the Internet to contribute to the creation of political knowledge. Second, I explore how this happens locally, according to the status of the Digital Divide and social, political and economic factors.

[53] According to the definition proposed by Diani (1992) social movements are "networks of informal interaction between a plurality of individuals, groups and/or organizations, engaged in a political or cultural conflict on the basis of a shared collective identity" (p.13).

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2) Digital Citizens and Digital information

Marshall (1992) defined citizens as people, members of a community, who share civil, political and social rights of membership. This includes "the right to share to the full in the social heritage and to live the life of a civilized being according to the standards prevailing in the society" (Marshall 1992, p.8). Citizens have a variety of opportunities to practice politics. Mossberger, Tolbert, and McNeal (2008) define "civic engagement" as a "multifaceted concept, consisting of political interest, political discussion, and political knowledge" (p. 48). As already highlighted so far, the Internet offers many instruments that enable citizens to perform civic engagement. Those who exercise "the ability to participate in society online" are defined by Mossberger, Tolbert, and McNeal (2008) as "digital citizens".

It is commonly shared that the circulation of information increases political knowledge and thus can energize civic engagement (Alvarez 1997; Brians & Wattenberg 1996; Tan 1980). However, the debate on how this happens through the Internet is fragmented around contrasting arguments.

Early research argues that the use of the Internet to spread political communication would not prevent the trend of a decline in civic engagement (Davis & Owen 1998; Putnam 2000; Margolis & Resnick 2000). This is why the existing inequality in political participation online is the projection of the same inequality of off-line civic engagement (Mossberger et al. 2008). More pessimistic arguments point out that the Internet may in reality decrease social connections. Putnam (2000) argues that those people who primarily use the Internet as a source of information, are less likely to invest time with other people and to volunteer in in-group action. He does not then believe that the use of the Internet increases civic engagement. Putnam (2000) supports his argument with research based on an extensive survey of North American society. Some scholars explain that the lack of civic engagement via the Internet is caused by the fact that computer mediated communication weakens social signs, such as body language and physical contact, thereby de-personalizing interaction between people (Nie & Erbring 2000). Putnam (2000) adds that the absence of social signs in computer-mediated communications weakens trust between people.

Following a cyber-pessimist line, Sunstein (2001) argues that the Internet offers a landscape of fragmented information. This allows people to reach directly the source of information they are interested in. However this brings people also to bypass other sources of information or to

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approach topics from other points of view which could enrich their knowledge and opinion on the topic. Sunstein (2001) defines this as "cyberbalkanization" of information. In contrast, since mainstream traditional media aim to satisfy the needs of as broad as possible a public, they spread a wider range of accessible information. By using off-line traditional media, people are then forced to receive inputs even if they are not looking for them (Sunstein 2001). With the concept of "cyberbalkanization", Sunstein (2001) argues that the Internet actually narrows the possibilities for information. This argument could explain why blog readers are more polarized than television-consumers, such as empirically showed by Lawrence, Sides and Farrell (2010). However, Sunstein's argument is not new in the field of communication research. Similar warnings were also made in the past, referring to traditional media. Already in 1985, Meyrowitz largely debated on the idea that the evolution of media would lead to a balkanization of knowledge. The author did not refer to the advent of the Internet. Rather, he explored the risk of a balkanization of information by focusing on the increasing use of satellite television. For some scholars, the narrow focus of television channels would have narrowed also people's interests and general knowledge. This is why people were less likely to receive information from channels that usually did not spread information of primary interest to them. Meyrowitz (1985) did not agree with this argument, believing that the spread of the use of technology – the television in this case – would have in any case offered people more than in the past the opportunity to also explore by chance information that it would not have been possible to reach with former generalist media. I consider this conclusion also relevant with regard to the use of the Internet. The Internet allows easy access and quick interaction with sources of information (Mossberger et al. 2008). It is more able to reduce any gender, race and age gap in the process of communication (Rheingold 2000). It also allows interaction between people which would not have been possible without the Internet (Benkler 2006). Thanks to all this, the Internet exposes people to different points of views on politics (Garrett et al. 2004). Mossberger, Tolbert, and McNeal (2008) argue that the "cyber-balkanization" risk is overestimated. Also Sunstein (2007) revises his arguments in an updated version of his work, arguing that "certainly empirical evidence could demonstrate that the risk of group polarization is small – if, for example, people actually read a wide range of views, and not simply those with whom they antecedently agree" (p. 146). According to Mossberger, Tolbert, and McNeal (2008), all these conditions introduced by the Internet enable civic engagement. Let us now explore how.

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3) Information, Political Knowledge and Civic Engagement

3.1) The role of traditional media

Research on the relationship between information, political knowledge and civic engagement exists from before the advent of the Internet. Since the first research was conducted by Lazarsfeld, Merton and Katz in the 1950s, sociologists have been interested in the relationship between television content, media exposure and popular culture (Lazarsfeld & Merton 1948; Katz 1987). Empirical findings supported the idea that exposure to media has an influence on popular culture. Within the framework of political science, Lippmann (1947) and Dewey (1954) addressed their interest in exploring how the advent of new communication media led to new forms of political engagement (Howard 2006). Today, according to the increased amount of empirical findings in this field of research, scholars note that television spreads knowledge about politics (Brians & Wattenberg 1996), and this influences even more people with lower levels of information (Freedman et al. 2004). People mainly acquire information on the profile of candidates (Weaver 1996) and their positions on specific issues (Chaffee & Kanihan 1997; Weaver & Drew 1993) from television news.

Given the extensive research in this field, today there is agreement on how exposure to political information is more likely to increase civic engagement by increasing citizens' knowledge about political issues. But, how does the Internet fit in this scenario? How does the exposure to online information influence citizens' knowledge?

3.2) The advent of the Internet

Already after a few months since the advent of the World Wide Web (WWW) in the early 1990s, 7 newspapers created their digital version online (Gunter 2003). By 1994 approximately 60 newspapers in the United States had a website. Only 4 years later, in 1998, the amount of newspapers online increased to a range between 1600 and 2000 (Greer & Mensing 2006). We have to include to this data the fact that approximately all news agencies, from TV and radio broadcasting channels to newspapers corporations, had their own websites, through which they published news online (Scott 2004). The increase in the amount of newspapers online grew in

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2002 to approximately 3400 in the United States and 2000 in the rest of the world (Gunter 2003).

Over the same years, the amount of online news' readers also increased during this time. Data provided by the Pew Research Centre shows that, only in the United States, people regularly reading news online increased by 29 percent from 1996 to 2006 (Stanyer 2007). In 2009, approximately 50 percent of people in the United States read regularly news online, 27 percent rarely, and 26 percent never (Pew Research Centre 2009). At the same time, similar research in Europe shows that in 2009, in the United Kingdom, 65 percent of internet users consume news online (Dutton et al. 2009).

Moreover, as already stressed (see chapter 5), since its advent, the WWW has evolved. The evolution of websites has influenced the way news is published and consumed online. The so-called Web 2.0[54] is easier for publishing information. This includes accompanying text with pictures and audio-video, links to other sites and interactive options. Thanks also to the spread of data transmission in many countries, online websites publish news now not only under simple text format, but also with pictures and audio-video. The WWW today is much more multimedia than its original version. Digital news can also be accessed via other media, such as mobile phones. Finally, thanks to the emergence of several social networks tools, e.g Twitter, YouTube, and Facebook, news can also be spread easily and faster among people.

3.3) Does online news increase political knowledge?

By shifting our focus to the use of the Internet to spread knowledge on political issues, the increasing amount of research in this field shows similar conclusions to those so far introduced on traditional media (Mossberger et al. 2008). Empirical findings highlight that reading newspapers or other format like mediums, requires high information-acquiring skills (Healy & McNamara 1996; Kyllonen & Christal 1990). This implies that people learn about politics more easily from watching television than from reading newspapers (Smith 1989). Empirical research led by the Pew Research Center for the People and the Press[55] confirms that people consuming

[54] See chapter 5 for more details;

[55] people-press.org ;

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online news are more likely to have better knowledge on political issues than someone who only uses traditional media (Pew Research Center 2008).

News consumption also stimulates political debate among people (Smith 1989). The Internet offers several instruments to create open spaces for political debate (Mossberger et al. 2008). It offers the opportunity for cheap, fast and flexible ways of interpersonal communication by providing E-Mailing Lists, forums, E-Mails, and web tools part of the Web 2.0 form, such as Facebook, Twitter and YouTube (Thomas & Streib 2003). According to Thomas and Streib (2003) the use of the Internet increases *political knowledge* more than format-like newspapers. Online news, in their opinion, is more accessible and thus more likely to be acquired by people. Political knowledge is more likely to generate *political discussion* thanks to the possibilities of interactivity offered by the Internet. Moreover, in contrast to the cyber-balkanization hypothesis, the Internet, compared to traditional media, facilitates reception of information from a broader range of points of views. This condition generates a greater *political interest* (Mossberger et al. 2008). Mossberger, Tolbert, and McNeal (2008) highlight with empirical findings these three lines of causality between the use of the Internet and the increase of civic engagement. They confirm that the use of the Internet to consume and share political information, allows citizens to increase their knowledge on political issues. This implies that citizens increase their interest in politics and are more likely to engage in generating political debate.

However, today, the advent of digital news is not unanimously lauded with optimism. According to Currah (2009), in the domain of journalism it is commonly shared a clear distinction between the speed in news-making and the quality of information. Given that the Internet has sped up the circulation of information, some scholars argue that the quality of news is threaded by this new condition. The Internet produces a rapid cacophonic circulation of information. Professional journalists are forced to adapt to this scenario by collecting information at the same speed. The Internet becomes the main source of information here. However, in the cacophony of digital information, the risk of receiving fake information that can be hard to verify is high. Furthermore, any mistake in the information narrative is quickly amplified by the interconnected structure of the Internet. In this quick process professional journalists cannot spend sufficient time to elaborate the information. So far, this has been considered determinant to make the information accurate (Currah 2009). Using the Internet as main source of information has also changed the profile of journalists. Without the Internet, in order to collect information journalists had to be physically located close to the event. Journalists needed to reach in person the source of information, by travelling and meeting

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people. The job of journalists involved actual investigation in the field. Today, journalists can also stay at their office desk collecting information from the Internet, remaining far from the object of their information narrative. For some scholars, by skipping these stages in the news making production, journalists diminish the quality of their news (Currah 2009).

Debate in the field is still open. We need more time to find empirical evidence to lead us to conclusions in this regard. We must be sure that even in the news-making production, debate between cyber-optimist and cyber-pessimists provides us interesting arguments that need to be further investigated.

In this study, so far, I have highlighted how the use of the Internet increases interest on political issues among citizens, and facilitates political debates helping then to increase their political knowledge. All these conditions then can encourage citizens to further engage in politics. We now ask the question: how do citizens perform their civic engagement through the Internet?

4) Citizens and Civic engagement

In the previous section I looked at how the consumption of information via the Internet facilitates civic engagement. This is thanks to the fact that the Internet allows people to be not only receivers of information, but also producers. The Internet has reduced costs to publish and spread information, and people are then able to be active in generating ideas online. If citizens are able to address political knowledge by participating in the spreading of information, citizens are also able to address both "conventional" and "non-conventional" political practices. In what follows, I explore how this happens and how citizens use the Internet to make this possible.

4.1) Agenda-setting

Given the importance that information exposure has in generating political knowledge, we should pay attention to "agenda-setting". This concept refers to the ability to address the attention of people by clustering the focus of the media landscape around specific topics (Cohen 1963). By exploring the Blogosphere, Davis (2009) adds that agenda-setting is "the power to determine public priorities" (p. 10). Also in this case, in order to explore the concept,

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we have to make a step back, before the advent of the Internet. Research on agenda-setting commonly explores how traditional media are able to influence other actors' agenda, such as those of policy makers and the press. Empirical findings bring to light a correlation between news coverage and public attitude (McCombs & Shaw 1972). Davis (2009) points out that media agenda-setting influences not only ordinary citizens. Rather, according to Kim, Sheufele and Shanahan (2002) policy-makers are influenced by it too. At the same time, some scholars argue also that agenda-setting is not pervasive as such. Rather, it impacts on people and social groups depending on different factors, such as their sensitivity and interests (Wanta & Hu 1994). For instance, media-sceptical people are less likely to be influenced by media agenda-setting (Hester & Gibson 2003). Others argue that media agenda-setting does not influence in the long term (Winter & Eyal 1981).

Media agenda-setting plays a crucial role in political campaigning. It influences what issues shall be focused on, but also when and what details to highlight (Winter & Eyal 1981). The hierarchical structure of traditional media also makes it easier for political elites to influence agenda-setting. For example, in 2004, during the American presidential election, George W. Bush, then both President of the United States and candidate, was able to focus his campaign mainly on fighting terrorism.

Today, with the increasing fragmentation of the media landscape, rising attention is paid on the *intermedia agenda-setting*, which refers to how several media format influence each other (Lee et al. 2005). The advent of the Internet fits into this scenario, by enriching the media landscape with several new instruments. A key question here arises: Does the use of the Internet influence agenda-setting? How does the Internet integrate with mainstream media? Does the Internet allow citizens to actively influence agenda-setting by being active producers of information online?

5) News making and Blogging

The networked infrastructure of the Internet has been welcomed by scholars as the media which offers the opportunity to change traditional models of communication, by making it easier for people to be active speakers and shape new multi-directional information flows (Lee et al. 2005). In the framework of politics, people become spreaders of information and

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producers of political contents in a way much easier than in the past (Benkler 2006). The proliferation of participatory media creates a self-organizing mesh of public communications, in contrast with traditional "hub-and-spoke architecture of mass media" (Etling & Kelly 2008). This is evident in the "blogosphere".

5.1) What is a blog?

One particular instrument of the WWW is the so-called Blog. The word Blog was born by merging the words *web* and *log*, meaning to keep a sort of daily diary on the WWW. A Blog is a web site. However, it differs from more commonly known websites by following a standard format, with a "blogroll", a list of posts occupying the central body of the main page. These are periodically updated by Bloggers, individuals or groups of people who run the Blog. Readers of Blogs can usually interact with them by commenting on the published posts. Blogs are often either used for publishing personal thoughts, or as a channel through which people spread information and debate on topics of common interest. People may keep their Blog on their own website, registered with an Internet Domain Name, or on Blogs' hosting services. There are many companies offering free web-spaces of this sort. These make maintaining Blogs even easier given that they also provide the template for the webpage and the software to easily update the contents. The most commonly used Blog hosts are, for example, Blogger,[56] offered by Google, and WordPress.[57]

Commonly, Blogs include links to other websites and sources of information, in many cases each Blog links and is linked to others. The more links there to a Blog, the more visitors it will receive (Etling & Kelly 2008). This network of Blogs is what is labelled as the "Blogosphere" (Drezner & Farrell 2008).

Given the ease with which people may keep a Blog, scholars consider Blogs as the most common instrument of the Internet through which people can spread information from the bottom-up, independently from any mainstream media (Drezner & Farrell 2008).

[56] www.blogger.com ;

[57] www.wordpress.org ;

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5.2) Microblogging

The evolution of the so-defined Web 2.0 offers new trends for blogging. Social-network tools on the Web, such as Facebook and Twitter, enable people to manage a channel of communication via the WWW in an even easier way than a classic Blog. If the Blog required minimal competence, these new web services offer the opportunity to publish multimedia contents by simply typing directly in a specially provided space on the WWW. The result is similar to that reached by blogging. This is why these web services are defined as "microblogging". In detail, microblogging is a simpler form of blogging enabling the distribution of multimedia content, in the form of short text messages and videos and photos, to anyone or to a restricted group of people chosen by the user. Information may be published directly, or also by posting hyperlinks referring to multimedia documents published on other websites. The publication of information may give life to debate among readers, through the already described system of open commenting.

Recently, microblogging is rising in importance because given that people use it mainly to publish and to share quick and short messages, it is one of the first concrete mergers of the mobile phone and the Internet. Usually, microblogging services offer people the opportunity to update their microblog via a mobile phone, thereby making the spreading of news even faster. Microblogging is then largely used to spread information instantaneously. Despite the rising in importance of microblogging tools, we still rely on only limited research on the topic. We can expect more empirical findings on the relationship between microblogging and politics in the near future.

The relevant role played by microblogging was made particularly clear on two recent occasions: with the bombings at several hotels in Mumbai, India, and during the protests following the Iranian election results.

The Mumbai bombings consisted of more than ten attacks across India's financial capital. The attacks, which drew widespread condemnation across the world, began on 26 November 2008 and lasted until 29 November. During this time, people who witnessed the event used microblogging to publish information on what was happening live. This information was used also by professional journalists and broadcasted by mainstream media channels. The Mumbai bombings have since then considered "what may be the most well-documented terrorist attack anywhere" (Bajaj & Polgreen 2009). [58] Around this time, many professional journalists started

[58] www.nytimes.com/2009/07/21/world/asia/21india.html ;

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discovering the potentials of the news-making power of people, thanks especially to the Web 2.0 instruments.

However, a new event showing even more clearly the potential of microblogging was around the corner. In the last section of this chapter, I explore in depth the use of microblogging during the Iranian protests of June 2009.

5.3) Blogosphere a new challenge

Attention is being paid on how Blogs are able to democratize the creation of political content (Bajaj & Polgreen 2009), and the ability to examine their credibility (Johnson & Kaye 2004; Matheson 2004). Summarizing the various research in this field, the main argument is that Blogs amplify more than traditional media the political voice of ordinary citizens (Hindman 2009). This has been welcomed as a change whereby citizens are no longer mere passive consumers, but rather, by interacting with Blogs, become actively involved in opening political debate via the Internet (Trippi 2004). Benkler (2006) argues that the recent evolution of communication technologies, including Blogs, has generated a more democratic model of public communication. They are more inclusive and interactive than older models clustered around traditional mass communication media (Benkler 2006). The hierarchical organization and the oligarchic form of traditional media make it more easily controllable by capital or government's organizations. This risk is even higher in countries with authoritarian regimes. Benkler (2006) argues that this authority is destabilized by Internet technologies. According to the author, even in those cases where regimes run censorship policies involving filtering the content of the Internet, the Internet still offers the opportunity to undermine control. Thanks to this it is difficult to "doubt that the blogosphere certainly allows a lot of knowledge, including local knowledge, to come to public light" (Sunstein 2007, p.142).

In contrast with the optimistic arguments proposed so far, Hindman (2009) points out that critics rise for the very same reasons so far welcomed as positive claims. Some argue that the blogosphere is too democratic. This is why it gives space to unqualified voices, replacing the precision and objectivity "ensured" by professional journalists, with possible inaccurate sources of information (Hindman 2009). At the same time, recent empirical evidence reaffirms the optimistic expectations of the heterogeneity of bloggers' population, and its influence on the general media landscape (Davis 2009).

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In what follows I explore how citizens use Blogs to increase their influence on the media landscape. By investigating how this happens, I show how citizens use the Internet to exercise an influence in addressing political knowledge.

5.4) Blogosphere and Mediasphere

I started this chapter exploring how the spreading of information increases political knowledge. I then stressed that political knowledge is likely to energize civic engagement. I also stressed however that agenda-setting plays a key role in addressing political knowledge.

Since the advent of Internet media, citizens are not only receivers of information but also news producers. The question then arises: Are citizens able to influence agenda-setting? Do citizens shape the use of the Internet to address political knowledge?

"If journalists read blogs, then agenda-setting is possible" (Davis 2009, p.13). Davis (2009) investigates how blogs and bloggers may interact with mainstream media by participating in media agenda-setting. Davis (2009) highlights that journalists rarely quote Bloggers as the source of their news, even if they actually use them. Usually information coming from the Internet is quoted with euphemistic words, such as, for instance, "Internet's rumours" (Sunstein 2009) or "Internet buzz". Davis (2009) gives as an example an event that took place during the 2008 American presidential campaign. A photo, showing the president candidate Barack Obama wearing a traditional Kenyan dress, circulated over the Internet. Some people considered the photo the proof that Obama was Muslim. Journalists reporting the news did not mentioned the Blog which first published the picture. Journalists usually do not quote Bloggers because they look at the blogosphere with scepticism. This has much to do with the fact that the Blogosphere has become a competitor of sorts in the news-making process, but also a groundless source of news (Davis 2009). Nonetheless, journalists depend increasingly on Blogs for news material.

According to Davis (2009), Bloggers may increase their power in setting media agendas if they posses information which professional journalists do not have. Thanks to this, Bloggers may catch the attention of mainstream media, which could react by addressing their media coverage on the information originating from the Blog.

Davis' analysis on how Bloggers influence the agenda-setting leads him to conclude that a reciprocal influence exists between professional journalism and Blogging. First, Blogs are the

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space where information published by mainstream media are debated and commented. At the same time, information published by Bloggers is used by journalists as a source of news material. Drezner and Farrell (2008) argue that "the rapidity of Bloggers' interaction" (p.25) influences political communication and the agenda-setting of traditional mainstream media. The amount of Bloggers focusing on a particular story also catches the attention of mainstream media helping there too to set the news agenda (Drezner & Farrell 2008).

To conclude, if we agree that Bloggers are able to address agenda-setting, I argue that they are also able to influence political knowledge, which, according to what we have already explored, is at the base of civic engagement. In other words, I argue that bloggers increase civic engagement by playing an active role in addressing information and shaping knowledge.

Some further questions still need to be investigated: Do Bloggers actually talk about politics through their webpage? Is the Blogosphere one of the news spaces of the Internet for debating politics?

If we are able to positively answer these questions, we may further consider the importance of Blogging for increasing civic engagement. In what follows, I address this question by exploring some empirical data in this regard.

5.5) Blogging Politics?

The question of whether Blogs are new spaces for debating politics remains open. Most contributors in the debate welcome Blogs as a tool for creating new opportunities to democratize political communication (Benkler 2006). Hindman (2009) however provides a different scenario. Focusing on the Blogosphere in the United States, he shows empirically that only 5% of Blogs are regularly read by people, meaning that 95% of the Blogosphere is read sporadically. At the same time, by analyzing the profile of Bloggers, Hindman (2009) shed the light on the fact that the authors of the Blogs most read are white, male, well-educated professionals. This scenario shows that Blogs give mainly a voice to those who are already part of the elite in society. Nonetheless the author also agrees that there has been an increase in the use of Blogs: today more than 1 million people have become political Bloggers in the United States alone, while ten million people in this country read Blogs regularly. While Hindman (2009) mitigates the optimism typical in the debate in the field, he also recognizes that the most read Blogs have also become the main source for political commentary, thus playing a

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determinant influence on professional journalism. Hindman's research provides empirical evidence on how the role of the Internet for politics has been overestimated by cyber-optimists. Yet his analysis on the Blogosphere refers mainly to the top visited websites. The Blogosphere has been welcomed as giving the opportunity to contextually grounded people to spread their own information narratives. Research in the field must then also pay attention to websites aggregating information published by bloggers who do not commonly catch the attention of a wider public. The purpose of these websites is to bridge minor, and often more grounded, Blogs to a wider public.

Websites like Global Voice[59] and Huffington Post[60] have as their mission to consolidate the fragmentation of the information narrative in the Blogosphere. Global Voices is a website translated in over 15 languages, supported by the Berkman Centre for Internet and Society at the Law School of Harvard,[61] involving over 300 volunteers across the world. Their activities consist in monitoring Blogs worldwide in order to bridge the information produced at the local level to a broader public through the Global Voices portal. Another key example in this regard is Huffington Post. According to Alexa,[62] Huffington Post is today the 150th most visited website worldwide. While Global Voices has the main purpose to aggregate minor political Blogs across countries, Huffington Post includes all kind of contributors. The result is anyway the same: to aggregate information from Blogs which do not directly attract many readers, and divulge them as sources of news of interest to a wider public.

Another question that needs to be investigated here is whether or not Blogs talk about politics. Technorati, the main search engine of Blogs, focuses a part of its "State of the Blogosphere Report" published in October 2009 on how Bloggers use Blogs for political purposes. The pictures below show the results of this investigation.

The first graph shows how Bloggers perceived the use of Blogs. The survey run by Technorati asked Bloggers in what fields did they think Blogs had the greatest impact so far.

[59] globalvoicesonline.org ;

[60] www.huffingtonpost.com ;

[61] cyber.law.harvard.edu ;

[62] www.alexa.com ;

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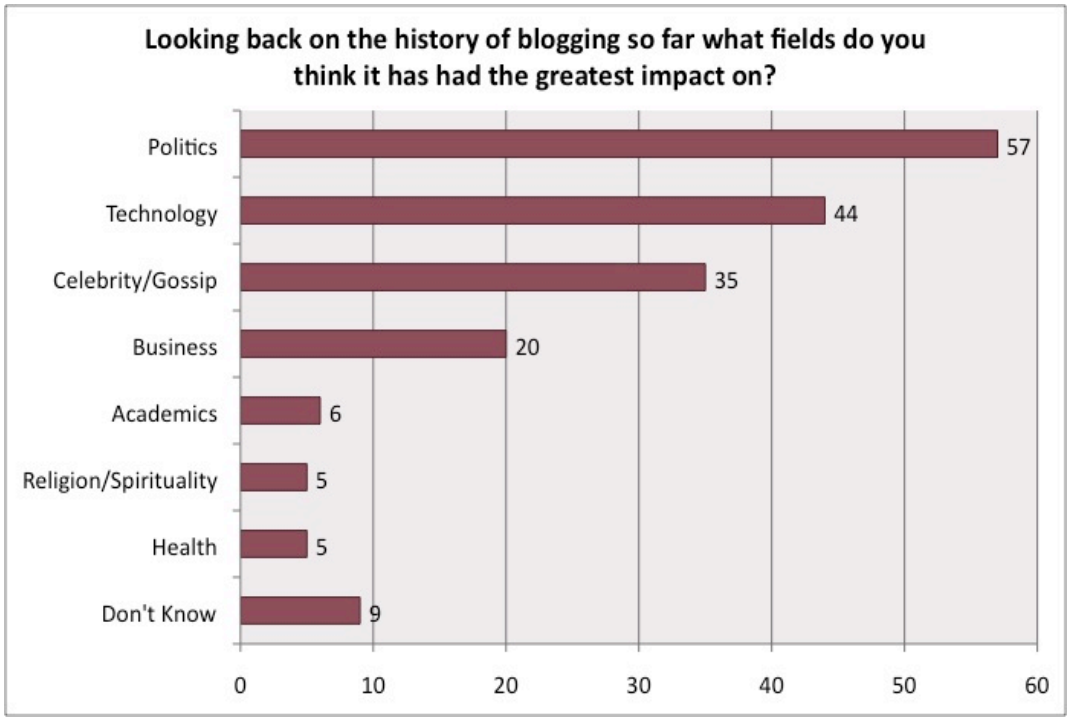

Figure 7.1 – Survey asking in which fields Blogs have had an impact so far

(*Source: Technorati, November 2009*)

Data reported on the picture above (figure 7.1) confirms that Bloggers support the idea that the Blogosphere mainly influences "politics". 57 percent of respondents agree with this. Since respondents had the opportunity to give multiple answers, a high percentage of Bloggers think that Blogs also influence other fields. It is not a surprise that 44 percent of Bloggers answered that the Blogosphere influences the field of "technology", given that Blogging is also at the centre of the debate on the evolution of the use of the Internet. 35 percent of respondents however also answer that Blogs are mainly used for "gossip". The percentage falls to 20 percent of people who believe that Blogs have an impact on "business". Meanwhile the percentage of people who think that Blogs have an impact on the "academic" field decreases to 6 percent, a similar percentage to those people answering that Blogs impact on "spirituality" (5 percent) and in the field of social services, such as "health". Finally 9 percent of Bloggers have no opinion.

Technorati provides further data showing how people expect Blogs will influence the same key issues in the future.

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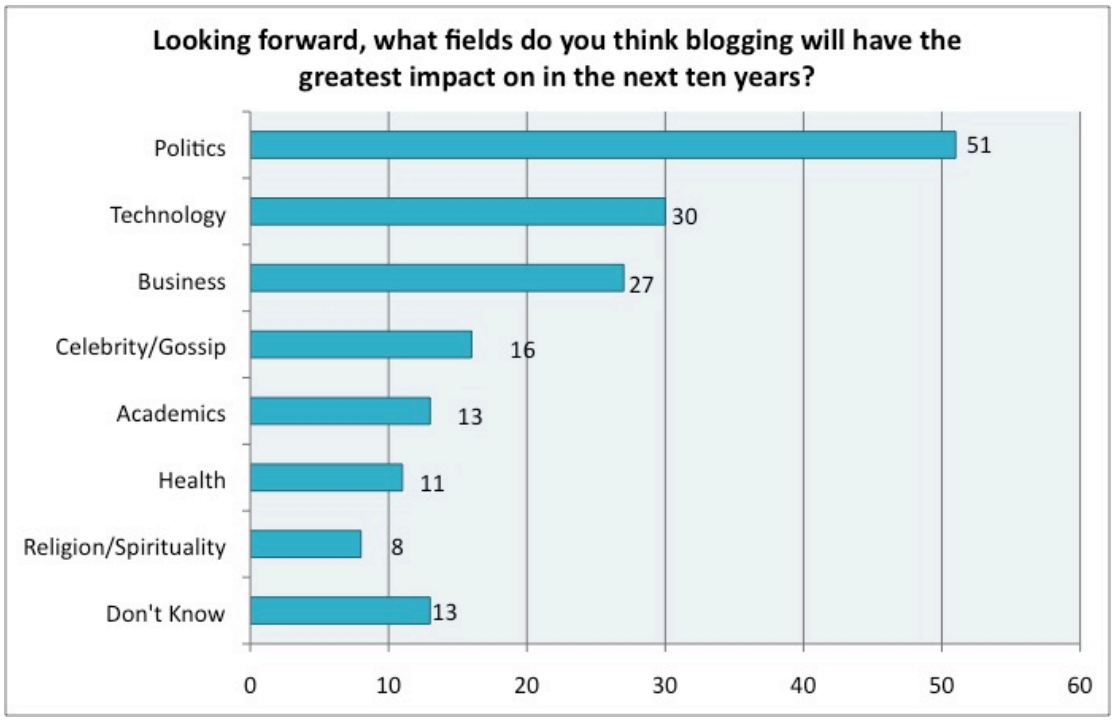

Figure 7.2 – Survey asking in which fields Blogs are expected to have an impact in the future (*Source: Technorati, January 2009*)

The graph above (figure 7.2) shows that "politics" is the field in which a majority of respondents expect the Blogosphere to have the most impact in the future. It is however, a decrease from the percentage in figure 7.1. The percentage related to the category "technology" also decreases (from 44 percent to 30 percent). On the other hand, "business" increases from 20 to 27 percent, becoming the third field where people expect Blogs to have an influence. It is expected that Blogs will also impact less on "gossip", since the percentage decreases from 32 to 16 here. At the same time, percentages referring to the other categories, "academic" (13 percent), "health" (11 percent) and "spirituality" (8 percent) approximately double. All in all, people expect Blogs to increase their influence in most of the categories including those previously less considered. This is a significant finding, that people expect Blogs to increase their influence generally. I agree with Hindman (2008) when he argues that it should not be a surprise that bloggers perceive their role as significant for influencing politics and other areas of human interest. But, as Hindman also highlights, the impact of Blogs is also perceived by journalists (Hindman 2009). Data provided by Technorati are also revealing about the expectations of impact of Bloggers. It is noteworthy that a high percentage of Bloggers expect, or desire, that their Blogging activities have an impact on politics and general areas relevant to human autonomy.

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A key question is still open in the debate on the topic: What kind of political impacts do citizens have via Blogging? Today we are still far from providing a clear answer to this question. However, an increasing amount of research, still focusing on the case of the United States, provides some empirical data about whether or not Blogs concretely influence conventional politics. In the domain of deliberative electoral systems, Lawrence, Sides and Farrell (2010) show a positive correlation between Blog-users and political participation, providing empirical evidence on how Blog-readers participate in politics more than non-Blog readers. Meanwhile, Schlozman, Verba and Brady (2010) explore how people with different socio economic profiles react to the political possibilities of the Internet, including Blogs and microblogging. Authors show that Blogs are the instrument most used by citizens to publicize a political position, compared to contacting an editor of a traditional media. Schlozman, Verba and Brady (2010) have also found an association between age and the use of microblogging tools, such as social networks like Facebook, for political purposes. More than 30% of respondents included in the young age group (18-24) answered that they use these digital tools to be political engaged. Following their empirical findings, Schlozman, Verba and Brady (2010) concluded that age causes inequalities in using the Internet for political purposes. However, given the high percentage of younger people using the Internet for political purposes, authors expect that the Internet may bridge the deficit noted in the practice of politics offline by young people. However, the authors also stress that among the various forms of political engagement, political participation on the Internet does not necessarily reflect an "activity that has the intent or effect of influencing government action - either directly by affecting the making or implementation of public policy, or indirectly by influencing the selection of people who manage those policies" (Verba, Schlozman & Brandy, 1995, in Schlozman, Verba & Brady, 2010, pp.501).

It is important to bear in mind that all the research covering these issues refers only to the United States. As I have already argued in my study, the Blogosphere is fragmented across different countries, political systems and forms of political participation. The common point is the expectation that Blogs influence politics, principally by enabling people to contribute more easily than in the past to the circulation of information. As already argued, the circulation of information is perceived as determinant for increasing political knowledge, thereby energizing political engagement. The following data helps us to explore whether a relationship exists between the mainstream traditional media landscape and information spread and debated in the Blogosphere. If the relationship does exist, we can conclude that Bloggers are an important part of the media-landscape, playing a significant role in spreading knowledge, and thus addressing politics. Technorati helps us to explore the topics that Bloggers deal with in their Blogs. Thanks

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to data on the "tags" referring to the posts published on Blogs, it is possible to verify if any relationship exists between events and the amount of posts published on Blogs. The graph below explores this relationship by comparing the amount of posts put in a timeline, with events occurring in the same time period. The time period is from August 2004 to February 2007.

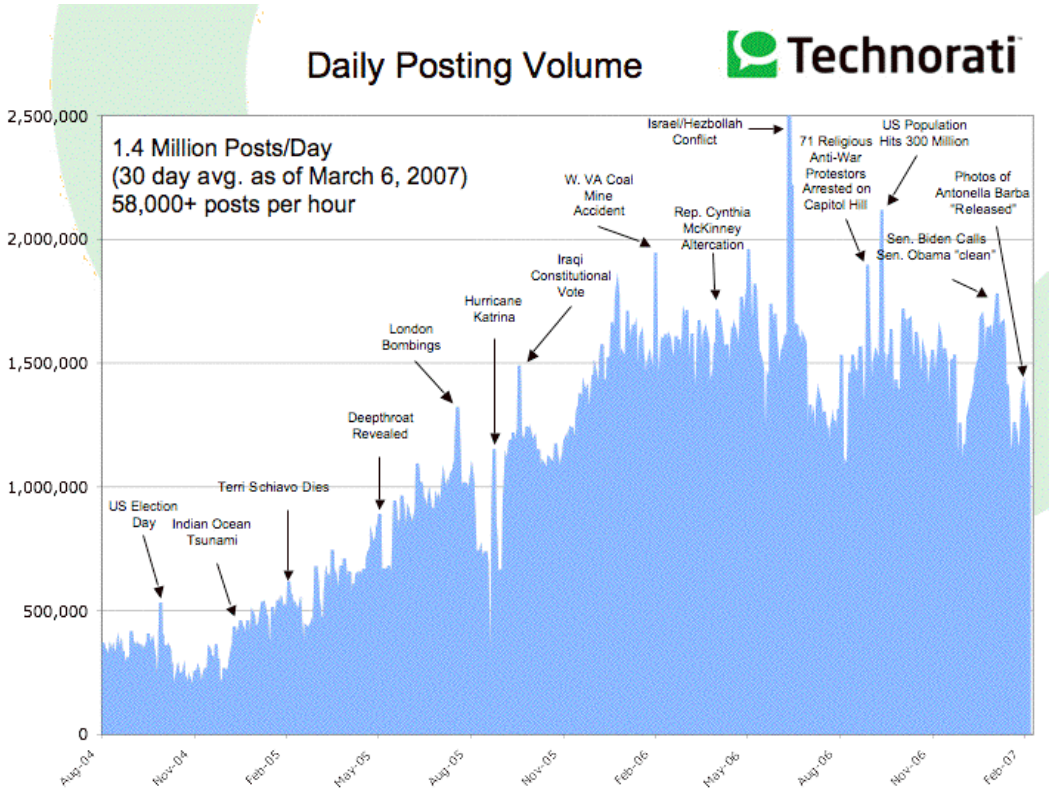

Figure 7.3 – Relation between occurred events and traffic Blog's posts

(*Source: Technorati, November 2007*)

The graph (figure 7.3) shows that over the last three years, the amount of published posts approximately tripled. Data also shows that peaks of post publications overlapped with the occurrence of specific events. This leads us to conclude that Bloggers are more active in Blogging when particularly important events happen. This conclusion is more evident for political events, which generate a greater amount of post publications.

To conclude, this comparison confirms that Bloggers are very linked to what happens off-line. Bloggers give a larger voice to what happens in the political, social and economic life of society, by mirroring and commenting events in the Blogosphere. Blogs build a reciprocal

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relationship with the media landscape. If information has been published before by professional journalists, the Blogosphere amplifies news by speeding up its spreading through their social network structure. The Blogosphere also becomes the space to comment and debate on the event. In the event where Bloggers are able to publish news before professional journalists, this will be spread through the Internet, and then be reported by the mainstream media. Whatever the direct or indirect impact of Blogs on conventional politics, such as recruiting people for campaigns, energizing voting, increasing fundraising, Blogs are above all a media which enables people, as simple members of the public, to take part in information narratives.

However, given the unequal access to the Internet worldwide, this relationship between Blogger and professional journalism happens unequally across the world. According to the main argument of my research, I expect citizens to use Blogs unequally, depending on their different local conditions and political needs. Since the use of Blogs is shaped locally, I also expect that we cannot generalize the influence of the Blogosphere on politics. Rather, I argue that Bloggers influence politics in an unequal fashion according to local or national conditions, such as the level of democracy.

6) Blogging inequalities

So far, I have discussed how citizens are empowered by the use of the Internet by contributing to the Blogosphere. I have looked at how the Blogosphere is a new space to debate politics, spreading political knowledge, thereby increasing civic engagement. This, however, happens unequally worldwide since the Internet is not equally distributed.

This research explores how the Internet is used according to contextual specificities, political and cultural needs. Following this line, I argue that in order to provide some conclusion on the influence of the Blogosphere on politics, we have to relate our analysis to the context in which citizens use the Internet to blog. If the key arguments explored with this study are confirmed, I expect national conditions to seriously influence civic use of the Internet, and the effect produced by Bloggers on politics to differ.

With the various national conditions, I expect that the Digital Divide is the reason for the unequal distribution of Bloggers worldwide. However, I argue that it is not the main cause of the unequal influence of Bloggers on politics. Following the key argument of this research, the

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political meaning of the Internet is shaped by actors performing politics according to the political context in which the Internet is used. In exploring the impact that the Blogosphere has on politics, we have to pay attention to the democratic status of the country, evaluated here according to data provided by Polity IV data set, where citizens blog. I expect that by contextualising the Blogosphere according to the democratic status of the country, we will then able to provide accurate conclusions, and avoid generalizations that so far have failed to provide a concrete snapshot in this regard. I argue that, in countries with higher level of democracy, citizens have the opportunity to express their political opinions and to practice politics through a variety of instruments and forms. In contrast, in countries with a low status of democracy, and usually correspondingly low levels of freedom of expression, the Internet is more likely to be the only independent channel of communication allowing citizens to express their struggles. By blogging, citizens can perform their political practice, spreading opinion and information that could not be expressed in other in more traditional ways. I argue then that, in those conditions where the circulation of information is controlled by autocratic regimes, the influence of the Blogosphere is determinant as the public voice of citizens.

In what follows I provide empirical findings about the unequal use of Blogs worldwide. In order to contextualize the use of Blogs, I first explore the unequal distribution of Bloggers worldwide. I then investigate how national conditions, including the unequal use of the Internet and the economic and political statuses of the country, affect unequally the impact of the Blogosphere on politics.

6.1) Mapping the Blogosphere

6.1.a) Global Blogosphere Divide

Since citizens started publishing on the WWW by maintaining Blogs, the dimension of the Blogosphere has increased. Given the various formats through which Blogs are published on the WWW, it is difficult to provide precise data on this. However, thanks to research projects such as Pew Internet and America Life Project[63] and Technorati,[64] we can provide some data

[63] www.pewinternet.org ;

[64] www.technorati.org ;

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estimation. Pew Internet and America Life Project focuses its analysis in the United States. By conducting a survey on American internet users, Pew Internet and America Life Project estimate that, in 2002, 3 percent of American internet users managed a Blog. This data increased to 7 percent in 2004, and to 8 percent in 2006. In the same period, the amount of Blog readers also jumped from 11 percent in 2003 to 27 percent in 2004, to 37 percent in 2006.

Extending our focus on the distribution of Bloggers worldwide, Technorati provides data estimation of the global dimension of the Blogosphere. This allows us to have a snapshot of the unequal distribution of Blogs worldwide. Data shows a dramatic increase in the dimension of the Blogosphere globally. By 2004, Technorati counted 2 million Blogs worldwide. 5 years later, in 2007, this data jumped to 70 million Blogs worldwide. Approximately 120 thousand Blogs were created daily and 1.5 million posts published per day. This means that in 320 days the number of Blogs grew from 35 to 70 million (Technorati 2007). In 2008, Technorati collected answers from over 66 countries. The picture below (figure 7.4) shows the unequal distribution of Bloggers worldwide.

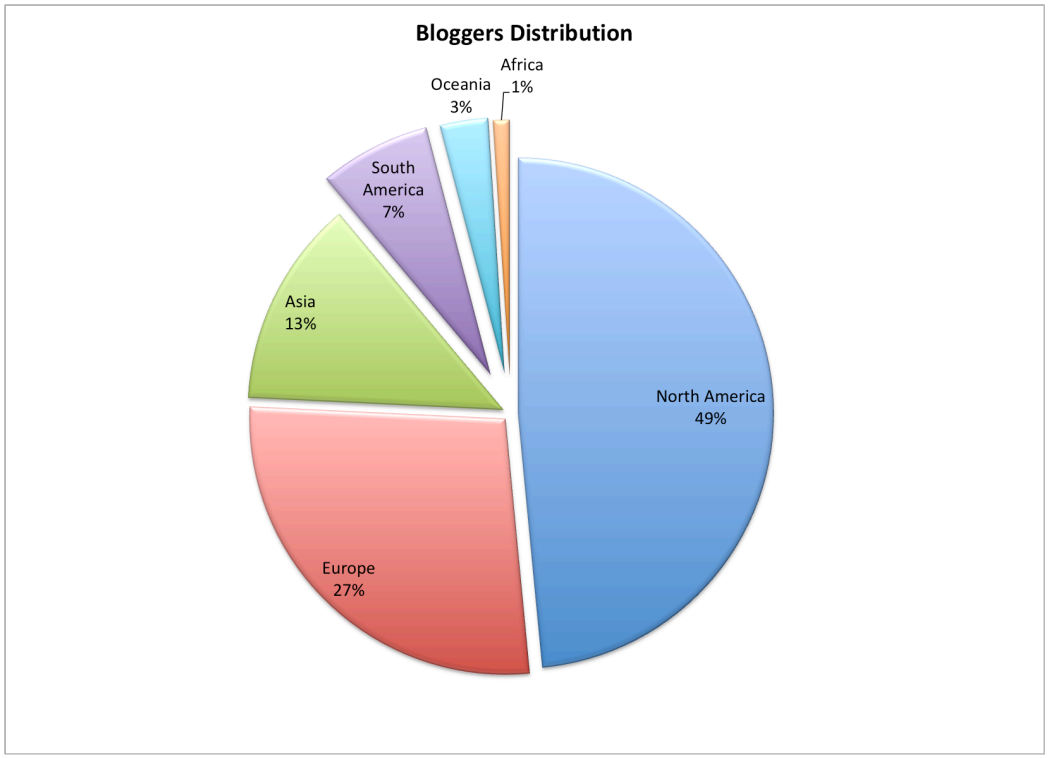

Figure 7.4 - Worldwide distribution of Bloggers

(*Source: Technorati, November 2008*)

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This picture (figure 7.4) shows similar data for the global dimension of the Digital Divide. Data is similar to that referring to the unequal distribution of Internet users worldwide (see chapter 3). Almost 50 percent of Bloggers live in North America. These are distributed between 43 percent in the United States and 6 percent in Canada (Technorati 2008). 25 percent of Bloggers live in Europe, 13 percent in Asia, and 7 percent in South America. 3 percent of Blogs are published in Oceania, and in line with other data on Internet usage, Africa is the continent with the lowest number of bloggers: 1 percent.

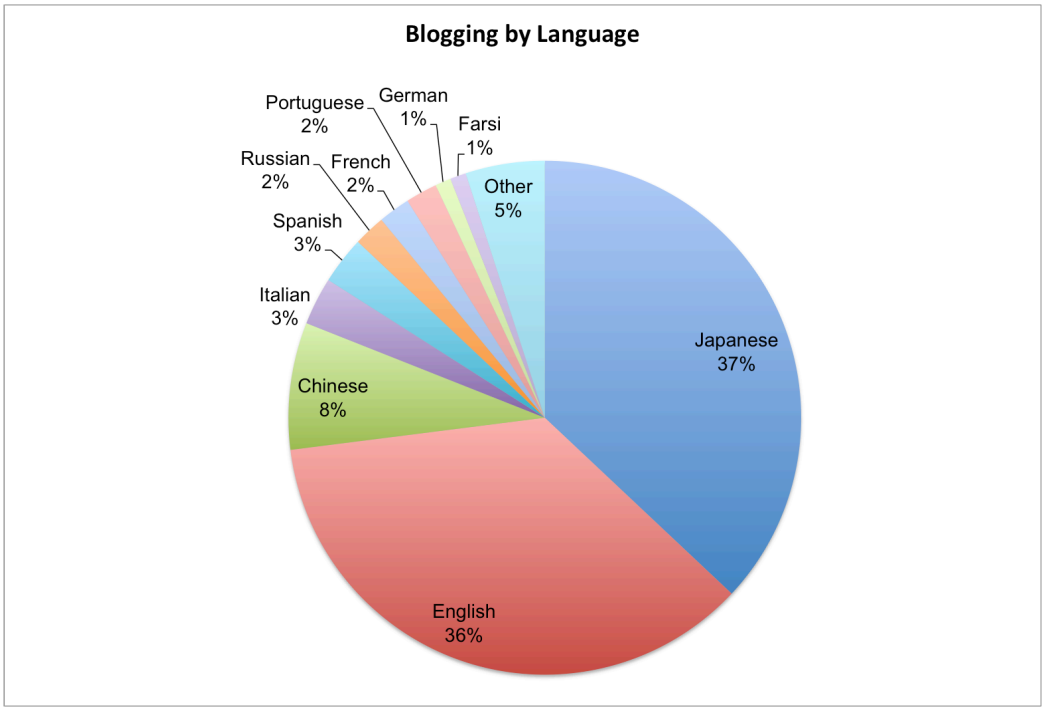

Figure 7.5 - Blog Posts by Language

(*Source: Technorati, November 2007*)

In terms of language, the picture above (figure 7.5) shows that main languages used in the Blogosphere, according to Bloggers answering to the survey in 2007. Japanese is the first blogging language at 37 percent. English is second at 33 percent, Chinese third at 8 percent and Italian fourth at 3 percent. In sum, the graph shows the unequal use of languages of Bloggers. Again, this picture does not differ from data on the Digital Divide. The three most used languages to blog refer to the countries with the higher amount of internet users (China, United States and Japan). English is used not only in the United States but also in the UK, Australia and in many other countries where a large number of internet users are based. Furthermore, English

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has also become the lingua franca of the Internet (Rose 2005) and people use English for their digital communication despite their country of residence.

According to this trend, Joseph Nye (2004) argues that the growing use of English as lingua-franca in global communications provides the United States with 'soft power'. By soft power Nye (2004: ii) defines "the ability to get what you want though attraction rather than coercion or payments". We would then expect a hegemonic power in the information narrative in the transnational communication. Rose (2005) disagrees with Nye by arguing that given the established English as lingua franca, non-Americans countries have a double advantage: to use a commonly shared language to link their communication to the world, but also to keep their language for their national and internal purposes. In contrast, in English speaking countries, national news can also become global more easily, given that a higher percentage of the global audience speaks English. Rose (2005) points out that this scenario creates an asymmetry of understanding in the dialogues of international political communication, weakening the "soft power" thesis of Nye (2004). Figure 7.5 shows that Japanese citizens (38 percent) blog approximately as much as English citizens (37 percent). According to Rose's point, the high percentage of Blogs in Japanese, but also in Chinese and other languages (see figure 7.5), show that Blogs are not used just to communicate to a global audience, but are also highly used to talk to audiences speaking the same language. This data shows a high significant use of Blogs at the national level. The scenario here described shows a strong link of the Blogosphere's contents production to the national dimension, making Blogs a widely used instrument of the Internet to develop the proliferation of information narratives at the national level.

6.1.b) Social Blogosphere Divide

The picture below (figure 7.6) helps us to understand who are Bloggers. It shows that 79 percent of Bloggers blog for personal use. This is the equivalent of four out of five Bloggers. This category includes Bloggers who blog about topics related to personal interest. 46 percent of Bloggers blog on their own business or profession in an unofficial capacity. These are the "professional Bloggers". Those who blog for the same purpose in an official capacity for their company are the "corporate Bloggers", who make up 12 percent of the Blogger population. However, these categories are not mutually exclusive. For instance, according to Technorati's report (2007) 50 percent of both "corporate" and "professional Bloggers" are also "personal

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Bloggers". This may happen by managing a separate Blog, or by including posts about their private interests in their "professional Blog". 69 percent of "corporate Bloggers" are also personal Bloggers, while 65 percent are professional Bloggers. As for professional Bloggers, 59 percent are also "personal Bloggers", while 17 percent are also "corporate Bloggers".

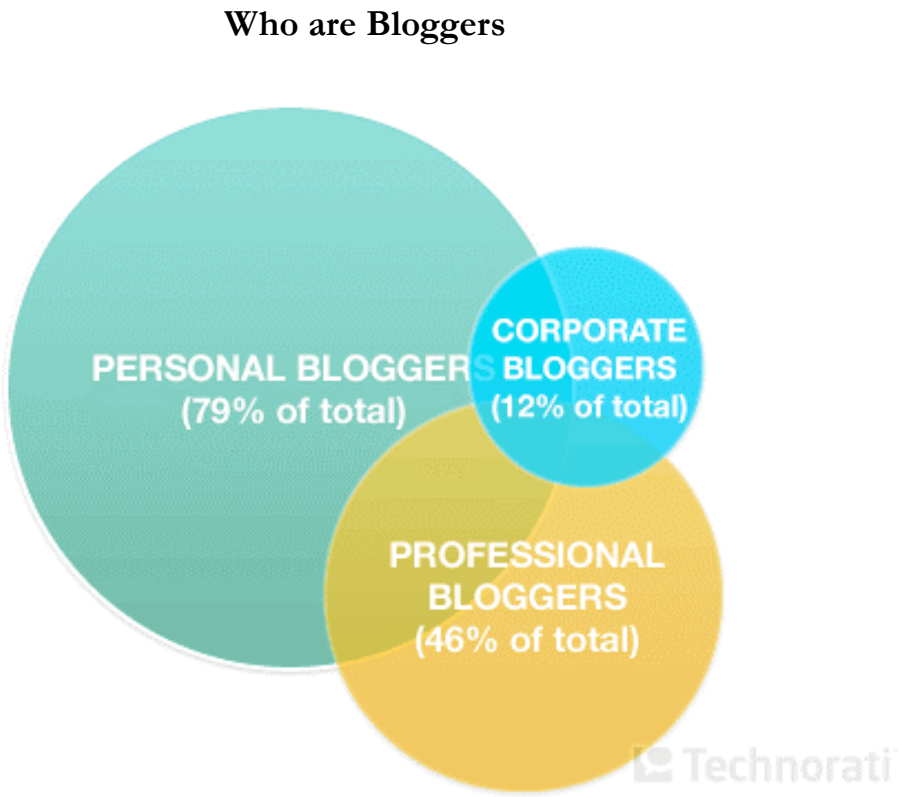

Figure 7.6 - Blogger population by kind of purpose

(*Source: Technorati, November 2008*)

Gender

In what follows, by looking at 3 of the 4 social factors I used to explore the social dimension of the Digital Divide - gender, age, income (see chapter 4) - I explore the social profile of Bloggers. The first social factor I explore is the category *gender*.

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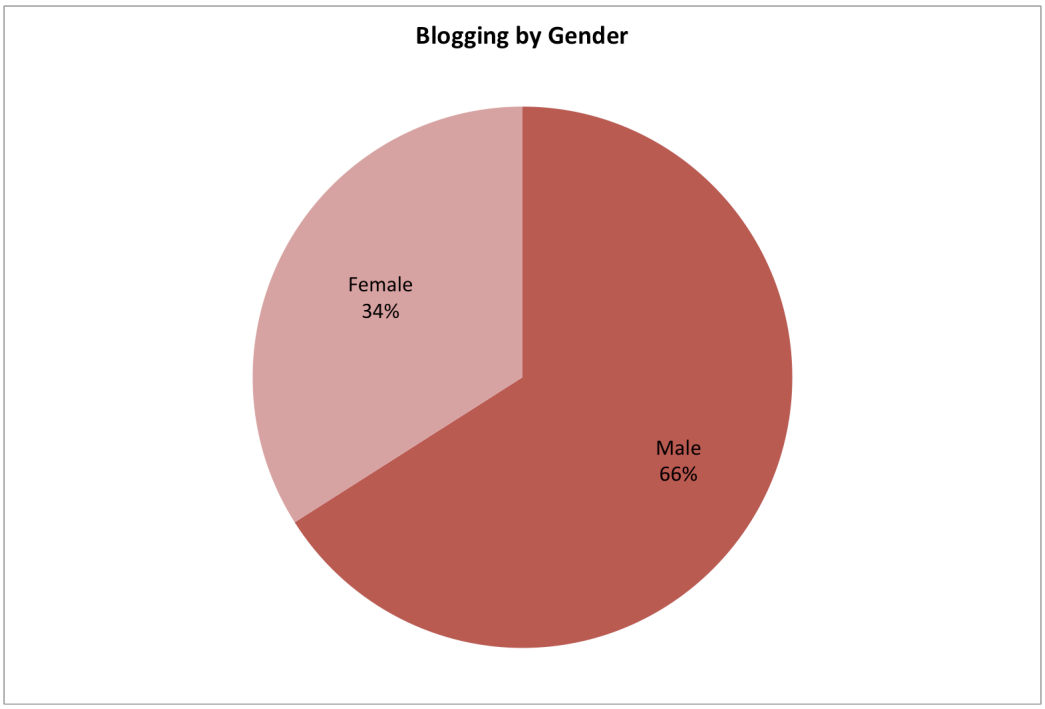

Figure 7.7 - Bloggers by Gender

(*Source: Technorati, November 2008*)

The picture above (figure 7.7) shows a gender inequality in the Blogosphere. 66 percent of Bloggers are male, while 34 percent are female. This data refer to the worldwide dimension of the Blogosphere. However the gender gap among Bloggers changes according to the country. Looking at the United States case, for instance, the gender gap is lighter. According to Technorati report (2009), 57 percent of North American Bloggers are male, against 43 percent of female.

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Age

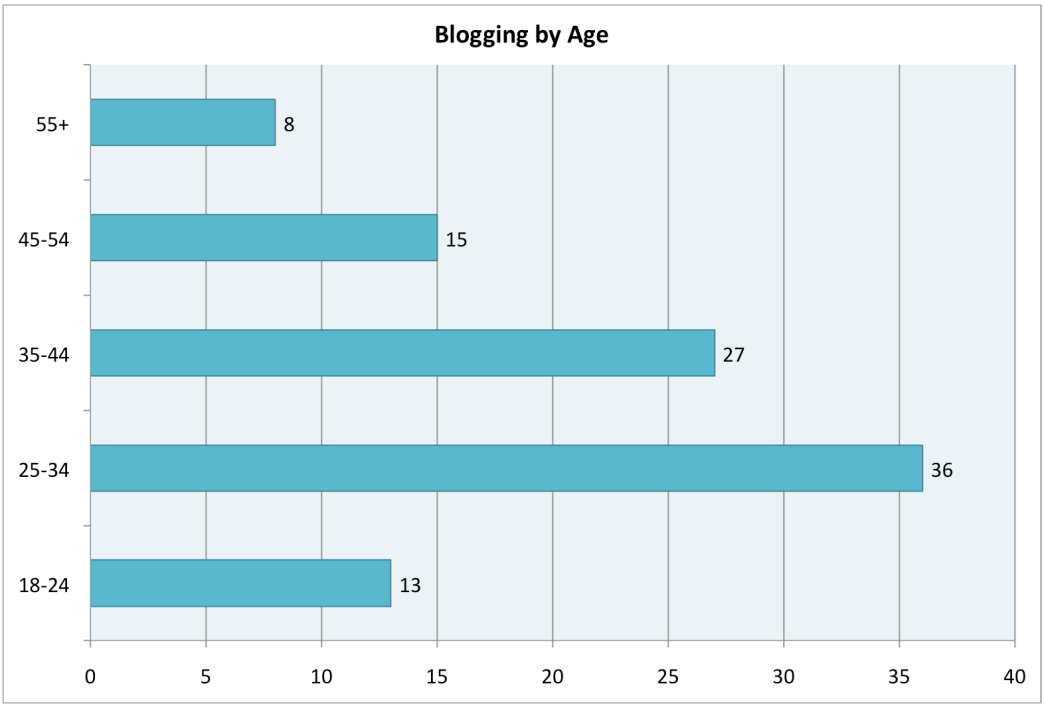

Figure 7.8 - Bloggers by Age

(*Source: Technorati, November 2008*)

The picture below (figure 7.8) shows the Bloggers' population by age. People from 25 to 34 years old are more likely to blog. People included in this category represent 36 percent of the Bloggers' population. The percentage of older people is also high: 27 percent of people from 35 to 44 years old blog, while people from 45 to 54 years old make up 15 percent of Bloggers. In line with data on the Digital Divide in relation to the age-factor (see chapter 4), also in this analysis, people older than 55 years represent only 8 percent of Bloggers, which is the lowest percentage highlighted by the picture below. While this may not be a surprise, what is a surprise is the fact that young people make up a low percentage of Bloggers. It would have been expected that "digital natives" (Palfrey & Gasser 2008) use Blogs widely, or at least it is surprising to see that Bloggers between the age of 18 and 24 are three times less than Bloggers between 25 and 34 years old.

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Income

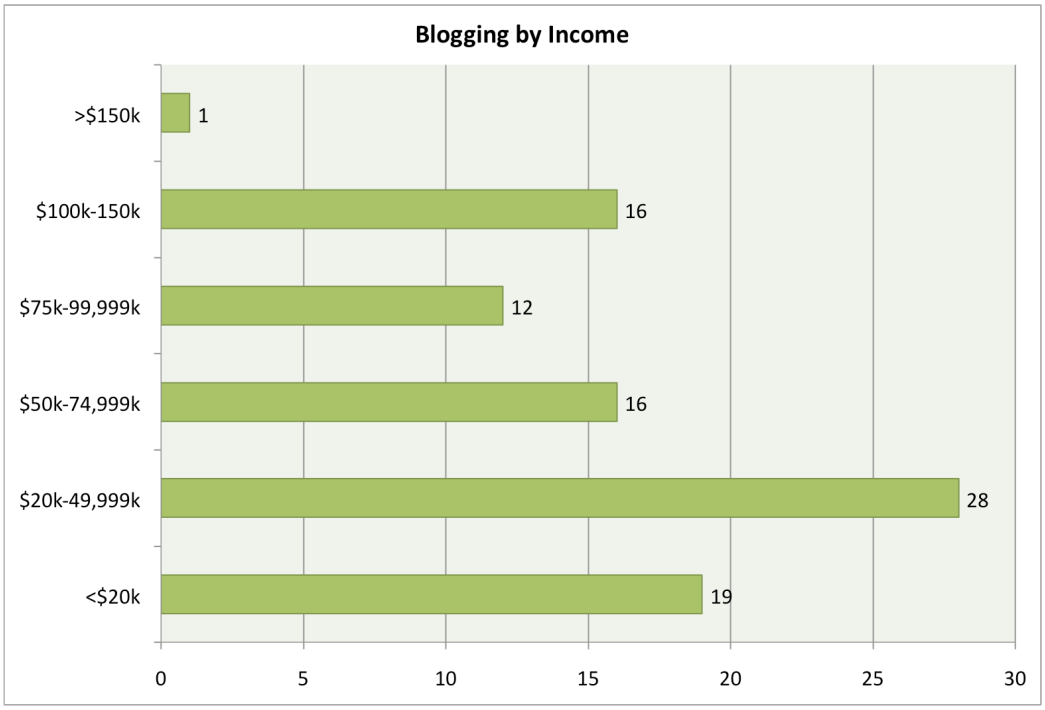

Figure 7.9 - Bloggers by Income

(*Source: Technorati, November 2008*)

The analysis of the Blogger population by income does not provide any clear trend. The picture below (figure 7.9) shows that people with a lower income are slightly more likely to blog. If we assume that younger people are more likely to have lower income, we are then able to explain the trend that the graph above shows (figure 7.8). This can also explain why the graph about blogging by age and blogging by income are very similar. The graph above shows that people with the average income included between $20.000 and $50.000 are those blogging more than people included in other categories. These represent almost one third of the entire Bloggers population (28 percent). Poorest people, included in the category with an average income lower than $20.000, represent one fifth of the Bloggers population (19 percent). A similar amount of Bloggers have an income included in the categories $50.000-$75.000 and $100.000-$150.000. Both categories represent 16 percent of the Blogger population. Also the middle category included a similar amount of Bloggers. People with an income between $75.000 and $100.000 are 12 percent of the Blogger population. On the other hand, the richest people, with an income over $150.000, blog very little (1 percent of worldwide Bloggers).

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6.2) From Blogging to Microblogging

Both blogging and microblogging (e.g. Facebook and Twitter) are part of the same phenomenon. Both are instruments empowering citizens by giving them the opportunity to take part in news-making agenda. Since the convergence of both instruments, Technorati explores empirically the link between Blogging and Microblogging in the "State of the Blogosphere 2009". [65] Data shows that 74 percent of worldwide Bloggers also use Twitter, which represents 14 percent of the general population. 52 percent of Twitter users publish their posts on Twitter. Microblogging is becoming so common that 26 percent of Bloggers switched their time from updating their Blogs to spending time only on Twitter.

6.3) Contextualizing Blogospheres

Most of the literature exploring the status of the Blogosphere, with a particular focus on how citizens blog in order to influence politics, refers to the United States. Much research explores how Blogs have been used during American electoral campaigns (Davis 2009; Drezner & Farrell 2008; Hindman 2009; Sunstein 2007). However, research in this field so far lacks an exploration of the Blogosphere from a cross-national perspective of analysis. Given the transnational dimension of the Blogosphere, we have to bring some light on how citizens also use Blogs in non-Western countries. Inspired by the "social constructivism of technology" approach, I expect that the Blogosphere does not influence politics equally worldwide. Rather, citizens influence politics by blogging according to the political framework in which they act.

In order to test this expectation, in what follows, I compare two contrasting cases: the United States and Iran. According to data already introduced in the previous chapters of this research, the United States and Iran radically differ for various reasons:

- The United States is the country where the Internet was born and it is one of the countries with the highest Internet literacy. The United States is also one of the richest countries in the world, and Polity IV includes the United States in the group with the highest level of democracy;

[65] technorati.com/blogging/feature/state-of-the-blogosphere-2009/ ;

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- Iran is still in the process of bridging its Internet inequality. Its economy is weak, and it is characterized by an autocratic regime, restricting political opposition and freedom of expression.

Graphs below show the inequalities between both countries according to the level of the Digital Divide, and economic and political factors.

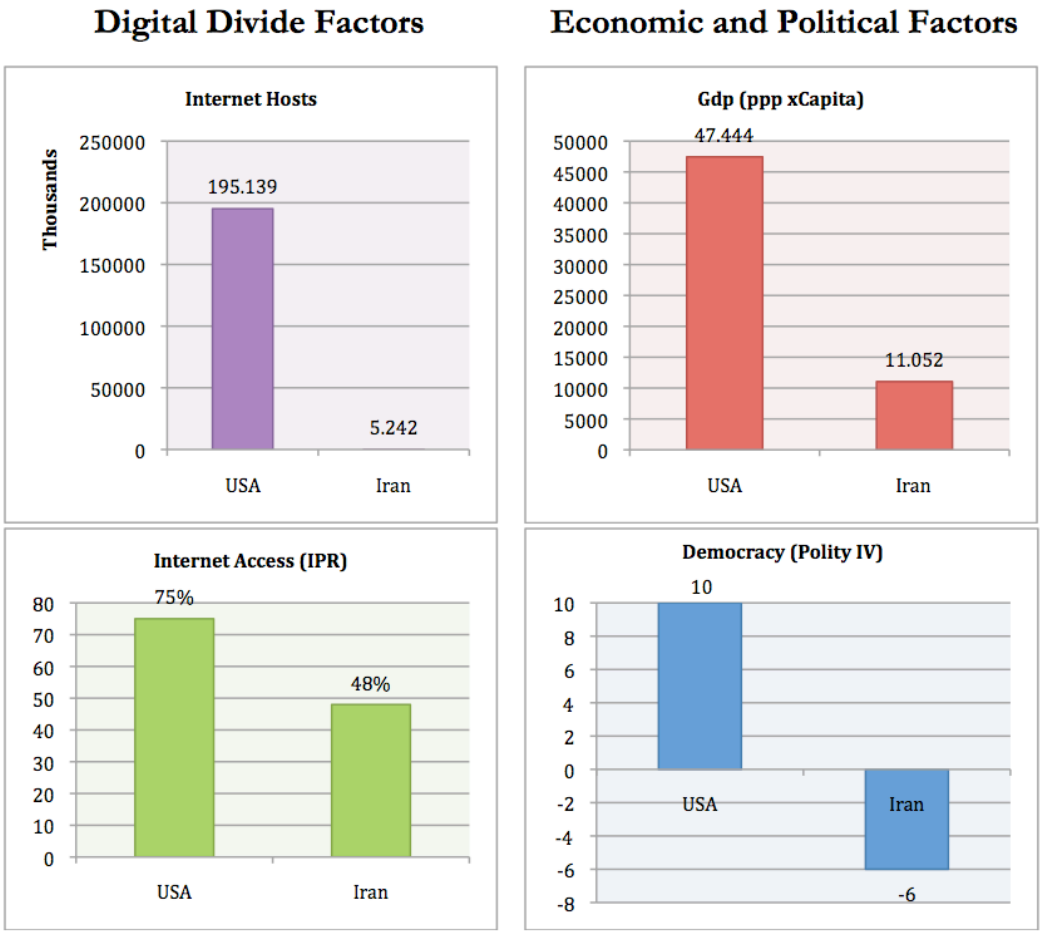

Figure 7.10 – Comparing Iran and the USA on the Digital Divide (*Source: Internet Word Stats, December 2007*), and Economic (*Source: UNDP, 2007*) and Political factors (*Source: Polity IV, 2008*)

By exploring in depth how both countries differ, I highlight how citizens blog unequally according to the unequal distribution of Internet access. However, this does not imply that the restricted Iranian Blogosphere influences politics less than the broader North American Blogosphere. Rather, I argue that the political context plays a crucial role in this regard. Below, I explain how the political Iranian Blogosphere recently played a determinant role in Iranian

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politics. I point out that the limited freedom of expression imposed by the Iranian government makes the Blogosphere one of the rare forms of uncensored expression. Citizens use the Blogosphere as the main space to debate politics, by which they are able to energize dissent against the government. On the other hand, blogging in North America is one of the many instruments of communication for debating about politics. This makes blogging for North American citizens less determinant to influence politics.

6.3.a) United States: Blogging Political Campaigns

Coming back to the analysis introduced in the third chapter of this research, in terms of *Digital Divide*, after China, the United States is the country with the largest amount of Internet users. It is one of the countries with the lowest internal Digital Divide, having 69,7 percent of citizens accessing the Internet (Internet Penetration Rate). In terms of Internet infrastructure, the largest amount of Internet Hosts is based in the United States. These are 195.139.000 Internet Hosts, which is 60 percent of the Internet Hosts worldwide. This data is even more significant if we compare it with Japan, with 28.322.000 Internet hosts, representing 9 percent of the total worldwide. Japan is then, after the United States, the country where the largest amount of Internet Hosts are based. 10.402.213.671 of IP addresses are allocated in the United States, which is 51 percent of the totality of IP addresses allocated worldwide. As for the Internet Domain Names, data shows that 65 percent of Internet addresses are registered in the United States. Only 6 percent are registered in Germany, which is the second country for number of Internet Domain Sites. As for the *economic status*, the United States has the fourth highest Purchase Power Parity Gross Domestic Product per Capita ($4.465). Polity IV Project has rated the *status of democracy* with the highest rate (10), attached to countries with a democracy in perfect health. Reporters Sans Frontières, measuring the worldwide level of freedom of expression, place the United States at 20, out of 175 countries, in the 2009 World Press Freedom Index.[66]

Blogging from the desks: US 2009 Presidential Election case

The United States is the country with the longest tradition in blogging, and it is where there is the greatest amount of Blogs worldwide (see figure 4). It should not be a surprise then that

[66] "Worldwide Press Freedom Index 2009", Reporter Sans Frontières, available at: http://www.rsf.org/en-classement1003-2009.html , accessed October 29, 2009;

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most of the research on blogging refers to the North American Blogosphere. By focusing on North American society, expectations rose on how the Blogosphere could influence public discourse by amplifying the voice of citizens. I have already introduced most of those claims above. Today, Technorati provides empirical findings on how the Blogosphere has influenced the last presidential US election, according to survey respondents. Data confirms that debate on this political event happened on the Blogosphere, playing a role in spreading political knowledge (Technorati 2009).

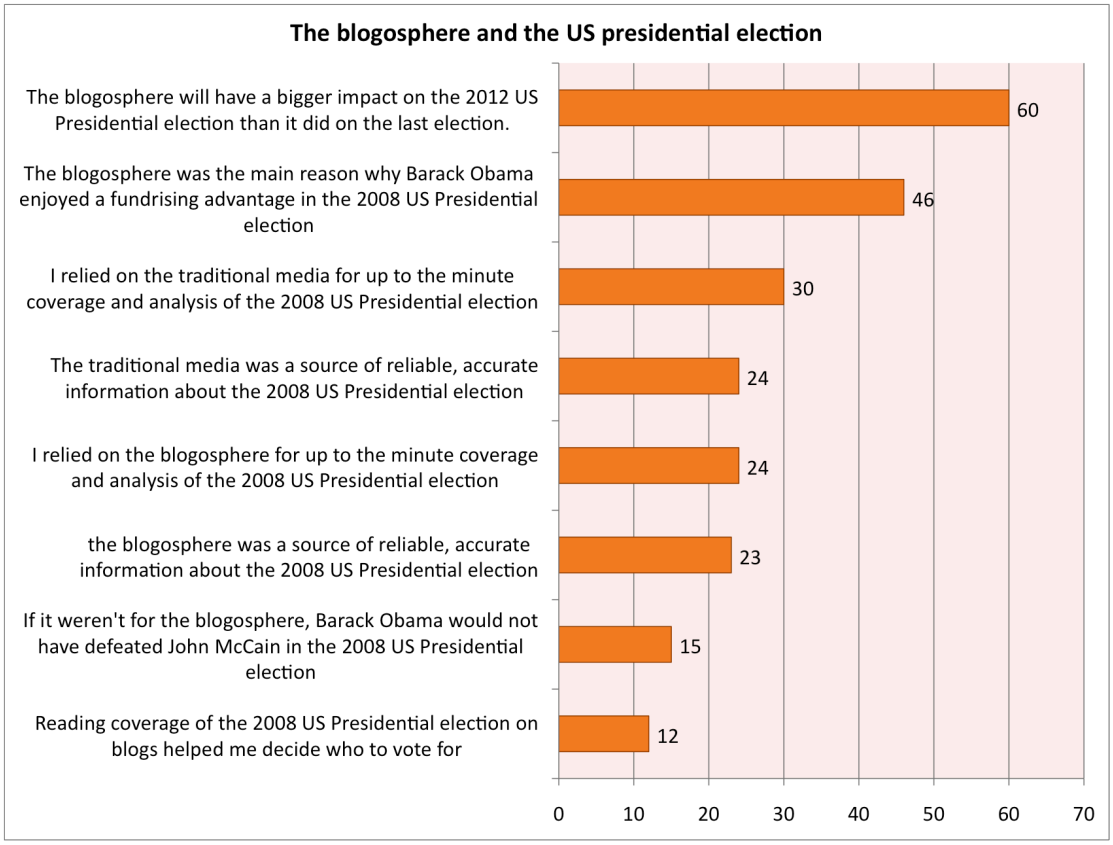

Figure 7.11 – Survey asking what influence Blogs are considered to have had on the US presidential election (*Source: Technorati, November 2009*)

The picture below (figure 7.11) shows that 60 percent of Bloggers expect that in the 2012 US Presidential election the Blogosphere will have even more impact than it did during the last election. For 46 percent of respondents, the Blogosphere already had a determinant role for the fundraising campaign supporting the presidential candidate Barack Obama. If 30 percent of people "relied on traditional media for up to the minute coverage and analysis of the 2008 US Presidential election", 24 percent of respondents argue that traditional media were a source of accurate information on the event. The same percentage of people, 24 percent, uses the

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Blogosphere as main source for the event and they relied on this as source of accurate information. 15 percent of people think that Barack Obama would not have won against McCain had it not been for the Blogosphere, while 12 percent of respondents decided their voting preference thanks to reading coverage of the Presidential election by Blogs.

We have to bear in mind that answers here are provided by Bloggers. We may then expect the high relevance attached to the Blogosphere by respondents. However this data support other scholars' empirical findings on the role played by the North American Blogosphere in influencing politics. Lawrence, Sides and Farrell (2010) explore the relationship between Blogs and political behaviour in the United States. The authors empirically illustrate how Bloggers are more likely to participate in politics. Furthermore, Blog consumers tend to polarize their reading preferences, and this makes it easier to highlight that left-wing readers are more politically engaged (Lawrence et al. 2010). Further research in this field also shows how Bloggers are more likely than other citizens to address attention to other multimedia contents, such us YouTube video (Wallsten 2009). This data shows how the Blogosphere is interconnected to other platforms of the WWW, playing a key role as a channel through which to share and spread information on politics in different formats.

However, we have to integrate this data with further empirical research. Hindman (2009) made an in-depth study of the most popular North American Blogs, which received more than two thousand visitors each week, with December 2004 as a baseline. Hindman (2009) analyzes the Bloggers' profiles through a survey. He reassesses the claims about the fact that citizens influence directly politics by blogging. Focusing on the educational and occupational status of Bloggers, Hindman (2009) reveals that, compared to the public average, top Bloggers are more likely to have received education from elitist universities, to be white, and be experts in computer science or journalism. Hindman (2009) concludes that this scenario shows that information spread by top Blogs is not published by common citizens. Rather, the Blogosphere also reflects the elite part of society in the United States. This leads him to conclude that Blogs are not replacing traditional journalism. Nonetheless Hindman (2009) agreeds that Blogs are still influencing opinion journalism. This thanks to the fact that, according to the Pew Internet and American Life Project, political Blogs are followed by more than 10 million North Americans and more than a million of these readers have become political Bloggers themselves. Despite its inequalities, this makes the top North American Blogs the main source for political debate in the United States (Hindman 2009).

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Hindman's research provides a clear snapshot of the Blogosphere in the United States. He confirms the important role played by Bloggers in politics, but calls for measured enthusiasm with respect to the Blogosphere's impacts on politics. He points out that the top Bloggers in the United States are not representative of the society. However, Hindman (2009) focuses his research only on top Blogs and does not provide information on how the majority of minor Blogs influence politics. I then argue that his conclusion does not allow us to deny that minor Blogs, run by common citizens, also influence politics.

6.3.b) Iran: Blogging Dissidence

In Iran, there are approximately 7.600.000 of Internet users. This data represents 10 percent of the entire Iranian population, highlighting a significant internal *Digital Divide*. By comparing the infrastructure of the Internet between Iran and the United States, data highlights a wider gap between both countries in shaping the use of the Internet. In Iran 5.242 Internet Hosts are based, which is only 0.16 percent of Internet Hosts worldwide. 1.448.521 IP are allocated in Iran, which represents 0.05 percent of the IP addresses worldwide. As for Internet Domain Sites, 91.703 are registered in Iran, which is 0,1 percent of websites worldwide. The Iranian *economic condition* is weaker than that of the United States, since Iran has a Purchase Power Parity Gross Domestic Product per Capita of $9.127. As for the *democratic status*, Polity IV Project rate Iran as -6, meaning that Iran is closer to being a total autocracy. In terms of freedom of expression, Reporters Sans Frontières places Iran at 173, out of 175 countries, in the 2009 World Press Freedom Index.[67]

Given the low level of Internet access, the weak economic condition and the autocratic Iranian regime, the question arises: Are citizens still able to use the Internet to practice politics?

Compared to the extensive literature published on the North American Blogosphere, we are only able to rely on a minimal amount of research on how Iranian citizens use the Internet for civic engagement. Given the conditions so far introduced, we could expect that the Iranian Blogosphere is so small as to have no influence on politics. We would expect that with the Internet being such a small phenomenon, people do not have the opportunity to use it to debate about politics, spread information and share political knowledge. As such, we would expect that

[67] "Worldwide Press Freedom Index 2009", Reporter Sans Frontier, available at: http://www.rsf.org/en-classement1003-2009.html , accessed October 29, 2009;

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people hardly use the Internet to perform civic engagement. However, in what follows, empirical findings provide a quite different scenario. By contextualizing the use of the Internet by citizens to blog in the Iranian social, political and economical context, I argue that the influence of digital citizens is important.

Etling and Kelly (2008) have mapped the characteristics of the Iranian Blogosphere, concluding that the "Persian Blogosphere is indeed a large discussion space of approximately 60.000 routinely updated Blogs featuring a rich and varied mix of Bloggers" (p.2). Iran's autocratic government has exercised repression on the country's media landscape and freedom of expression, leading to the arrest of numerous local Bloggers. Nonetheless, Etling and Kelly (2008) have found a rich and various political discourse in the Iranian Blogosphere. Citizens animate debate on topics common to the international agenda, such as human rights, and also more broadly by focusing on topics relevant for Iranians, such as the economy, drugs, and the environment (Etling & Kelly 2008).

The serious control of the Iranian government on the Blogosphere, including intimidation, the arrest of critics of the regime, and the filtering of Blogs, obstacles the capability of Blogs to create a totally democratic space for debate (Etling & Kelly 2008). However, according to Benkler (2006), networked forms of communications, such as Blogs, may support people to bypass the control system, overcoming authoritarian regime censorship. This allows the emergence in Iran of grassroots news websites, allowing Iranian citizens to maintain their own independent channel of communication to spread information and opinion. This would not have been possible with traditional mainstream media under the strict control of government (Etling & Kelly 2008). This is not sufficient to argue that Blogs allow breaking the control performed by any authoritarian regime. However, Blogs allow a more open political discussion that would otherwise not have been possible under the conditions of a restrictive media environment (Etling & Kelly 2008). Thanks to this, "the Iranian Blogosphere reflects the political struggle and elite contestation taking place in Iran" (Etling & Kelly 2008, p.48). This leads the authors to conclude that, "Given the repressive media environment in Iran today, Blogs represent the most open public communications platform for political discourse. The peer-to-peer architecture of the Blogosphere is more resistant to capture or control by the state than the older, hub and spoke architecture of the mass media model […] then the most salient political and social issues for Iranians will find expression and some manner of synthesis in the Iranian Blogosphere" (Etling & Kelly 2008, p.48).

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Shortly after Etling and Kelly published their research (2008), a key event happened in Iran which yet further confirmed their conclusions. The recent contested result of the Iranian general election gave life to the biggest mobilization of the last years in the country, where the Internet was a fundamental instrument in the hands of citizens.

Blogging from the streets: the Iranian protest case

In the summer of 2009, the Iranian general election became a new occasion to discover the role that citizens have in news-making. Following the general election, Mahmoud Ahmadinejad was confirmed president. This was contested by the opposition candidate, giving life to a period of violent street demonstrations and riots involving a large part of Iranian citizens. Since the Iranian democracy is very weak, and government strictly controls the Iranian media landscape (Etling & Kelly 2008; Deibert et al. 2008), it was difficult to receive unbiased information on what was happening on the street through mainstream Iranian media. People challenged mainstream media by using the Internet. Information was brought to the entire world in real time thanks mainly to online video and microblogging tools, such as Twitter. People largely used mobile phones to capture pictures and record video. The Internet was the channel through which people uploaded in real time video on web video-streaming services, such as YouTube, and published photos and updated their microblog webpages with text messages. Given the serious censorship applied by the Iranian government, this was the only form under which information circulated quickly worldwide. Iranian government attempted to obstacle the use of the Internet to spread information by taking down the national telephone network. Because of the consequent slow-down of Internet access, people switched to E-Mail instead of the WWW, since E-Mails require less Internet bandwidth. However, at the same time, hackers were active in keeping the Internet channels open, overcoming the regime's block of the network. The government would only have succeeded in completely stopping the flow of information by taking the entire country offline. But, this would have entailed a serious move, on the part of the Iranian government, which it could not afford to do without cutting off its own ways of communication.

Technorati (2009) investigated how people perceive the role played by the Blogosphere in this particular event. The following graphs shows empirical findings on the influence that citizens had by being active in spreading information on what was happening in the street via the Blogosphere.

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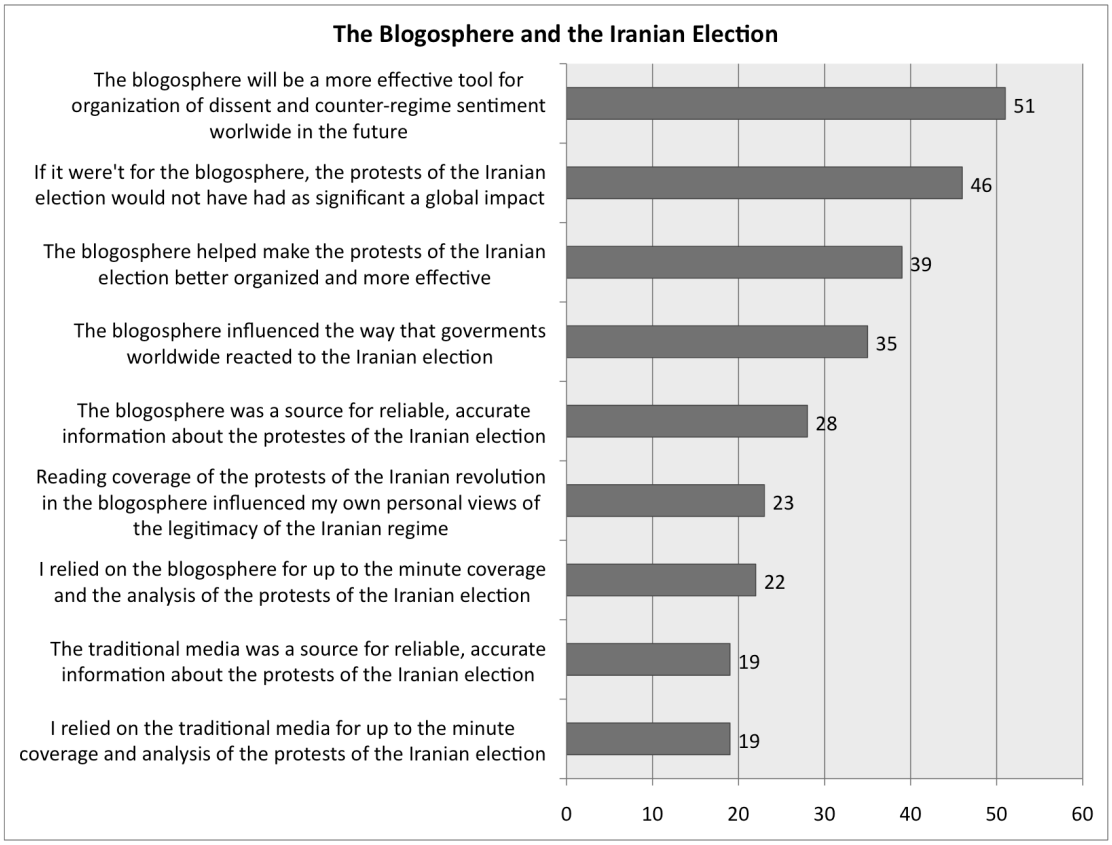

Figure 7.12 – Survey asking what influence Blogs are considered to have had on the Iranian protest (*Source: Technorati, November 2009*)

The importance of the role played by the Blogosphere during the post-electoral protest in Iran has been confirmed by the opinion of 51 percent of Bloggers who thinks that the Blogosphere "will be a more effective tool for the organization of dissent" in the future (Technorati 2009). 46 percent of Bloggers think that the Blogosphere determined the dimension of the effect of the Iranian protest. 39 percent of people attribute to the Blogosphere a determinant logistic support, making the Iranian protest more effective. 35 percent of people agree that Blogs influenced international politics, by stimulating a reaction of governments worldwide. Blogs were considered a source of accurate information on what was happening in the streets for 28 percent of Bloggers, and 23 percent declared to have been influenced by that information in shaping their opinion on the issue. 22 percent of respondents "relied on the Blogosphere for up to the minute coverage and the analysis of the protests". 19 percent, on the other hand, relied on traditional media for their accuracy and their coverage.

"The revolution will be not televised" is the title of a key book in this field of research (Trippi 2004). Professional journalists worldwide watched the Iranian mobilization directly from the experience of Iranian citizens, and the event was reported from their point of view.

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Worldwide mainstream media, including satellite television, national newspapers and other news broadcasting channels, used the multimedia information uploaded on the WWW by Iranian citizens as their main sources to report to the rest of the world what was happening in Iran. Iranian citizens, conscious or not, became journalists by simply reporting through the Internet what they were witnessing of the event in which they were taking part.

8) Conclusion

This chapter explores how citizens, as simple members of the public, use the Internet to perform civic engagement. I have highlighted that the circulation of information helps us to develop political knowledge, which plays a key role in energizing civic engagement. With the hierarchical organizations typical of traditional media information, citizens had limited power in influencing the media landscape.

My starting assumption was that if citizens are able to participate in the production and circulation of information, they also empower their ability to create political knowledge and address civic engagement. I then highlighted how citizens are able to do this thanks to the Internet. Blogs are largely used by citizens in this regard. However, I have also highlighted that the Blogosphere is not equally distributed worldwide, and I have explored the inequalities in blogging by social factors. Data showed that inequalities of the Blogosphere are similar to data on the Digital Divide. However, following the line of this research, I expect that this does not imply that the Blogosphere impacts less on politics where people blog less. Rather, in the framework of the "social constructivism technology" approach, in order to explore how citizens use Blogs to influence politics we need to look at how this happens depending on the national context in which citizens blog. In this framework, the Digital Divide is only one of the several factors characterizing the national context. I then contextualized the use of Blogs according to the level of Internet access, economic and democratic status.

By comparing data on the worldwide dimension of the Digital Divide with the unequal distribution of Bloggers worldwide, I conclude that the unequal access to the Internet causes the unequal distribution of Blogs worldwide. However, this is not determinant for the influence of the Blogosphere on politics. Rather, I find that the role played Blogs for politics is determined by how citizens use it according to the political context in which they act. In order to test this expectation, I explored in depth two cases with contrasting contexts: USA and Iran.

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The result is that despite the inequalities in accessing the Internet, the Blogosphere matters in politics in both countries. However, this happens unequally. In the USA citizens use the Blogosphere to debate and to share information, interacting with mainstream news media production. In this framework the Blogosphere plays a key role for politics, but it is complementary to other political practices, such as that of political campaigning and voting. In Iran, on the other hand, the Blogosphere is the safer space where citizens perform their struggles and can express their political opinions freely. According to this scenario, the Bloglosphere is determinant for politics. In the framework of autocratic regimes, such as that of Iran, blogging matters more. I argue that this is because citizens may influence politics only via the Internet. This brings citizens to load the Internet of political significance, more than in countries where the Internet is only one of the many channels through which they can perform civic engagement.

Following the line of this study, also in this case, the Internet does not directly determine politics. Rather, citizens construct the political meaning of the Internet according to the "technological framework". With the various national conditions characterizing the "technological framework" that I take in account in this research, democratic conditions matter more than the Digital Divide. To conclude, the Digital Divide is determinant of the unequal use of the Internet to blog. However, the political conditions in which citizens use it, determines its influence on politics.

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Chapter Eight
8. Digital Social Movements

1) Introduction

In the previous chapters, I looked at how public institutions and citizens shape the use of the Internet to practice politics. This chapter investigates how social movements construct meaning of the use of the Internet. Following Diani (1992), I define social movements as groups of people performing politics with reference to a shared collective identity. Scholars in this field have paid attention to the role that the Internet plays in supporting grass-roots forms of political participation. Already in 1984 Barber highlighted the new opportunities offered by the introduction of new technologies for "energizing" political participation at the grass-roots level. The debate on how the Internet influences social movements has been enriched by various academic contributions. Cyber-optimism has also been broadly expressed within this framework by scholars arguing that the Internet has been determinant in creating new forms of social movements.

Research in this field has extensively explored the Internet as a tool. Social movements are seen as shaping the use of the Internet to support and to facilitate already existing political practices. However, if we agree on the centrality of the Internet in social, economic and political activities, as is supported in this research, the Internet has also become a social need around which new political struggles arise.

In what follows, I explore how the Internet both facilitates existing forms of social movement practices and how it promotes new struggles. Struggle does not only arise around the right to access the Internet: given the potentials offered by digital media to be used according to contextual specificities, having power over building the sense of the use of digital technologies is a key issue around which social movements raise new claims. In order to explore this last aspect, the primary focus of this chapter is the Free and Open Software Movement (FOSS).

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2) Framing Research on Internet and Social Movements

2.1) Internet as a tool

It is commonly acknowledged that the Zapatistas[68] are one of the first social movements who exploited transitionally the potentials of the Internet (Cleaver 1998; Olesen 2004; Schulz 1998). In 1994, the Zapatistas started a media guerrilla by using the Internet to publicize their revolt and claims worldwide (Jordan 1999). Thanks to the Internet, Zapatistas connected themselves to the network of activists globally. Across the globe a movement emerged in support of the Zapatista cause (Jordan 1999). Since then, a new trend of research has paid attention on the arising significance of the Internet for social movements (Barnett 1997; Bimber 1998a; Castells 1997). This trend of research was also addressed by the fact that new events marked the rise of the Global Justice Movement (GJM). In 1999, the demonstration against the "WTO Ministerial Conference" in Seattle started a new period of mobilization. This was characterized by a transnational coordination between participants supported by the Internet (Della Porta & Tarrow 2005; Juris 2004).

The key question arises: How do social movements shape the use of the Internet to pursue their claims? Following research so far introduced, can we say that the Internet creates new forms of political participation?

Diani (1992) defines a social movement as a group of people "engaged in a political or cultural conflict" (p.13). Social movements practice conflict through a "repertoire of collective action" (Tilly 1984). With these words Tilly (1984) refers to "distinctive constellations of tactics and strategies developed over time and used by protest groups to act collectively in order to make claims on individuals and groups" (Taylor & Van Dyke 2004, p.265). In this chapter, my focus is on how social movements shape the use of the Internet to practice the "repertoire of collective action" which Marsh (1977) describes as "unconventional" (see chapter 5). Within this framework, I explore the third category of my model: "E-Democracy from below" proposed by Blumler and Coleman (2009).

[68] EZLN is the organization base in the region of Chiapas, Mexico, claiming for a more equal distribution of the earth.

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Since the introduction of the Internet for the practice of the "repertoire of collective actions", scholars question if the Internet allows the creation of new forms of political practice (Buechler 1995; Melucci 1994; Wright 2004). Tilly (1977) points out that the history of social movements shows that the repertoire of actions changes slowly. He adds also that if it changes, it does so because the structure of power changes, according to the social, economic or political transformations. He disagrees then with the idea that the "action repertoire" of social movements changes as quick as technological innovation (Tilly 1977). Tilly (2004) adds that "neither in communication nor in transportation, did the technological timetable dominate alterations in social movement organization, strategy, and practice. Shifts in the political and organizational context impinged far more directly and immediately on how social movements worked than did technological transformation" (p.104). Van Aelst and Van Laer (2010) point out that, given that in the last decades economic and political power has shifted from a national to a transnational and global level, even social movement strategies and actions have changed significantly. The Internet played a key role in this regard by enabling a transnational approach to mobilization (Della Porta et al. 1999; Bandy & Smith 2005). Scholars have paid attention on how the Internet supports social movements in creating independent and powerful channels of communication for publicising their identities and claims (Della Porta & Mosca 2005). Others have explored how the Internet facilitates the coordination within political communities (Calderaro 2010; Diani 2001b). If in some cases the Internet facilitates certain new dynamics, such as the coordination of protesters on a global scale, in other cases the Internet only enlarges the "action repertoire", defined by Klandermans (1997) as action of "low effort".

To conclude, even in this recent shift, I argue that the massive use of the Internet did not substitute older forms of actions. Rather, the use of the Internet as a tool complements and supports older forms of action. However, the Internet, and any computer mediated technology, are today a new social need, and as such they open a new space of struggles through which to claim rights.

2.2) Internet as a political struggle

Research so far has explored how social movements shape the use of the Internet to perform their "repertoire of actions". This research has considered the Internet nothing more than an instrument to practice politics. Melucci (1996) points out that "research of social movements and social conflict should not try to define the contested social field on both sides,

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not just analyse the forms of protest and popular mobilization but identify the new forms of power, locate the dominant discourse, and investigate the new elites" (p.179). Following the line of this research, I have already highlighted in a previous chapter the dimension of the Digital Divide (see chapters 3 and 4). Within the framework of my definition of the phenomenon, I have illustrated the unequal distribution of power over communication processes. Melucci (1996) also argues that in contemporary society only having access to information without playing an active role in its production is a "deprivation of control over the construction of meaning" (p.182).

In this framework we should then enlarge the concept of politics by exploring new emerging social needs and claims. Melucci (1994) adds furthermore that contemporary social movements are sensors of new challenges and struggles of current societies. In the framework of the Network Society, we can observe that new civil rights are being claimed to overcome the Digital Divide by giving unlimited access to and power over new technologies. Following this, the Internet is not only an instrument to practice politics, but serves to raise new claims to access and meaning. Furthermore, some people claim to have power over "social constructing technology". As already highlighted (see chapter 5), the "social constructivism technology" approach argues that, given the limitations imposed by a technology as such, people construct the meaning of its use according to their needs and the local context in which they act. Within the framework of software development, Zittrain (2008) highlights that those limitations are often imposed with legislations supported by software firms. Some people complain about these rules, calling for the removal of these restrictions in order to have more power over what we may define as "social constructing technology" of meaning-process.

I argue that today, to be active in the construction of meaning in the use of technology, is not only a process to construct the political meaning of a technology. Rather, if this process is limited by private interests, to follow the rules of this process is a political struggle in itself. This is why social movements start to cluster their politics around the right to "social constructing" the meaning of technologies.

We find evidence of this rising political claim also in the domain of party politics. A case in point is the Pirate Party which was established in Sweden in 2006. The Pirate Party claims that restriction imposed by patenting products and software for private interest creates an unbalance in society. According to the Pirate Party, everyone must have the right to freely construct the meaning of technology. In order to ensure this scenario, private interest around patenting policies must be removed, by reforming the law in the field of privacy, copyright and patents.

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Since its founding, the Pirate Party has become the third largest political party in Sweden in terms of membership. At the last European Parliament Election in 2009, 7.13% of the Swedish electorate voted for the Pirate Party, enabling it to gain 2 seats at the European Parliament. Furthermore, the Pirate Party has become an international movement establishing parties in over 38 countries worldwide. The advent of the Pirate Party is a very new phenomenon, and promises to be a rich area of research. The birth of such political parties calling for free construction of technological meaning is evidence which further supports my argument. In this chapter however my main focus remains on social movements as defined earlier.

The FOSS movement is a key example of social movement that did not exist before the advent of the Internet, established as mark of new claims around which struggles are born. I focus the empirical part of this chapter on this case study. In the framework of the political sciences, there is a lack of research on FOSS movement. In this chapter I argue that the FOSS movement is an example of a new form of political practice. I begin by framing what the FOSS movement is. I introduce its history and investigate the key elements around which the FOSS community makes politics. I then explore how the FOSS movement might fit in the sphere of politics. Finally, in order to investigate if any relation exists between the distribution of the FOSS community and the Digital Divide, I map where FOSS developers are based and I compare this with the map so far proposed (see chapter 3) of the unequal distribution of internet users.

3) Framing the FOSS Movement

3.1) A brief history

3.1.a) Free Software Foundation and GPL story

Developing software is something that exists since the computer was born. There was then no such thing as "free software", because there was no need to specify it (Stallman 2009). Software was free to be used, people were free to read its source code, change it and adapt it to their own needs (Stallman 2009). Sharing software was a primary necessity for running computers. Software development was a praxis consisting of sharing source codes of software made by others for specific purposes. Developers had then the opportunity to change it for

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making the software usable for other needs. This was considered the obvious process for obtaining the best results. Software was a common heritage allowed by collective interaction. This was the atmosphere that characterized many North American universities where software was being developed. The MIT Artificial Intelligence Laboratory in the 1960s and '70s was the major centre for software development. Here, the intellectual atmosphere consisted of openness, sharing practices and collaboration (Weber 2004).

The idea to patent software was introduced later, as from the late '70s, when emerging software firms started hiring programmers from universities to work on their own lucrative projects. MIT started to require its employees to subscribe to nondisclosure agreements, and operating systems without available source codes were installed in the mainframes (Weber 2004).[69] This happened also at the MIT Artificial Intelligence Laboratory, where Richard Stallman, future founder of the Free Software Foundation, worked. The MIT community discovered the implications of this new trend when a new printer from Xerox[70] was installed at the MIT laboratory and one day had a problem of paper jam. Stallman and his colleagues tried to fix the problem as they were accustomed: testing, modifying and experimenting software codes so the printer could work better. However, much to their surprise and frustration, they discovered that Xerox did not provide the code for its software. Stallman understood this as not simply a practical obstacle, but a denial of freedom of human expression and creativity (Weber 2004). Stallman rejects the idea that private interests protected by intellectual property regulation preside over the human right to express creativity. Writing software means aiming at a result by being creative to finding a way to reach a goal (Weber 2004).[71]

Stallman realized what software development was risking. He felt that private interests were threatening the free sharing knowledge spirit which characterized software development at those times. "This would have destroyed the existing cooperation among software developers" (Stallman, 1999:53-54). Even the quality of the software would have been negatively affected by this. He resigned from the MIT in 1984 to create the Free Software Foundation. This is a non-profit organization whose priority was to develop free operating systems. With this, Stallman referred to an operating system that anyone may download, modify, adapt to their own need,

[69] A Mainframe is a large high-speed computer, one supporting numerous workstations or peripherals;

[70] Xerox is a firm leader in printers manufacturing.

[71] www.gnu.org/philosophy/free-sw.html ;

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use and distribute freely. Stallman chose Unix as the model for the upcoming operating system. The acronym naming the project refers to this choice: GNU, meaning Gnu's Not Unix.

The GNU Manifesto, declared in 1984, draws the concept of free software. It stresses that here the word "free" does not mean gratis, but refers to the concept of freedom. More precisely, the GNU Manifesto lists four kinds of freedom: "(Freedom 0) the freedom to run the program, for any purpose; (Freedom 1) the freedom to study how the program works, and adapt it to your needs. Access to the source code is a precondition for this; (Freedom 2) the freedom to redistribute copies so you can help your neighbour; (Freedom 3) the freedom to improve the program, and publicise your improvements (and modified versions in general) , so that the whole community may benefit. Access to the source code is a precondition for this" (Stallman 2010).[72]

These points frame the freedom that people need for accessing the source code of software in order to be able to make the changes they want. Stallman recognized that this concept of freedom did not exist in practice; there was a serious risk that business companies might further deny this freedom by appropriating the code and taking advantage of the liberty offered by the freedom spirit, making it private and no longer openly accessible. In order to fix this potential weakness of the free software philosophy, the Free Software Foundation studied a new license for protecting free software. The Gnu Public Licence (GPL) uses the copyright law for ensuring that Free Software and its derivates remain free. More precisely, software covered by GPL license can be used respecting the following points: software and its derivates cannot be transformed as proprietary software; free software cannot be combined with non free software, unless the new software, made by combining free and proprietary software, is released under GPL. Thanks to this last point, the proprietary software can be transformed as free software.

The GPL impacted significantly, defining clear social rules for those joining the free software philosophy and the movement (Stallman 2010). This helped the development of the first software under GPL. Many of them are still milestones of the movement.

Free Software developers started also working in developing the Kernel for reaching its first goal: that of making a free Operating System. The Kernel is what makes interactions among the hardware parts of a computer possible. The Operating System is the software package for making a computer usable for running applications packages. With the development of the

[72] www.gnu.org/philosophy/free-sw.html ;

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Kernel, the process of creating a Free Operating System started. This would be Linux, but it was not until a few years later that it arrived in 1990.

3.1.b) Free Operating Systems

Despite the fact that today Linux is the most common free operating system, many others exist. The Berkeley Software Distribution (BSD) is an operating system started in 1979 at University of California, Berkeley. It was one of the first operating systems taking advantage of the Internet for distribution in the early 1980s. BSD was considered for a long time a branch of Unix, developed by a private company: AT&T. The history of BSD was marked by the legal battle between BSD developers and AT&T. First problems arose when Keith Bostic, one of the main BSD developer, proposed to release BSD under a different licence than Unix. AT&T started a legal battle against BSD claiming the property of its source code. The battle lasted two years, and BSD developers eventually won it. However the legal battle had some consequences for the project: the BSD project was divided among different projects focusing on specific characteristics - FreeBSD, OpenBSD, NetBSD, DragonFlyBSD, and others. The main effect was that many BSD developers left the project to focus on the arising Linux Operating System (Weber 2004).

3.1.c) The rise of Linux

The Linux story starts in 1991, when Linus Thorvalds, a graduate student from Helsinki, was dissatisfied with the operating system DOS, developed by Bill Gates, running on his new personal computer. At the time, Bill Gates had already established his joint venture with IBM, which consisted in installing DOS in all IBM computers. Given that IBM was the main computer firm, DOS became rapidly the first automatic option for people. DOS was not based on UNIX, which was the first preference of Thorvalds. Thorvalds heard that Professor Andrew Tannenbaum from the Vrije University in Amsterdam was realising a new small Unix based tool. This was Minix. Thorvalds installed Minix on his computer, and using this as starting point, he started working on writing the new Kernel for his own new Operating System. He called the result Linux. At the same time he announced his project on the Internet through a message on a newsgroup. With this, Thorvalds explained his aim and asked if people were interested to work with him and be involved in the project. The Internet community welcomed the idea with

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enthusiasm, opening a large debate on the newsgroup. Over a hundred people started working on Linux by coding, fixing bugs, improving each other's work and testing the results.

The key point of Linux is the concept of the Kernel. As I said earlier, the Kernel is the core of the Operating System. This is what makes possible the fundamental operation of exchanging information between hardware parts. At the time, software developers were engaged in debating about two different approaches in designing the Kernel. Some argued that it is better to create a Kernel as a single body for including all possible hardware features. This was the idea of the so-called "monolithic Kernel" and, in principle, this was the best technical solution. Others supported the idea that to develop a "monolithic Kernel" means writing longer and, then, more complex codes. This involves even more potential mistakes, causing instability for the entire Operating System. In order to overcome these risks, the preference was for developing micro-kernels. These were simpler, loading some of the work needed for running the computer on other tools of the Operating System. This option was preferred by most developers and academics at that time. Thorvalds chose to write a "monolithic Kernel". He believed that the open source approach, involving as many people as possible in writing the Kernel, would overcome the difficulties existing in making a very efficient "monolithic Kernel" (Weber 2004). In autumn 2001 the community released the Linux version 0.002. This was then ready for testing, change and improvement by the users and developers.

3.1.d) Linux joins the Free Software Foundation

The project continued spreading and its archives have been cloned on two new servers in Germany and the United States, at the MIT laboratories, home of many software developers supporting the Free Software Foundation. This was a sign of arising interest on the project even from people already involved in the Free Software Foundation. As already highlighted, the main project of the Free Software Foundation was to develop a Free Operating System. But the first step of writing just the Kernel was still far from accomplished. At the same time, Thorvalds understood the time had arrived for protecting Linux with a license. Given that the GPL was already tested by the community, in January 1992 Thorvalds adopted the GPL for this goal. The spreading of Linux sped up thanks to the so-called "viral" clause included in the GPL license. This imposes that all software running on Linux should be licensed by GPL as well. This increased the amount of GPL software. The Free Software philosophy spread, then, as the number of software projects running with Linux increased. Applications, a user-friendlier

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graphic interface consisting of a windows system was created and many other FOSS projects were created. In 1994, the first official version of Linux 1.0 was ready for release.

Today Linux is installed in over 50 percent of Internet computer servers worldwide (Weber 2004). Apache is the free software most used to run Internet web sites, and more than a third of internet users browse the WWW with the other well known free software application Firefox (Netcraft 2010).[73] Internet users are growing fast, challenging the monopoly of private software firms. Free Software communities dramatically enlarged, continuing to write codes for Linux and other Free Software packages. The frequency of Linux updates is exponentially increased with time, and each version of Kernel is made up by an even increasing number of developers (Corbet et al. 2008).[74]

So far, I have framed what FOSS is by describing its history. Now, in order to explore how the FOSS movement might fit in the political sphere, it is first important to investigate the process of production (Coleman 1999). People make the "process of developing FOSS" the reference point of the community. By understanding why people participate in FOSS processes help to highlight whether any political aim exists behind this. Before exploring the politics of the FOSS movement, below, I frame the nature of FOSS development processes by introducing how the community coordinates its work.

3.2) FOSS development processes

Eric Raymond (1999) provides one of the most used images to explain how the FOSS community cooperates and develops software. He distinguishes two approaches for developing software: the "cathedral" and the "bazaar". The first represents the hierarchical top-down working process typical of software firms. In this case, such as for building a cathedral, the software is designed by a small number of "architects" centralizing the power for leading a larger number of simpler workers. In contrast, the FOSS is a decentralized form of working process spreading globally (Coleman 1999). Raymond (1999) defines this condition as a "bazaar". This has been considered a fitting image to describe how the FOSS development process works. But the risk of misleading the concept is high. The fact that the FOSS

[73] Data refer to January 2010;

[74] www.linuxfoundation.org/publications/linuxkerneldevelopment.php ;

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development process has been defined as a "bazaar" does not mean that there are no rules. According to Steven Weber (2004), "the key element of the open source process, as an ideal type, is voluntary participation and voluntary selection of tasks" (p.62). This implies that people are involved in a FOSS development project only if they are really interested in it, and they also choose how to take part it. Weber (2004) points out that the difference with a classical division of labour is that the same idea of labour is not even taken into consideration. This is why labour is not imposed by hierarchies as happens in more classic industrial work organizations. There are no restrictions in being involved in FOSS development processes. Labour consists in starting new projects, changing software done by others, improving work done by the community and leaving the process at any time. The only existing rule is that introduced by the GPL: to not abuse of your freedom by reducing the freedom of others (Weber 2004). As collective action, contributing to FOSS processes includes testing software made by others and reporting eventual malfunctions and making suggestions to the community. This also why the community does not distinguish between users and developers of software. Both have an important role for improving the quality of the final result.

The entire process consists of a coordination of people. This would have not been possible without the Internet. Internet tools are fundamental for making this possible. Here, it is clear that the FOSS community would not have existed without the support of the Internet. For the FOSS community, mailing lists are the most common instrument for coordination. This allows the creation of a polyadic debate in the community on specific issues (Diani 2001b). Decision-making process depends however on the size of the FOSS project. Smaller ones can be managed by simple communications among their participants. In other cases, such as for the development of the Kernel, final acceptance of the work done should follow a procedure in which it is tested and evaluated. In this case a hierarchy is used.

I do not aim to explore if the FOSS working process is the more efficient social form of organization for developing software. My primary focus is to explore how the FOSS can be considered a new form of making politics which did not exist before the advent of the Internet. Once we have looked at the coordination process of the FOSS movement, we shall investigate the reasons why people participate. Later it is finally possible to frame the aims of the FOSS movement in the political sphere.

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6.5) Framing the reasons of FOSS

Today, it is commonly understood that the FOSS community is a success in experimenting a new ecology of relationships and production models. Many laud the efficiency of the coordination between people aiming at the same goal (Zittrain 2008). Others appreciate the network culture introduced by the movement (Benkler 2006). However, further questions need to be investigated here:

Why do people participate in developing FOSS? Why do people spend their time, energies for projects that will not give back any direct richness? Why do people put their knowledge in such a project shared with others? What are the reasons moving people to participate in the FOSS movement?

The FOSS community is variegated. This makes it difficult to draw a general profile of goals, ideologies and working reasons of FOSS software developers. According to Gabriella Coleman (1999), "closer inspection of the movement reveals a cacophony of voices and political positions" (p.2). In 2001 the Boston Consulting Group (BCG)[75] - a top global management firm – researched the issue by running a survey among people involved in the FOSS movement. According to the answers collected, the conclusion was that participants in the FOSS community can be categorized in four categories according to their own reasons: "believers", those who are committed because they support the idea that software should remain open; "professionals", those who found working on FOSS projects useful for improving their own work; "fun-seekers", who find FOSS development an exciting form of intellectual stimulation; and finally "skill enhancers", who seek to improve their skills in programming by being part of and working with the FOSS community. Following these categories, Weber (2004) proposes six reasons to explain the involvement of people in FOSS projects: "art and beauty, job as vocation, the joint enemy, ego boosting, reputation and identity and belief system" (p.135-136).

Weber (2004) refers to "artistry" as the pleasure of FOSS developers in solving problems and finding answers themselves. The challenge is to write the software process, and the drive to find the perfection in obtaining the best code possible. According to the FOSS community, the code is not simply code but a kind of aesthetic. This means that the code is evaluated according to the simplest solution applied to reach its goal. FOSS developers aim to create the best code

[75] www.bcg.com ;

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possible, and identify with each other in this endeavour (Weber 2004). This concept is what pushed Stallman to start the Free Software Foundation. I already stressed earlier that the need of freedom of expression by finding a solution via writing code was the main reason for creating the FOSS philosophy.

This introduces the other concept suggested by Weber (2004): "job as vocation". The FOSS community considers sharing source codes with others as the most efficient practice to obtain best results. It does not cost anything to do it, and it is considered important at least for two reasons: first, the opposite case of not sharing the source codes obstacle people from fixing their problems. Second, by spreading the source code created by the community, it is likely to be improved. This is why the community will use it, test it, and comment on it, all considered necessary for fixing mistakes likely to happen in writing software.

In contrast, private software firms use opposite processes. This brings the FOSS community to challenge a "joint enemy". Today Microsoft is commonly recognized as the main enemy. It is considered so because it practices a technical and business model seen as obsolete for reaching best results (Weber 2004). The Microsoft model is perceived in clear opposition with the sharing approach of the FOSS community. According to FOSS participants, lack of sharing kills enthusiasm, which impacts negatively on final results (Weber 2004).

The sense of community being so important, it should not be a surprise that FOSS developers are led by what Weber (2004) calls "ego-boosting". Not so different from other scientific communities, FOSS, as it shares the results it obtains, highlights the value of who has produced them. Rather, who produces and shares software will be positively evaluated by the community. This implies that who produces better results gains credit from the community, increasing his or her satisfaction.

Weber (2004) also considers "reputation" a further element motivating people to share their work with the community. This is why people need to collect feedback not only for personal satisfaction. Feedback, including suggestions on techniques and tips, are also important for improving personal knowledge and skills. I add that this links into the idea that sharing knowledge means also receiving knowledge.

The last element listed by Weber (2004) introduces us to the next part of this chapter. The FOSS community "identifies with and believes in system-making" as a key point of their involvement in software development processes.

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This helps us to answer the key question in this chapter: Is there a political practice within the FOSS community? How might the FOSS movement fit in the political sphere? Can we consider the FOSS community a social movement?

6.6) Framing the politics of the FOSS movement

In June 2007, I met Richard Stallman with whom I discussed some key topics that I explore in this chapter on the FOSS movement. Following my question on the politics of the FOSS movement, he answered that it is wrong to explore how the FOSS movement fits into politics. According to him, the FOSS approach is politics as such. Stallman highlighted that the FOSS approach and politics have to be considered as a unique concept because the FOSS is a political goal in itself. With these words, Stallman confirmed the political character of the FOSS movement as a new political struggle.[76]

Steven Levy already in 1984 gave a clear snapshot of the "hacker culture" that emerged in the 1980s. He provided a detailed history of the movement since its first steps at MIT in the 1960s. He described the general atmosphere in which the movement grew and identified the key-elements of this emerging culture around six main claims.

When the computer revolution started, even the distribution of hardware was an issue for people believing computers to be an important instrument. "*Access to computers should be unlimited*". This is why the computer was still not miniaturized under the form of "personal computer" (PC). Accessing computers meant accessing to the "mainframe" managed by universities or firms, which was not permitted to all. The FOSS community claims the right for all to access it. The step to extend this right on accessing the software was an immediate consequence. Stallman then engaged his main activities in spreading the concept that software is a combination of information for creating value. This is why "*information should circulate freely*" and people should not be limited in accessing it. The centralization of power over controlling the management of hardware and software by private companies does not ensure people can access information freely. This is why, since the FOSS movement started, they "*mistrust authority and promote decentralization*". The control of computer and software market centralized on private

[76] Interview conducted with Richard Stallman, June 2007 (Rome) ;

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firms is considered inefficient for ensuring creativity and freedom of expression. Within this condition, software developers can create what they need and want and they will evaluate according to the quality of their work. "*All people are considered the same"* and any credentials are taken in consideration within the FOSS community. They consider that to evaluate information not included in the code is a waste of time. This is why the meritocracy of people is only attached to the work they produce. The community evaluates the quality of the software not only if it reaches the goal for which it has been written, but also how it obtains it, "because *people can create art and beauty on computers"*. This is why, as is clarified in the last key point, the FOSS community argues that "*computers can change human life for the better"*. This might happen if computers are used in other ways. The FOSS community believes that the FOSS principles developed in the context of working in a network and with computers can also be transferred to social daily life, exerting a positive impact on society.

Gabriella Coleman (2004) identifies the political nature of the FOSS community in its claim for freedom of expression. As already said, the FOSS philosophy started with Stallman's frustration in not having access to the source code for overcoming a problem himself. I also highlighted how important it is for the FOSS community to write the source codes in order to find its own solution. It is then clear that writing software is a form of expression. To deny this possibility to software developers means to deny the possibility of self-expression through writing software. The FOSS movement is then close to the claims of the Free Speech Movement (2004). However, Coleman (2004) also points out that among the variegated identities of the FOSS movement many participants do not have any formal political involvement. This aspect of the FOSS movement should be understood within the framework of freedom so far recognized as central to the FOSS philosophy: all are free until this limits the freedom of others. The FOSS community is centred on this main concept. Thanks to this "political agnosticism", the circulation of techies with different backgrounds has been ensured (Coleman 2004). This should not come as a surprise, given that as scholars argue, the free speech doctrine, to which the FOSS movement I argue is related, implies political neutrality (Coleman 2004). This characteristic of denying any political affiliation has also been considered the distinguishing element of the FOSS movement with other social movements (Kelty 2008).

On the other hand, Kelty (2000) describes this as the "openness through privatization, which makes it the most powerful political movement on the Internet even though most of its proponents spend all their extra energy denying that it is political" (p.6). Coleman (2000) defines this aspect of politics of FOSS movement as "cultural critique through contrast" (2004). With

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this, she argues that even without expressly wishing it, FOSS has political impact. This is particularly true in the field of regulation policies of the intellectual property law.

I argue that this is further more supported by the fact that today FOSS processes are also applied in many other projects related to other fields of activities. Today, "in the process of using new networking technologies and practices to communicate, coordinate, and (self)organize, […] activists are building new organizational forms that are network-based, and which express and reflect the network as an emerging political and cultural idea" (Coleman 2004, p.513). Those social movements aiming to improve democratic principles by creating public goods, found in the FOSS movement an important point of reference (Juris 2004). Many examples can be reported here in this framework.

One of these is the open-publishing system introduced by Indymedia. Indymedia is a worldwide network of independent media groups. It started in 1999 in Seattle on the occasion of the protest against the World Trade Organization Ministerial Conference. On that occasion, the project aimed to bring together media activists in order to create an independent media source for spreading information on the protest. Later, the project spread fast worldwide and impacted on the sphere of media by experimenting new forms of making information from the bottom-up. Indymedia aims to spread information by offering its website for collecting news published by as many decentralized sources as possible. The open-publishing system is used for this. As with the FOSS community, credentials for contributing are not necessary; people involved in the project argue that to evaluate credentials of people is elitist and threatens the loss of information. Readers of information will directly evaluate the quality themselves. If this is not complete, or even if it is not correct, others can participate by providing their own version of the facts and adding new information. If the mistakes included in the software are fixed by its users, also the mistakes in information can be corrected thanks to the open-publishing system.

One more representative example in this regard is Wikipedia. Wikipedia processes are also very similar to those of the FOSS community and open-publishing. The aim here is that of collecting the most accurate information possible thanks to the cooperative work of people.

Many other projects applying FOSS processes exist. I agree with Coleman (2004) and Kelty (2000) who conclude that the FOSS philosophy makes politics in the moment in which their work impacts on democratizing new technologies. Coming back to the key-elements of the FOSS community so far suggested by Levy (2000), the last element clarifies even more clearly

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how the FOSS movement fits in the sphere of politics: the aim of transferring the practices built by the FOSS movement onto other aspects of society. Today this element has been concretized in many sectors. If we consider this as political impact on society, then the FOSS movement is politically significant.

This element occurs in the field of intellectual property regulation but can also happen in making software free and available to everybody. This is a key point in the framework of the Digital Divide. In my interview with Stallman exploring the relationship between the FOSS approach and the Digital Divide, he agrees that FOSS can be the only approach possible to narrow the Digital Divide. This is why if we understand the Digital Divide as the gap between people active in contributing to the development of digital tools as software, the FOSS approach helps to overcome the Digital Divide. Stallman explained in our interview that since the FOSS approach implies free access to the source code of the software, people may be involved in freely contributing to designing and customizing software tools according to their own needs. Stallman welcomes this opportunity as determinant to avoiding that the global society be made up of only digital users addressed by private companies' interest. According to Stallman, for people to develop digital tools without restriction is a human right, and the FOSS approach ensures this right.[77] Stallman's answer supports the point I argue here. To construct the meaning of digital technologies is not only a social process but also a right for people. This makes the inequalities in building digital technologies a new political struggle, around which the FOSS movement clusters its campaign.

7) Mapping the FOSS community

In the previous chapter I supported my arguments about the dimension of the Digital Divide and the use of the Internet for political parties by providing data measuring the phenomenon. Regarding the FOSS movement, providing clear data is not possible. This is not only due to the fact that it is difficult to collect data on people contributing to develop Free Software. As Weber (2004) points out, the problem is also conceptual. How can we decide who is part of the community and who is not? We can count people working on the FOSS projects

[77] Interview conducted with Richard Stallman, June 2007 (Rome) ;

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hosted by SourceForge.org,[78] which is the main server for this. Or, we can also consider only developers participating in writing the Kernel of Linux. However, given that the FOSS development process includes also feedback from FOSS users, we would include also people who are only passive users of FOSS.

Weber (2004) provides data measuring the FOSS community using different sources. He reports data from SourceForge.com. Here, people publish calls for collaborations when they start a FOSS project. At the same time, whoever wants only to contribute or use software developed by others can also visit this website. In July 2001, 23.300 projects were hosted by SourceForge.org and 208.141 users were registered. In 2004 this number increased to 600.000, while projects were tripled to 67.400. Weber (2004) also reported the work proposed by Ghosh and Prakash (2000). In order to count FOSS developers, they created a software for collecting data by identifying credits published in the source code. Running this software along a time frame of 18 months, they measured that 3.149 FOSS projects were carried out by 12.706 identifiable developers and further 790 unidentifiable.

Today we can explore updated data. Krohan-Hartman, Corbet and McPherson (2008) measure the evolution of the community of people participating in the development of the Kernel. Data updated to April 2008 show that from 2005 over 3.700 individual developers worked to evolve the Kernel of Linux. Given this data, today we can conclude that Thorvalds was right in hoping that the difficulties in creating a "monolithic Kernel" will be overcome with an increasing number of developers.

Given the focus of this research on exploring the gap in having an active role within the framework of the Network Society, here I pay attention on exploring the worldwide distribution of FOSS developers. I aim to investigate if, within the framework of FOSS, a worldwide gap exists among the community of developers. In order to reach this aim, in what follows, I investigate the issue by looking at their worldwide distribution.

Also in this case, many efforts exist to provide accurate data for mapping the worldwide distribution of FOSS developers. For the same reasons so far argued, it is difficult to provide a clear picture from a global analytical perspective. It is commonly shared that the FOSS community is not geographically concentrated, and the contribution comes from all over the world. Given that software development and then Linux started in Europe and in the US, it

[78] www.sourceforge.org ;

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should not be a surprise that the developers of the first Linux released in March 1994 were concentrated in Europe. Most of them were in Finland and a small amount of developers in the US (2008). Updated data to March 2000, collected from credits of the Linux Kernel released 2.3.51, show a different trend. Most of the FOSS developers are based in the US. However, putting this data in relation with the entire country population, Finland is still the country with the highest percentage of FOSS developers.

Using another approach for measuring the same data, Lee and Coole (2003) look at the suffix of the email addresses used by the developers of the Linux Kernel released 2.2.14. There is an approximate methodology for measuring this, but it is still only indicative of the phenomenon. They observe that the suffix .com is more used than the suffix .edu, which normally indicates emails from universities. This helps to conclude that people working in universities are not the main contributors of FOSS projects (Lee & Cole 2003).

Debian[79] is one of the most used Linux released. The project records the developers involved. It also provides data on where developers are based. The map below (figure 8.1) gives a snapshot of this.

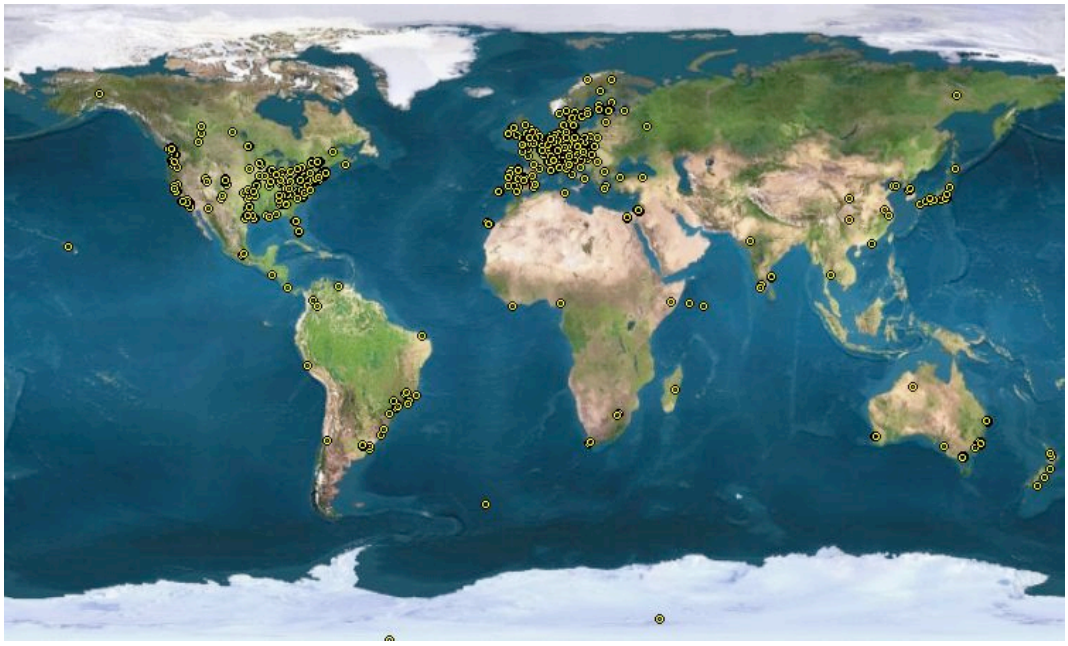

Figure 8.1 - Worldwide distribution of Debian developers

(*Source: Debian, January 2009*)

[79] www.debian.org/devel/developers.loc ;

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Dots represent where developers are located. Yet, it is impossible to provide an exact dimension of the Debian Linux contributors. This map gives an estimation of the unequal distribution of the Linux makers. The map (figure 8.1) draws a very similar scenario to the one I proposed in chapter 3 on the unequal distribution of the *makers* of the Internet. Linux developers are still concentrated in Western countries such as Europe and the US. Brazilians and Argentineans have also a significant role in developing FOSS, including countries already here included in the "Western countries group" such as Australia, New Zealand and Japan.

8) Conclusion

With this chapter I have first explored how social movements use the Internet to support and to promote "unconventional" political practices. I have also highlighted that the Internet advent has introduced new political struggles. Given the rising importance of the Internet in our main fields of activities, the right to access the Internet has become one reason of campaign. At the same time, according to the main point of this study, some people agree that accessing ICTs is not sufficient. Rather, some claim to have power over the "social constructing technology" process. Campaigns rise to defend this right, complaining against the limitations with patenting policies imposed by private lobbies.

In order to highlight the politics of this social movement group, the empirical part of this chapter focuses on the FOSS Movement. I have framed its history, and I have highlighted the key points of its claims. Finally, I have explored the unequal distribution of Free Software Activists worldwide. Even in this case, there is a relation between the dimension of the Digital Divide and the distribution of FOSS activists. Data, however, does not allow us to explore the "social construction technology" process in developing free software according to national context. However, the developing of free software is a process of social construction of meaning as such.

At the same time, the main goal of this chapter was to highlight how "social constructivism technology" approach is a social process, but, that it also became a right for which social movements take on new struggles. To conclude, the Internet plays a double role here: that of supporting social movements to energize mobilizations, and that of taking on new struggles.

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These are what help to overcome digital inequalities, ensuring the right to access the Internet for everybody, and that this happens allowing everybody to actively participate in the "social constructing technology" of meaning according to their need and local context.

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Conclusions

Since the early 1990s, Information and Communication Technologies have increasingly generated extensive debate on the nature of their impact in the political sphere. With various expectations proposed by pioneers in the field, it was commonly assumed that the Internet would facilitate political practice and open up new scenarios for politics. Scholars expected that the Internet would energize political participation by better linking citizens and political institutions, and by creating new spaces for politics. Expectations on the influence of the Internet on politics have also been influenced by the consciousness that the Internet is not equally accessed by all. The Digital Divide occupies a central role in the debate on the relationship between Internet and politics. Whatever the influence of the Internet on politics, the Digital Divide is still considered an obstacle for concretizing the potentialities of the Internet.

At the begin of 2010, the third decade since the advent of the World Wide Web, during which its public use has dramatically increased, we have been witnessing its radical integration into our lives. Today, we can directly observe the fragmentation of the use of the Internet, rather than just speculate on it. Scholars can finally address research with analyses grounded in empirical data. While the field was initially divided between 'cyber-optimist' and 'cyber-pessimist' accounts, today a growing body of empirical research has moved away from this binary opposition to render a more balanced and nuanced account of the link between digital technology and democratic politics.

Research in this field nonetheless remains fragmented. Scholars often continue to generalize their findings on Internet use, and to focus on limited political practices in isolated political systems. Research in the field still does not provide a theoretical and methodological framework which enables exploration of the relationship between the Internet and politics, and which can help bridge the fragmented scenario of politics. I have sought to address these lacunae in my study.

Addressing the challenges

First, the Digital Divide is still considered determinant for explaining the relationship between the Internet and politics. However, the scenario is now quite different to what it was

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even just ten years ago: the use of the Internet is far more extended today. Thus the Digital Divide has narrowed worldwide. From a global analytical perspective, we can ascertain that the Internet is accessed and used in many more countries across the world than in the past. We find that inhabitants of the United States are no longer the main users of the Internet. Today, most users of the Internet are to be found in European and Asiatic countries. Even at the national level, the Digital Divide has narrowed. The Internet is more accessible, and social factors can hardly still be considered an obstacle to access the Internet. However, despite the evolution of the use of the Internet, new forms of digital inequalities exist. By consequence, it is necessary that research in the field also evolves. The first challenge of my study was to point research in new directions. If we consider the Internet a participatory instrument, we must pay attention also to the inequalities in shaping it. This is what I defined as the Digital Participation Divide. I argue that only by bridging this kind of digital inequality can people shape the use of the Internet according to their needs.

Second, given the new global and national dimension of the Digital Divide, we must extend research on the relationship of Internet and politics accordingly. Today we may observe how the Internet integrates politics. So far, however, most research in the field has focused only on Western liberal countries. Exploration of the various uses of the Internet to practice politics can provide empirical findings only on a limited set of countries. I argue that, given the extension of the use of the Internet worldwide, this approach is limited: we must extend our analysis so as to account for the current transnational dimension of the Internet. We must expect that the fragmentation of the scenario worldwide generates different empirical evidence on how the Internet is used. The Internet interacts with a plurality of cultural, social, political and economic contexts. Any generalization that does not take into account this scenario risks being obsolete. In my study I have explored the relationship between the Internet and politics with attention to these worldwide diversities.

The limited interest so far expressed by research in the field on the fragmentation of the worldwide scenario in exploring the relationship between Internet and politics is caused by a *third* lacuna in the field. Most research fails to effectively explore the impact of the Internet on society – on politics in our case – by employing a techno-determinist perspective. A common mistake is to expect that the Internet impacts on politics everywhere in the same way. This explains why research has focused mainly on countries where the Internet is broadly used: it was assumed that the Internet influences politics proportionally to the amount of internet users. The Internet would then be expected to also have an impact on politics in countries with lower

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levels of Digital Divide. Following this line of thought, it was also expected that the Internet would generate the same effect irrespective of the type of political actor using it. I argue however that the Internet is an instrument flowing into pre-existing moulds. As such, it is necessary to understand how people shape the use of the Internet depending on contextual specificities. More specifically, in the domain of politics, political actors shape the use of the Internet according to the kind of political practice that they wish to promote.

Given my interest in the role that contextual specificities have in shaping the use of the Internet to practice politics, I have stressed in this study that research in the field cannot be limited only to Western liberal countries. The relationship between Internet and politics must be extended by exploring it from a comparative perspective. However, so far, literature on the issue does not provide a comparative strategy enabling us to explore the use of the Internet from a cross-national perspective – this is the *fifth* lacuna of research so far. A further challenge is to provide a methodological framework to explore how not only country contextual specificities influence the construction of meaning of the use of the Internet, but also how this happens depending on the kind of political actor involved. The comparative approach of this study led me to use a constructivist approach. In this framework, I have adapted the "Social Constructivism of Technology" (SCOT) approach to explore how the relation of the Internet and politics is shaped depending on the country contextual specificities in which different political actors act. Bijker and Pinch (1984), coiners of the definition of SCOT, referred the concept to technological artifact. I have adapted this approach to include the Internet as a technological artifact.

In the framework of this study, the Digital Divide is only one of the various contextual specificities which determine the relationship between the Internet and politics. I do not however expect this to be the most important factor. Rather than the Internet determining politics, it is the political framework in which the Internet is used that determines its political meaning.

Empirical Findings

After having introduced the key concepts and the methodological framework of this study in chapters 1 and 2, I addressed its empirical part in two complementary research strategies. With the *first* research strategy I extended the research on the current status of the Digital Divide from a cross-national perspective of analysis. With the first research strategy, I collected data on

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country contextual specificities that I then used in the *second* research strategy. Here, my focus was on how different political actors construct the use of the Internet to practice politics depending on their country contextual specificities, including the Digital Divide. By combining both research strategies, I provided empirical evidence supporting the points that I stressed with this study.

First Research Strategy: the Digital Divide

The first research strategy was discussed in chapter 3 and 4. In chapter 3 I explored the Digital Divide at the global level across 190 countries. I measured the dimension of the Digital Divide according to two complementary analytical perspectives, as a gap in both accessing and shaping the Internet. In other words, I explored the unequal distribution of internet users. I referred to this dimension of the Digital Divide as Digital Access Divide. Data collected confirmed that the use of the Internet is no longer concentrated in the United States. Rather, most Internet users are based in Asiatic countries, followed by Europe. However, the high level of Internet Penetration in the United States and European countries shows a lower internal Digital Divide in these regions than elsewhere. I then investigated which are the causes of the unequal distribution of internet users. Most of the research in the field explores the role that economic factors have in this regard. By exploring this relation of causality, I confirmed that economic factors still explain approximately 70% of the Digital Access Divide. Furthermore, I expected that democratic status of countries also play a role in this regard. I then explored how the democratic status of each country influences the Digital Access Divide by running a regression of internet users on economic and political factors. Democratic status increases by 10% the R squared. This led me to conclude that both factors explain over 80% of the Digital Access Divide. I argued however that if we welcome the Internet as a participatory instrument through which people can easily spread their claims, grounding its use at the local level, to explore the Digital Access Divide is not sufficient. We must also pay attention to the inequalities in shaping the Internet. I then explored the unequal distribution of the infrastructure of the Internet and where people owning a website are based. With this approach I investigated what I defined as the Digital Participation Divide. Data collected shows the hegemony of the United States in managing the Internet's infrastructure and Internet's websites. Thanks to this updated data, I then concluded that the Digital Access Divide is following a normalization trend, as was also proposed by Rogers (1995) and expected by Norris (2001). The Digital Participation Divide, on the other hand, is still far from narrowing. In this chapter, I then described a scenario which highlights that research in the field must explore not only the inequalities in accessing

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information as has been claimed until now, but also the gap in contributing equally across countries, in relation to contextual specificities.

It is commonly argued that the Digital Divide is also determined by social factors. In the *fourth* chapter I explored the Digital Divide within countries by focusing specifically on member countries of the European Union. I combined descriptive and analytical statistics to explore how socio-demographic factors influence both unequal access and use of the Internet across the EU. My analysis shows that internet access is, today, more gender-neutral than it was at the beginning. However, all other social factors still explain unequal access to the Internet. However, my exploration of the Digital Social Divide focuses only on the EU. Thanks to data collected in the third chapter, we know that these countries have low levels of Digital Divide and high percentages of Internet Penetration. This means that the Internet is broadly available in these countries. It is then hard to maintain the hypothesis that socio-demographic factors remain obstacles to accessing the Internet. I argue that today socio-demographic factors influence unequal needs in using the Internet, causing the inequalities aforementioned.

Second research strategies: the Digital Politics Divide

By sizing the current status of the Digital Divide and its causes in the first research strategy, I also collected data necessary to develop the second part of my empirical research. Here, I explored how contextual specificities, including the Digital Divide, influence the relationship between the Internet and politics. However, before moving to the empirical part of the second research strategy, with the fifth chapter I defined the framework in which I addressed the second part of my study. Adapting the "social constructivism of technology" approach to this study, first, we identify the "technological artefact" on which the study focuses; second, we identify the "social groups" constructing the meaning of the technological artefact; and finally, third, we explore how the social construction of the technological meaning is shaped by the interaction of the technical nature of the artefact, the social groups and contextual specificities.

In the *fifth* chapter, I addressed the first two stages: I then singled out the "technological artefact", by framing the various tools of the Internet; and I identified the political actors on which I focused my exploration about shaping the use of the Internet according to political practice. I did this by exploring the research on Internet and politics, including recent empirical findings in the field. I stressed that research in the field still lacks a clear systematization of the various political practices. I pointed out that often labels in the field of the Internet and politics overlap with each other. With this chapter, I enhanced cross-fertilization in this fast-moving area

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of research. Here, I linked approaches of research focusing on the use of the Internet by different political actors in order to create clear lines of dialogue between diverse methodological and theoretical approaches, as well as empirically grounded cases. This chapter reflected the diversity of topics that characterizes this field. I then identified three main political actors, according to the kind of political participation they promote through the Internet.

First, I explored whether or not *political parties* use the Internet to promote "conventional" forms of political practice. This served as a case study for how the Internet is used from the top down.

Second, I explored how simple members of the public, without being involved in any political organization, can use the Internet. I included *citizens* in this category, and I focus on how they use the Internet to circulate information in order to increase public political knowledge.

Third, I explored how *social movements* shape the use of the Internet. I investigated how the Internet is not only an instrument to facilitate political practice, such as for coordinating mobilization, but also how the construction of meaning of the Internet is a new claim as such. I used here the Free Software Movement as a key example of a social movement claiming freedom in social construction of technological meaning.

In the empirical part of the second research strategy, I explored how each of these political actors use the Internet depending on their political practice and the country contextual specificities in which they act. As already highlighted, I expected that the Digital Divide does not play such a determinant role, contrary to what was argued in previous research. Rather, by applying a comparative approach, I expect that other country contextual specificities, such as the combination of the status of democracy and political practice in which the Internet is used, matter more.

In the *sixth* chapter I explored the unequal use of the Internet by political parties across countries. As I argued above, this is an example of the use of Internet to promote "conventional" forms of political participation. However, the exploration of the use of political parties on the web commonly focuses only on a limited number of countries. Research in the field lacks a comparative perspective. Despite the difficulty of measuring how political parties use the WWW in over 190 countries, I pointed out that, given the importance of political communication via the Internet, the unequal presence of political parties on the WWW may reduce the plurality of the political landscape of a country, thereby risking weakening the democratic national scenario. Following this, in the empirical part of this chapter, I measured

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the unequal distribution of political parties on the WWW across countries. By applying a social constructivism approach, I then investigated which country contextual specificities of the so-called "technological framework" (Bijker & Pinch 1984) are most determinant for explaining the unequal presence of political parties on the Internet. By running a regression on the ratio of political parties on the WWW and those off-line, on national conditions such as the level of the Digital Divide, and the economic and the democratic status, I provided empirical evidence in this regard. As I expected, all contextual specificities influence the use of the Internet by political parties. However, the Digital Divide is the least significant factor. Economic and democratic factors in each country matter more from the unequal use of the Internet by political parties. This empirical evidence led me to conclude that political parties construct their use of the Internet depending on the political framework in which they are active.

In chapter *seven*, I explored how citizens, as simple members of the public, shape the use of the Internet to practice politics. Bearing in mind the various roles that citizens play in the political system, and in agreement with the idea that information develops political knowledge and hence determines an increase in civic engagement, I focused on how citizens participate in the circulation of information. I argued that, prior to the advent of the internet, the framework of traditional media was organised in a hierarchical fashion which seriously limited how citizens could take part. I expected then that if citizens can participate in the circulation of information and the creation of political knowledge, they can address their civic engagement. I then explored how citizens can do this by using the Internet.

Amongst the various instruments offered online, Blogs are broadly used by citizens in this regard. The Digital Divide however has an impact on how Blogs are used worldwide. To show this, I measured the dimension and the inequalities of the Blogosphere worldwide by social factors. At the same time, though, the unequal distribution of bloggers worldwide does not necessarily mean that the Blogosphere influences politics less where people blog less. Here as well, within the framework of the "social constructivism technology" approach, we need to look at how people blog depending on the country contextual specificities. Thanks to this approach, again, we can appreciate that the Digital Divide influences the unequal use of Blogs but is not determinant for explaining the influence of the Blogosphere in politics. Blogs matter for politics depending on the political context in which citizens shape their use. In order to verify this hypothesis, I compared two cases: the USA and Iran. The result shows that, despite the fact that in the USA people blog more than in Iran, Blogs matter to politics in both countries. There were also important differences: in the USA, citizens use the Blogosphere

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mainly for sharing information for debate, and for interacting with traditional news media production. Blogging is complementary to other conventional political practices, such as promoting political campaigns and voting. In contrast, given the limited democracy in Iran, the Iranian Blogosphere is used by citizens to promote their struggles and share their views. In this framework, the Blogosphere in Iran has a strong impact on politics. This led me to conclude that in autocratic regimes, such as that of Iran, blogging matters more than in the USA. I then pointed out that this is because given the weak democracy, citizens have limited possibilities to perform conventional politics. The Internet is the main way through which they can express civic engagement. This leads citizens to attach strong political significance to the Internet, more than in Western liberal countries where the Internet is only one among various other free spaces in which citizens can express themselves. In other words, also for use of the Internet by citizens, it does not directly determine politics. Citizens shape the political meaning of the Internet depending on their "technological framework". With the various contextual specificities specified in this study, the democratic status of a country matters more than the Digital Divide. My findings show that the Digital Divide influences the distribution of bloggers worldwide, but that the political framework in which citizens use the Internet is more determinant for its influence on politics.

Finally, in the *eighth* chapter, I explored how social movements use the Internet as a tool for facilitating "unconventional" political practices. I also stressed however that the advent of digital technologies has also triggered new political struggles. Given the centrality of the Internet to human activities, access to the Internet has become a right laid claim to by social movements. Some people argue however that it is not sufficient to simply ensure free access to ICTs. Some actively claim the right to autonomy in controlling the "social constructing technology" process. Campaigns clustered around this issue fight to overcome the limitations imposed by patenting regulations introduced to defend private interests. The empirical part of this chapter explores the key arguments of such campaigns with a qualitative approach and the use of a case study, that of the FOSS Movement. After framing the FOSS' history and highlighting the key points around which it raises its claims, I also mapped the unequal distribution of Free Software developers worldwide. Here as well, the dimension of the Digital Divide explains the distribution of FOSS activists. The quality of data here does not help the exploration of how contextual specificities influence the process in developing free software. However, the key point of this chapter, and of this case study, is that the freedom in developing free software is a process of social construction of meaning as such. With this chapter I aimed then to shed light on how the "social constructivism technology" approach is not just a methodology but a social

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process, and also a right for which social movements campaign. To conclude, with this chapter I highlighted that the Internet plays a double role for social movements: as a tool, social movements use it to mobilize, and, as a creator of new scenarios and issues, social movements take on new struggles, not only to campaign against the Digital Divide, but to ensure active Internet access for all. This must happen by allowing everybody to have power over the participation in the "social constructing technology" of meaning, according to their needs and contextual specificities.

Summarizing

Finally, this study aimed first to extend research on the Digital Divide, by addressing new perspectives of analysis and providing its current status. My empirical evidence showed that the Digital Access Divide is narrowing. I argued however that new research must develop a new form of understanding inequality in using the Internet, under the label of Digital Participation Divide. Second, I was interested in exploring how the Digital Divide determines the relationship between Internet and politics. By following a constructivist approach, I expected that in the domain of politics, political actors use the Internet depending on the political context in which they act. The Digital Divide plays a limited role. Although it still explains the unequal use of the Internet to practice politics, it does not determine its influence on politics. My empirical findings confirmed this. The unequal presence of political parties online is mainly explained by the democratic status in which they act. Meanwhile, citizens influence politics by spreading information via blogs. Blogs have more impact in contexts with low levels of democracy. Finally, for social movements, the Internet is an important instrument for supporting their campaigns. Social movements however also claim the freedom and power to construct meaning in the use of new technologies. I argue that this claim shows the rising of political struggles for which the Internet is not just a facilitator or tool, but a new social need, and as such, it is a reason for raising new social claims and struggles. My combined empirical findings confirm my expectations: that the Internet does not determine politics, but rather that politics shape the use of the Internet depending on people's needs.

Outlook

The empirical evidence in this study points to new directions of research in the framework of the Digital Divide and the relationship between the Internet and politics.

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First, given the evolution of the use of the Internet, research in the field must extend the concept of digital inequalities. With the increasing use of participatory tools on the WWW, the Digital Participation Divide must be considered a key issue around which to cluster future investigation.

Second, given the increasing transnational dimension of the population online today, more attention must be paid on the fragmentation of the Network Society. This implies understanding the Internet as a transnational instrument, where people express themselves depending on their country-cultural background. Researchers must pay attention to this bearing in mind an anthropological perspective of analysis on the Digital Participation Divide.

Third, despite the increasing use of the Internet, new forms of inequalities will emerge. We are already witnessing evidence of this. So far, we have seen that the speed of the circulation of data depends only on the limitations imposed by the Internet's infrastructure. However, recently some telecom companies have been claiming for new bandwidth regulation bandwidth, arguing that information should flow on a money-cost basis. This would bring people to access information on the Internet depending on the cost that they are willing and able to pay. By implementing this regulation, a new form of digital inequality will be created, posing yet new challenges in the domain of the Digital Divide. For this reason, the Net-Neutrality campaign contests this regulation proposal, claiming that the circulation of data should be treated equally, and that there should be equal opportunities on the Internet for all.

Fourth, the emergence of campaigns claiming equal digital rights, such as Net-Neutrality, and the FOSS campaigns, which claims equal opportunities for people to construct the meaning of ICTs, confirms that further research must be open to investigating new related issues. We can expect that the invention of new tools will enrich the Internet in the future. However, following the argument proposed in this study, we must not expect that these will bring revolutionary changes to political dynamics. I doubt that we will be able to provide new arguments in the domain of the political sciences in this regard. I do believe however that in order to identify new directions of investigation on the relationship between the Internet and politics, we must pay attention to the emergence of new needs of society. From new conditions will surface new political struggles. The new inequalities determining the imbalance in the process of this network structure will be the reason around which new research challenges will rise. In this framework, political scientists must explore how best to understand the equilibrium of these conditions. This is the key point around which we must take on new challenges in order to explore the historical framework of our network-based society.

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European University Institute DOI: 10.2870/2014

Bibliography

Abbate, J., 2000. *Inventing the Internet*, Cambridge, MA: The MIT Press.

Abramson, B.D., 2000. Internet globalization indicators. *Telecommunications Policy*, 24(1), 69-74.

Adcock, R. & Collier, D., 2001. Measurement Validity: A Shared Standard for Qualitative and Quantitative Research. *American Political Science Review*, 95(3), 529-546.

Almond, G.A. & Verba, S., 1980. *The Civic Culture Revisited*, Boston, MA: Little Brown.

Althaus, S.L., 1998. Information Effects in Collective Preferences. *American Political Science Review*, 92(3), 545-558.

Alvarez, R.M., 1997. *Information and Elections*, Ann Arbor, MI: University of Michigan Press.

Alvarez, R.M. & Hall, T.E., 2008. *Electronic Elections: The Perils and Promises of Digital Democracy*, Princeton, NJ: Princeton University Press.

Alvarez, R.M. & Hall, T.E., 2004. *Point, Click and Vote: The Future of Internet Voting*, Washington, DC: Brookings Institution Press.

Alvarez, R.M., Hall, T.E. & Trechsel, A.H., 2009. Internet Voting in Comparative Perspective: The Case of Estonia. *PS: Political Science & Politics*, 42(03), 497-505.

Annan, K., 2000a. Press Release No. G/05/2000. Available at: http://www.unescap.org/unis/press/G_05_00.htm [Accessed February 10, 2010].

Annan, K., 2000b. *Report to the Millennium Assembly of the UN*, New York, NY: United Nations.

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Bajaj, V. & Polgreen, L., 2009. Suspect Stirs Mumbai Court by Confessing. *The New York Times*. Available at: http://www.nytimes.com/2009/07/21/world/asia/21india.html?_r=1 [Accessed January 29, 2010].

Baker, P. et al., 2009. Teleworking and the "Disability Divide". In E. Ferro et al., eds. *Handbook of Research on Overcoming Digital Divides: Constructing an Equitable and Competitive Information Society*. Hershey, PA: Information Science Publishing, pp. 155-178.

Baran, P., 1964. *On distributed communications: I. Introduction to Distributed Communications Network*, Memorandum RM-3420-PR: RAND Corporation.

Barber, B.R., 1999. Three Scenarios for the Future of Technology and Strong Democracy. *Political Science Quarterly*, 113(4), 573-589.

Barber, B.R., 2003. Which Technology and Which Democracy? In H. Jenkins, D. Thorburn, & B. Seawell, eds. *Democracy and New Media*. Media in transition. Cambridge, MA: MIT Press, pp. 33-48.

Barma, N., 2005. *The Emerging Economies in the Digital Era: market places, market plyers, and market makers*, Berkeley, CA: BRIE Working Paper 167.

Barnes, S.H. & Kaase, M., 1979. *Political Action: Mass Participation in Five Western Democracies*, Beverly Hills, CA: Sage.

Barnett, S., 1997. New Media, Old Problems. New Technology and the Political Process. *European Journal of Communication*, 12(2), 193-218.

Barney, D.D., 2000. *Prometheus Wired: The Hope for Democracy in the Age of Network Technology*, Chicago, IL: University of Chicago Press.

Barney, D.D., 2004. *The Network Society*, Cambridge: Polity Press.

Barnouw, E., 1966. *A History of Broadcasting in the United States: Volume 1: A Tower of Babel. To 1933*, Oxford: Oxford University Press.

Bartels, L.M., 1996. Uninformed Votes: Information Effects in Presidential Elections. *American Journal of Political Science*, 40(1), 194-230.

Bell, D., 1979. The Social Framework of the Information Society. In M. Dertouzos & J. Moses, eds. *The Computer Age: A Twenty-Year View*. Cambridge, MA: MIT Press.

Benkler, Y., 2006. *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, New Haven, CT: Yale University Press.

Bennett, L., 2003. Communicating Global Activism: strengths and vulnerabilities of networked politics. *Information, Communication & Society*, 6(2), 146-168.

Bijker, W. & Pinch, T., 1984. The Social Construction of Facts and Artefacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other. *Social Studies of Science*, 14(3), 399-441.

Bimber, B., 2003. *Information and American Democracy: Technology in the Evolution of Political Power*, Cambridge: Cambridge University Press.

Bimber, B., 2001. Information and Political Engagement in America: The Search for Effects of Information Technology at the Individual Level. *Political Research Quarterly*, 54(1), 53-67.

Bimber, B., 1998. The Internet and Political Mobilization: Research Note on the 1996 Election Season. *Social Science Computer Review*, 16(4), 391-401.

Bjerke, F. & Hoff, J., 2009. How should we understand the relationship between internet and politics? Towards a theoretical framework. In ECPR General Conference. Potsdam, Germany.

Blood, R., 2002. *The Weblog Handbook: Practical Advice on Creating and Maintaining Your Blog*, New York, NY: Basic Books.

Blumenthal, S., 1980. *The permanent campaign: Inside the world of elite political operatives*, Boston, MA: Beacon Press.

 DOI: 10.2870/2014

Blumler, J.G. & Coleman, S.J., 2009. *The Internet and Democratic Citizenship: Theory, Practice and Policy*, Cambridge: Cambridge University Press.

Bollen, K.A., Entwisle, B. & Alderson, A.S., 1993. Macrocomparative Research Methods. *Annual Review of Sociology*, 19(1), 321-351.

Bollier, D., 2002. *Silent Theft: The Private Plunder of Our Common Wealth*, New York, NY: Routledge.

Bolt, D. & Crawford, R., 2000. *Digital Divide: Computers and Our Children's Future*, New York, NY: TV Books.

Bray, Z., 2008. Ethnography. In D. Della Porta & M. Keating, eds. *Approaches and Methodologies in the Social Sciences: A Pluralist Perspective*. Cambridge: Cambridge University Press.

Brians, L.C. & Wattenberg, M.P., 1996. Campaign Issue Knowledge and Salience: Comparing Reception from TV Commercials, TV News and Newspapers. *American Journal of Political Science*, 40(1), 172-193.

Brundidge, J., 2006. The contribution of the internet to the heterogeneity of political discussion networks: does the medium matter? In International Communication Association Annual Conference. Dresden.

Brunn, S.D. & Dodge, M., 2001. Mapping the "Worlds" of the World Wide Web: (Re)Structuring Global Commerce through Hyperlinks. *American Behavioral Scientist*, 44(10), 1717-1739.

Buechler, S.M., 1995. New Social Movement Theories. *The Sociological Quarterly*, 36(3), 441-464.

Calderaro, A., 2010. Empirical Analysis of Political Spaces on the Internet: The Role of E-Mailing Lists in the Organization of Alter-Globalization Movements. *International Journal of E-Politics*, 1(1), 73-87.

Cammaerts, B., 2008. *Internet-Mediated Participation Beyond the Nation State*, Manchester: Manchester University Press.

Castells, M., 1998. *End of Millennium*, Malden, MA: Blackwell.

Castells, M., 2001. *The Internet Galaxy: Reflections on the Internet, Business, and Society*, New York, NY: Oxford University Press.

Castells, M., 2004. *The Network Society: A Cross-Cultural Perspective*, Cheltenham: Edward Elgar Publication.

Castells, M., 1997. *The Power of Identity*, Malden, MA: Blackwell.

Castells, M., 1996. *The Rise of the Network Society*, Cambridge, MA: Blackwell.

Castells, M. & Sey, A., 2004. The Internet and the Political Process. In M. Castells, ed. *The Network Society: A cross-cultural perspective*. Northampton, MA: Edward Elgar Publication, pp. 363-381.

Chadwick, A., 2006. *Internet Politics: States, Citizens, and New Communication Technologies*, New York, NY: Oxford University Press.

Chadwick, A. & Howard, P.N. eds., 2009. *Routledge Handbook of Internet Politics*, London: Routledge.

Chaffee, S.H. & Kanihan, S.F., 1997. Learning about Politics from the Mass Media. *Political Communication*, 14(4), 421-430.

Chen, W. & Wellman, B., 2004. Charting Digital Divides: Comparing Socioeconomic, Gender, Life Stage, and Rural-Urban Internet Access and Use in Five Countries. In W. H. Dutton et al., eds. *Transforming Enterprise*. Cambridge, MA: The MIT Press.

Cheswick, B., Burch, H. & Wojcik, F., 1999. The Internet mapping project. Available at: www.cs.bell-labs.com/who/ches/map/index.html.

Chinn, M.D. & Fairlie, R.W., 2006. The determinants of the global digital divide: a cross-country analysis of computer and internet penetration. *Oxford Economic Papers*, 59(1), 16-44.

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Cleaver, H.M., 1998. 'The Zapatista effect: The Internet and the Rise of an Alternative Political Fabric. *Journal of International Affairs*, 51(2), 621-640.

Cohen, B.C., 1963. *The press and foreign policy*, Princeton, NJ: Princeton University Press.

Coleman, G., 1999. *The Politics of Survival and Prestige: Hacker and the Global Production of an Operating System*. PhD Dissertation. Chicago, IL: Chicago University.

Coleman, G., 2004. The Political Agnosticism of Free and Open Source Software and the Inadvertent Politics of Contrast. , 77(3), 507-519.

Coleman, S., 2005. New mediation and direct representation: reconceptualizing representation in the digital age. *New Media Society*, 7(2), 177-198.

Converse, P., 1990. Popular representation and the distribution of information. In J. Ferejohn & J. Kuklinski, eds. *Information and Democratic Processes*. Chicago, IL: University of Illinois Press.

Corbet, J., Mc Pherson, A. & Kroah-Hartaman, G., 2008. How Fast it is Going, Who is Doing It, What They are Doing, and Who is Sponsoring It. Available at: http://www.linuxfoundation.org/publications/linuxkerneldevelopment.php [Accessed February 10, 2010].

Cukier, K.N., 1999. Bandwidth Colonialism? The Implications of Internet Infrastructure on International E-Commerce. In INET'99 Conference. San Jose, CA.

Currah, A., 2009. *What's Happening to Our News: An Investigation into the Likely Impact of the Digital Revolution on the Economics of News Publishing in the UK*, Oxford: Reuters Institute for the Study of Journalism.

Dalton, R.J., 2000. The decline of party identification. In R. J. Dalton & M. P. Wattenberg, eds. *Parties without Partisans: Political Change in Advanced Industrial Democracies*. Oxford: Oxford University Press, pp. 19-36.

Dalton, R.J., 2008. Citizenship Norms and the Expansion of Political Participation. *Political*

Studies, 56(1), 76-98.

Davis, A., 2002. *Public Relations Democracy: Politics, Public Relations and the Mass Media in Britain*, Manchester: Manchester University Press.

Davis, R., 1999. *The Web of Politics: The Internet's Impact on the American Political System*, Oxford: Oxford University Press.

Davis, R., 2009. *Typing Politics: The Role of Blogs in American Politics*, New York, NY: Oxford University Press.

Davis, R. & Owen, D., 1998. *New Media and American Politics*, New York, NY: Oxford University Press.

Deibert, R.J., Palfrey, J, Rohozinski, R., Zittrain, J., & Haraszti, M., 2008. *Access Denied: The Practice and Policy of Global Internet Filtering*, Cambridge, MA: The MIT Press.

Deibert, R.J., Palfrey, J, Rohozinski, R., Zittrain, J., & Haraszti, M., 2010. *Access Controlled: The Shaping of Power, Rights, and Rule in Cyberspace*, Cambridge, MA: The MIT Press.

Della Porta, D. & Mosca, L., 2005. Global-Net for Global Movements? A Network of Networks for a Movement of Movements. *Journal of Public Policy*, 25(01), 165-190.

Della Porta, D. & Tarrow, S.G., 2005. *Transnational protest & global activism.*, New York, NY: Rowman and Littlefield.

Dewey, J., 1954. *The Public and Its Problem*, Athens, OH: Ohio University Press.

Di Maggio, P. & Hargittai, E., 2001. *From the 'Digital Divide' to 'Digital Inequality': Studying Internet use as penetration increases*, Princeton University Centre for Arts and Cultural Policy Studies.

Diani, M., 2001a. Social Movement Networks: virtual and real. In F. Webster, ed. *Culture and Politics in the Information Age*. London: Routledge, pp. 117-128.

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Diani, M., 2001b. Social Movement Networks: virtual and real. *Information, Communication and Society*, 3(3), 386-401.

Diani, M., 1992. The Concept of Social Movement. *The Sociological Review*, (40), 1-25.

Dobransky, K. & Hargittai, E., 2006. The Disability Divide in Internet Access and Use. *Information, Communication and Society*, 9, 313-334.

Dodge, M., 1999. The geographies of cyberspace. Available at: http://eprints.ucl.ac.uk/266/ [Accessed March 7, 2010].

Doppelt, C. & Shearer, E., 1999. *Nonvoters. Americ'a no-shows*, Thousand Oaks, CA: Sage.

DOT Force, 2001a. Digital opportunities for all: meeting the challenge.

DOT Force, 2001b. Okinawa Charter on Global Information Society.

Drezner, D.W. & Farrell, H., 2008. The power and politics of blogs. *Public Choice*, 134(1-2), 15-34.

Druckman, J.N., Kifer, M.J. & Parking, M., 2009. Campaign Communications in U.S. Congressional Elections. *American Political Science Review*, 103(03), 343-366.

Dutton, W.H., Helsper, E.J. & Gerber, M., 2009. *The Internet in Britain 2009*, Oxford: Oxford Internet Institute. Available at: http://www.oii.ox.ac.uk/downloads/index.cfm?File=research/oxis/OxIS2009_Report.pdf.

Duverger, M., 1954. *Political Parties Their Organization and Activity In The State*, London: Methuen.

Easterlin, R.A., 1996. *Growth Triumphant: The Twenty-First Century in Historical Perspective*, Ann Arbor, MI: University of Michigan Press.

Etling, B. & Kelly, J., 2008. Mapping Iran's Online Public: Politics and Culture in the Persian Blogosphere. The Berkman Center for Internet & Society Research Publication Series. Cambridge, MA.

Farrel, D. & Webb, P., 2000. Political Parties as Campaign Organizations. In R. J. Dalton & M. P. Wattenberg, eds. *Parties Without Partisans: Political Change in Advanced Industrial Democracies*. Oxford: Oxford University Press.

Fearon, J., 1998. Deliberation as discussion. In *Deliberative Democracy*. Cambridge: Cambridge University Press.

Fish, S., 1994. *There's No Such Thing As Free Speech: And It's a Good Thing, Too*, New York, NY: Oxford University Press.

Franklin, M.N., 2004. *Voter Turnout and the Dynamics of Electoral Competition in Established Democracies since 1945*, New York, NY: Cambridge University Press.

Freedman, P., Franz, M. & Goldstein, K., 2004. Campaign Advertising and Democratic Citizenship. *American Journal of Political Science*, 48(4), 723-741.

Garrett, K., Horrigan, J. & Resnick, P., 2004. The Internet and Democratic Debate: wired Americans hear more points of view about candidates and key Issues than other citizens; they are not using the Internet to screen out ideas with which they disagree. Available at: [Accessed December 6, 2006].

Ghosh, R.A. & Prakash, V.V., 2000. The Orbiten free software survey. Available at: http://pascal.case.unibz.it/retrieve/3788/ [Accessed February 10, 2010].

Gibson, R.K., Lusoli, W. & Ward, S.J., 2005. Online Participation in the UK: Testing a 'Contextualised' Model of Internet Effects. *British Journal of Politics & International Relations*, 7, 561-583.

Gibson, R.K., Nixon, P.G. & Ward, S.J. eds., 2003. *Political Parties and the Internet: Net Gain?*, New York, NY: Routledge.

Gibson, R.K. & Ward, S.J., 2009a. Participation, Political Organizations and the Impact of the

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Internet. In A. Chadwick & P. N. Howard, eds. *Handbook of Internet and Politics*. Routledge international handbooks. London: Routledge.

Gibson, R.K. & Ward, S.J., 2009b. Parties in the Digital Age - A Review. *Representation*, 45(1), 87.

Gibson, R.K. & Ward, S.J., 1999. Party democracy online: UK parties and the new ICTs. *Information, Communication & Society*, 2(3), 340-367.

Gibson, R.K. & Ward, S.J., 1998. U.K. Political Parties and the Internet: "Politics as Usual" in the New Media? *Harvard International Journal of Press/Politics*, 3(3), 14-38.

Gilder, G., 2000. *TELECOSM: How Infinite Bandwidth will Revolutionize Our World*, New York, NY: Free Press.

Gitlin, T., 1994. *Inside Prime Time* 2nd ed., London: Routledge.

Goldfarb, A. & Prince, J., 2008. Internet adoption and usage patterns are different: Implications for the digital divide. *Information Economics and Policy*, 20(1), 2-15.

Golding, P., 1996. World Wide Wedge: Division and Contradiction in the Global Information Infrastructure. *Monthly Review*, 48(3), 70-85.

Gray, M. & Caul, M., 2000. Declining Voter Turnout in Advanced Industrial Democracies, 1950 to 1997: The Effects of Declining Group Mobilization. *Comparative Political Studies*, 33(9), 1091-1122.

Greer, J.D. & Mensing, D., 2006. The evolution of online newspapers: A longitudinal content analysis, 1997-2003. In X. Li, ed. *Internet newspapers: The making of a mainstream medium*. Manwah, NJ: Lawrence Erlbaum Associates, pp. 13-32.

Gunter, B., 2003. *News and the Net*, Manwah, NJ: Lawrence Erlbaum Associates.

Hafner, K. & Lyon, M., 1998. *Where Wizards Stay Up Late: The Origins Of The Internet*, New York, NY: Simon & Schuster.

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Hague, B.N. & Loader, B. eds., 1999. *Digital Democracy: Discourse and Decision Making in the Information Age*, London: Routledge.

Hanson, E.C., 2008. *The Information Revolution and World Politics*, Lanham, MD: Rowman & Littlefield.

Hardy, B.W. & Sheufele, D.A., 2005. Examining Differential Gains From Internet Use: Comparing the Moderating Role of Talk and Online Interactions. *Journal of Communication*, 55(1), 71-84.

Hargittai, E., 2002. Second-Level Digital Divide: Differences in people's online skills. *First Monday*, 7(4).

Hargittai, E., 1999. Weaving the Western Web: explaining differences in Internet connectivity among OECD countries. *Telecommunications Policy*, 23(10-11), 701-718.

Hargittai, E. & Hinnant, A., 2008. Digital Inequality: Differences in Young Adults' Use of the Internet. *Communication Research*, 35(5), 602-621.

Hayward, T., 1995. *Info-Rich, Info-Poor: Access and Exchange in the global Information Society*, London: K.G.Saur.

Hausmann, R., Tyson, D.L. & Zahidi, S., 2007. *The Global Gender Gap Report 2007*, World Economic Forum: Geneva.

Healy, A.F. & McNamara, D.S., 1996. Verbal Learning and Memory: Does the Modal Model Still Work? *Annual Review of Psychology*, 47(1), 143-172.

Heclo, H., 2000. Campaigning and Government: a Conspectus. In *The Permanent Campaign and its Future*. Washington, DC: The Brookings Institution, pp. 1-37.

Hester, J. & Gibson, R., 2003. The economy and second-level agenda setting: A time series analysis of economic news and public opinion about the economy. *Journalism &*

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Mass Communications Quarterly, 80, 73-90.

Himanen, P., 2001. *The Hacker Ethic: A Radical Approach to the Philosophy of Business* 1st ed., New York, NY: Random House.

Himmelweit, H.T., Humphreys, P. & Jaeger, M., 1985. *How voters decide : a model of vote choice based on a special longitudinal study extending over fifteen years and the British election surveys of 1970-1983*, Milton Keynes: Open University Press.

Hindman, D.B., 2000. The Rural-Urban Digital Divide. *Journalism and Mass Communication Quarterly*, 77(3), 549-560.

Hindman, M., 2009. *The Myth of Digital Democracy*, Princeton, NJ: Princeton University Press.

Hoffman, D.L. & Novak, T.P., 1998. *Bridging the Digital Divide: The Impact of Race on Computer Access and Internet Use*, Available at: http://www.eric.ed.gov/ERICWebPortal/contentdelivery/servlet/ERICServlet?accno=ED421563 [Accessed March 2, 2010].

Howard, P.N., 2005. Deep Democracy, Thin Citizenship: The Impact of Digital Media in Political Campaign Strategy. *The Annals of the American Academy of Political and Social Science*, 597(1), 153-170.

Howard, P.N., 2003. Digitizing the Social Contract: Producing American Political Culture in the Age of New Media. *Communication Review*, 6(3), 213-245.

Howard, P.N., 2005. Information and communication technology in Central Africa. Washington University.

Howard, P.N., 2006. *New Media Campaigns and the Managed Citizen*, New York, NY: Cambridge University Press.

Howard, P.N., 2007. Testing the Leap-Frog Hypothesis: The impact of existing infrastructure and telecommunications policy on the global digital divide. *Information, Communication and Society*, 10, 133-157.

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Hutchby, I., 2001. *Conversation and Technology: From the Telephone to the Internet*, Cambridge: Polity.

Innis, H., 1951. *The Bias of Communication*, Toronto: Toronto University Press.

Internet World Stats, 2010. Surfing and Site Guide Internet World Stats. Available at: http://www.internetworldstats.com/surfing.htm [Accessed February 20, 2010].

Ito, M., 2008. Introduction. In K. Varnelis, ed. *Networked Publics*. Cambridge, MA: MIT Press.

Johnson, T.J. & Kaye, B.K., 2004. Wag the Blog: How Reliance on Traditional Media and the Internet Influence Credibility Perceptions of Weblogs Among blog Users. *Journalism & Mass Communications Quarterly*, 81(3), 622-642.

Johson, D.G., 2003. Reflections on Campaign Politics, the Internet and Ethics. In *The Civic Web: Online Politics on Democratic Values*. Lanham, MD: Rowman and Littlefield.

Jordan, G., 1998. Politics Without Parties. *Parlamentary Affairs*, 49(1), 1-17.

Jordan, T., 1999. *Cyberpower: The Culture and Politics of Cyberspace and the Internet*, London: Routledge.

Jordan, T., 2008. *Hacking: Digital Media and Technological Determinism*, London: Polity.

Jordan, T., 2001. Measuring the Internet: host count versus business plans. *Information, Communication & Society*, 4(1), 34.

Juris, J., 2004. Networked Social Movements. In M. Castells, ed. *The Network Society: A cross-cultural perspective*. Northampton, MA: Edward Elgar Publication, pp. 363-381. Available at: [Accessed November 15, 2009].

Juris, J., 2008. *Networking Futures: The Movements against Corporate Globalization*, Durham, NC: Duke University Press.

Kalathil, S. & Boas, T.C., 2003. *Open Networks, Closed Regimes: The Impact of the Internet on Authoritarian Rule*, Washington, D.C.: Carnegie Endowment for International Peace.

Katz, E., 1987. Communications Research since Lazarsfeld. *Public Opinion Quarterly*, 51(Special), S25-S45.

Katz, J.E. & Rice, R.E., 2002. *Social Consequences of Internet Use: Access, Involvement, and Interaction*, Cambridge, MA: The MIT Press.

Katz, R.S. & Mair, P., 1995. *How Parties Organize: Change and Adaptation in Party Organizations in Western Democracies*, London: Sage.

Katz, R.S. & Mair, P., 2009. The Cartel Party Thesis: A Restatement. *Perspectives on Politics*, 7(04), 753-766.

Kavada, A., 2009. Decentralization and Communication: Email Lists and the Organizing Process of the European Social Forum. In A. Karatzogianni, ed. *Cyber Conflict and Global Politics*. London: Routledge, pp. 188-204.

Kelty, C.M., 2008. *Two Bits: The Cultural Significance of Free Software*, Durham, NC: Duke University Press.

Kelty, C.M., 2000. Anthropology Monsters, Face of the Gift. In American Anhropological Association (AAA) Conference. San Francisco, CA.

Kies, R., 2010. *Promises and Limits of Web-deliberation*, London: Palgrave Macmillan.

Kim, S., Sheufele, D.A. & Shanahan, J., 2002. Think about It This way: Attribute Agenda-Setting Function of the Press and the Public's evaluation of a Local Issue. *Journalism & Mass Communications Quarterly*, 79(1), 7-25.

Kirchheimer, O., 1966. The transformation of the Western European party sistems. In J. LaPalombara & M. Weiner, eds. *Political Parties and Political Development*. Princeton, NJ: Princeton University Press, pp. 177-200.

 DOI: 10.2870/2014

Klandermans, B., 1997. *The Social Psychology of Protest*, Oxford: Wiley-Blackwell.

Kriesi, H.P., 1995. The Political Opportunity Structure of New Social Movements: its Impact on their Mobilization. In J. Jenkins & B. Dermans, eds. *The Politics of Social Protest*. London: UCL Press, pp. 167-198.

Kroah-Hartman, G., Corbet, J. & Mc Pherson, A., 2008. *How fast it is going, who is doing it, what they are doing, and who is sponsoring it*, The Linux Foundation.

Krueger, B.S., 2002. Assessing the Potential of Internet Political Participation in the United States: A Resource Approach. *American Politics Research*, 30(5), 476-498.

Kyllonen, P.C. & Christal, R.E., 1990. Reasoning Ability Is (Little More Than) Working-Memory Capacity?! *Intelligence*, 14, 389-433.

Lall, S., 1999. Promoting industrial competitiveness in developing countries: lessons from Asia. Commonwealth Economic Paper Series, No. 39, Commonwealth Secretariat: London.

Landes, D.S., 1969. *The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to Present*, Cambridge: Cambridge University Press.

Lawrence, E., Sides, J. & Farrell, H., 2010. Self-Segregation or Deliberation? Blog Readership, Participation, and Polarization in American Politics. *Perspectives on Politics*, 8(1), 141-157.

Lazarsfeld, P.F. & Merton, R., 1948. Mass Communication, Popular Taste, and Organized Social Action. In L. Bryson, ed. *The Communication of Ideas*. New York, NY: Harper & Brothers.

Lee, B., Lancendorfer, K. & Lee, K.J., 2005. Agenda-setting and the internet: The intermedia influence of internet bulletin boards on newspaper coverage of the 2000 general election in South Korea. *Asian Journal of Communication*, 15, 57-71.

Lee, G.K. & Cole, R.E., 2003. From a Firm-Based to a Community-Based Model of Knowledge Creation: The Case of the Linux Kernel Development. *Organization Science*, 14(6), 633-649.

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Leiner, B.M. et al., 2009. A brief history of the internet. *Computer Communication Review*, 39(5), 22-31.

Lessig, L., 2001. *The Future of Ideas: The Fate of the Commons in a Connected World* 1st ed., New York, NY: Vintage Books.

Levin, P., 2003. On Line Campaigning and the Public Interest. In *The Civic Web: Online Politics on Democratic Values*. Lanham, MD: Rowman and Littlefield, pp. 47-62.

Lévy, P., 1997. *Collective Intelligence: Mankind's Emerging World in Cyberspace*, Cambridge, Mass: Perseus Books.

Levy, S., 1984. *Hackers: Heroes of the Computer Revolution*, New York, NY: Delta Books.

Lippmann, W., 1947. *The cold war: a study in US foreign policy*, New York, NY: Harper & Brothers.

Loges, W.E. & Jung, J., 2001. Exploring the Digital Divide: Internet Connectedness and Age. *Communication Research*, 28(4), 536-562.

Malecki, E.J., 2002. The Economic Geography of the Internet's Infrastructure. *Economic Geography*, 78(4), 399-424.

Marcuse, H., 1965. Repressive Tollerance. *A Critique of Pure Tollerance.*

Margetts, H., 2006. The Cyber Party. In R. S. Katz & W. Crotty, eds. *Handbook of Party Politics*. London: Sage, pp. 528-535.

Margolis, J. & Fisher, A., 2003. *Unlocking the Clubhouse: Women in Computing*, Cambridge, MA: The MIT Press.

Margolis, M. & Resnick, D., 2000. *Politics as Usual: The Cyberspace `Revolution'*, Thousand Oak, CA: Sage.

Marsh, A., 1977. *Protest and political consciousness*, Beverly Hills, CA: Sage.

Marshall, T.H., 1992. The Problem Stated with the Assistance of Alfred Marshall [orginaly delivered in 1949]. In T. Marshall & T. Bottomore, eds. *Citizenship and Social Class*. London: Pluto Perspectives, pp. 3-51.

Matheson, D., 2004. Weblogs and the Epistemology of the News: Some Trends in Online Journalism. *New Media Society*, 6(4), 443-468.

McChesney, R., 1999. *Rich Media, Poor Democracy: Communication Politics in Dubious Times*, New York, NY: New Press.

McChesney, R.W., 1990. The Battle of the U.S. Airwaves, 1928-1935. *Journal of Communication*, 40(4), 29-57.

McCombs, M.E. et al., 1997. Candidate images in Spanish elections: Second-level agenda-setting effects. *Journalism & Mass Communications Quarterly*, (74), 703-717.

McCombs, M.E. & Shaw, D.L., 1972. The Agenda-Setting function of Mass Media. *Public Opin Quarterly*, 36(2), 176-187.

McGlinchey, E. & Johnson, E., 2005. Digital Divide in Central Asia: Comparing ICT Policy. In Annual Meeting of the American Political Science Association. Washington, D.C.

McLeod, J.M. & Chaffee, S.H., 1973. Interpersonal Approaches to Communication Research. *American Behavioral Scientist*, 16(4), 469-499.

McLuhan, M., 1962. *The Gutenberg Galaxy: The Making of Typographic Man*, London: Routledge and Kegan Paul.

McLuhan, M., 1964. *Understanding Media: The Extensions of Man*, London: Routledge & Kegan Paul.

Melucci, A., 1994. A Strange Kind of Newness: What's "New" in New Social movements? In E. Laraña, H. Johnston, & J. R. Gusfield, eds. *New Social Movements: From Ideology to Identity*.

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Philadelphia, PA: Temple University Press.

Melucci, A., 1996. *Challenging Codes: Collective Action in the Information Age*, Cambridge: Cambridge University Press.

Mendez, F. & Trechsel, A.H., 2004. *The European Union and E-Voting (Electronic Voting)*, London: Routledge.

Meyrowitz, J., 1985. *No Sense of Place: The Impact of Electronic Media on Social Behavior*, New York, NY: Oxford University Press.

Milner, H.V., 2006. The Digital Divide: The Role of Political Institutions in Technology Diffusion. *Comparative Political Studies*, 39(2), 176-199.

Montero, J.R. & Torcal, M., 2006. *Political Disaffection in Contemporary Democracies: Social Capital, Institutions and Politics*, London: Routledge.

Morris, D., 1999. *Vote.com: How Big-Money Lobbyists and the Media are Losing Their Influence*, Los Angeles, CA: Renaissance Books.

Moss, M.L. & Townsend, A., 1997. Tracking the Net: Using Domain Names To Measure the Growth of the Internet in U.S. Cities. *Journal of Urban Technology*, 4(3), 47-60.

Mossberger, K., Tolbert, C.J. & McNeal, R.S., 2008. *Digital Citizenship: The Internet, Society, and Participation*, Cambridge, MA: MIT Press.

Mouffe, C., 1992. *Dimensions of Radical Democracy: Pluralism, Citizenship,community*, London: Verso.

Netcraft, 2010. *Web Server Survey*, Available at: http://news.netcraft.com/archives/web_server_survey.html [Accessed February 11, 2010].

Newell, J.L., 2001. Italian Political Parties on the Web. *Harvard International Journal of Press/Politics*, 6(4), 60-87.

Nie, N.H. & Erbring, L., 2000. *Internet and Society: a preliminary report*, Stanford, CA.

Nora, S. & Minc, A., 1981. *The Computerization of Society*, Cambridge, MA: MIT Press.

Norris, P., 2000. *A Virtuous Circle: Political Communications in Postindustrial Societies*, Cambridge: Cambridge UniversityPress.

Norris, P., 2002. *Democratic Phoenix: Reinventing Political Activism*, Cambridge: Cambridge University Press.

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

NTIA, 1998. Falling through the Net II: New data on the digital divide. Available at: http://www.ntia.doc.gov/ntiahome/net2/ [Accessed March 2, 2010].

NTIA, 2000. Falling through the Net II: Toward digital inclusion. Available at: http://www.ntia.doc.gov/ntiahome/fttn00/contents00.html [Accessed March 2, 2010].

NTIA, 1995. Falling through the Net: A survey of the "have nots" in rural and urban America. Available at: http://www.ntia.doc.gov/ntiahome/fallingthru.html [Accessed March 2, 2010].

NTIA, 1999. Falling through the Net: Defining the digital divide. Available at: http://www.ntia.doc.gov/ntiahome/fttn99/contents.html [Accessed March 2, 2010].

Nye, J.S., 2004. *Soft Power: The Means to Success in World Politics*, New York, NY: Public Affairs.

O'Reilly, T., 2005. What is the Web 2.0? Design patterns and business models for the next generation of software. Available at: www.oreilly.com/lpt/a/6228 [Accessed January 27, 2010].

Olesen, T., 2004. The transnational Zapatista solidarity network: an infrastructure analysis.

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Global Networks, 4(1), 89-107.

Palfrey, J. & Gasser, U., 2008. *Born Digital: Understanding the First Generation of Digital Natives*, New York, NY: Basic Books.

Paltridge, S., 1997. *Internet domain names: allocation policies*, Paris: OECD Publications.

Parayil, G. ed., 2006. *Political Economy and Information Capitalism in India: Digital Divide, Development and Equity*, Basingstoke: Palgrave Macmillan.

Park, H.W. & Thelwall, M., 2003. Hyperlink Analyses of the World Wide Web: A Review. *Journal of Computer-Mediated Communication*, 8(4), 0-0.

Passavant, P., 2002. *No Escape: Freedom of Speech and the Paradox of Rights.*, New York, NY: New York University Press.

Pew Internet and American Life Project, 2003. Untuned Keyboards: Online Campaigners, Citizens, and Portals in the 2002 Elections.

Pew Research Center, 2008. Audience Segments in a Changing News Environment. Key News Audiences Online and Traditional Sources. Available at: http://people-press.org/reports/pdf/444.pdf.

Piven, F.F. & Cloward, R.A., 2000. *Why Americans Still Don't Vote: And Why Politicians Want It That Way*, Boston, MA: Beacon Press.

Polat, R.K., 2005. The Internet and Political Participation: Exploring the Explanatory Links. *European Journal of Communication*, 20(4), 435-459.

Porat, M.U., 1977. *The Information Economy: Definition and Measurement.*, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock No. 003-000-00512-7). Available at: http://www.eric.ed.gov/ERICWebPortal/contentdelivery/servlet/ERICServlet?accno=ED142205 [Accessed March 2, 2010].

Price, V. & Cappella, J., 2002. Online deliberation and its influence: the electronic dialogue project in campaign 2000. *IT & Society*, 1(1), 303-329.

Przeworski, A. & Teune, H., 1970. *The Logic of Comparative Seocial Inquiry*, New York, NY: John Wiley and Sons.

Putnam, R.D., 2000. *Bowling Alone: The Collapse and Revival of American Community*, New York, NY: Simon & Schuster.

Raymond, E.S., 1999. *The Cathedral and the Bazaar: Musings on Linux and Open Source by an Accidental Revolutionary*, Cambridge, MA: O'Reilly.

Resnick, D., 1998. Politics on the Internet: The Normalization of Cyberspace. In C. Toulouse & T. W. Luke, eds. *The Politics of Cyberspace: A New Political Science Reader*. New York, NY: Routledge.

Rheingold, H., 2000. *The Virtual Community: Homesteading on the Electronic Frontier* Rev Sub., Cambridge, MA: The MIT Press.

Robinson, J.P., Di Maggio, P. & Hargittai, E., 2003. New Social Survey Perspectives on the Digital Divide. *IT & Society*, 1(5), 1-22.

Rodriguez, C., 2001. *Fissures in the Mediascape: An International Study of Citizens' Media (Hampton Press Communication Series*, Cresskill, NJ: Hampton Press.

Rogers, E.M., 1995. *Diffusion of Innovations* 4th ed., New York, NY: Free Press.

Rokkan, S. & Lipset, S.M., 1967. *Party Systems and Voter Alignments: Cross-National Perspectives*, London: Collier-Macmillan.

Rose, R., 2006. *Internet Diffusion Not Divide: A Proximity Model of Internet Take Off in Russia*, OII Research Report No. 10. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1308523.

Rose, R., 2005. Language, Soft Power and Asymmetrical Internet Communication. *OII Research*

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Report No.7. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1308501 [Accessed April 25, 2010].

Salus, P.H., 1995. *Casting the Net: From ARPANET to INTERNET and Beyond*, New York, NY: Addison-Wesley.

Scammell, M., 1995. *Designer Politics: How Elections Are Won*, London: Palgrave Macmillan.

Scheufele, A. & Ostman, E., 1999. Communication and Participation: A proposed research agenda. In 2nd Annual Kent State University. Kent.

Schlozman, K.L., Verba, S. & Brady, H.E., 2010. Weapon of the Strong? Participatory Inequality and the Internet. *Perspectives on Politics*, 8(02), 487-509

Schudson, M.S., 2003. Click here for Democracy: A History and Critique of an Information-Based Model of Citizenship. In H. Jenkins, D. Thorburn, & B. Seawell, eds. *Democracy and New Media*. Media in transition. Cambridge, MA: MIT Press.

Schudson, M.S., 1996. *The Power of News*, Cambridge, MA: Harvard University Press.

Schulz, M.S., 1998. Collective Action across Borders: Opportunity Structures, Network Capacities, and Communicative Praxis in the Age of Advanced Globalization. *Sociological Perspectives*, 41(3), 587-616.

Scott, E., 2004. 'Big Media' Meets the 'Blogger': coverage of Trent Lott's Remarks at Strom Thurmond's Birthday Party. Kennedy School of Government Case Program. Case 1731. Boston, MA.

Servon, L.J., 2002. *Bridging the Digital Divide: Technology, Community, and Public Policy*, Oxford: Wiley Blackwell.

Slaton, C., 1992. *Televote*, New York, NY: Praeger Publishers.

Smith, C. & Webster, C., 1995. Information Technology in Political Parties. In Political Studies Association Annual Conference. University of York.

Smith, E.R., 1989. *The Unchanging American Voter*, Berkeley, CA: University of California Press.

Stallman, R., 2010. The Free Sofware Definition. Available at: http://www.gnu.org/philosophy/free-sw.html [Accessed February 10, 2010].

Stallman, R.M., 2009. *Free Software, Free Society: Selected Essays of Richard M. Stallman* J. Gay, ed., Boston, MA: CreateSpace.

Stanyer, J., 2007. *Modern Political Communications: Mediated Politics In Uncertain Terms*, Cambridge: Polity.

Stromer-Galley, J., 2000. On-line interaction and why candidates avoid it. *Journal of Communication*, 50(4), 111-132.

Sunstein, C.R., 2001. *Republic.com*, Princeton, NJ: Princeton University Press.

Sunstein, C.R., 2007. *Republic.com 2.0*, Princeton, NJ: Princeton University Press.

Sunstein, C.R., 2009. *On Rumors: How Falsehoods Spread, Why We Believe Them, What Can Be Done*, New York, NY: Farrar, Straus and Giroux.

Tan, A.S., 1980. Mass Media Use, Issue Knowledge and Political Involvement. *Public Opinion Quarterly*, 44(2), 241-248.

Tarrow, S.G., 2004. Bridging the Quantitative-Qualitative Divide. In E. Brady & D. Collier, eds. *Rethinking Social Inquiry. Diverse tools, shared standards.* Lanham, MD: Rowman & Littlefield.

Tarrow, S.G., 2005. *The New Transnational Activism*, New York, NY: Cambridge University Press.

Taylor, V. & Van Dyke, N., 2004. "Get up, Stand up": Tactical Repertoires of Social Movements. In D. A. Snow, S. A. Soule, & H. Kriesi, eds. *The Blackwell Companion to Social Movements*. Blackwell companions to sociology. Malden, MA: Blackwell Pub.

Technorati, 2007. *State of the Blogosphere 2007*, Available at: http://www.sifry.com/alerts/archives/000493.html.

Technorati, 2008. *State of the Blogosphere 2008*, Available at: http://technorati.com/blogging/feature/state-of-the-blogosphere-2008/.

Technorati, 2009. *State of the Blogosphere 2009*, Available at: http://technorati.com/blogging/feature/state-of-the-blogosphere-2009/.

Thomas, J.C. & Streib, G., 2003. The New Face of Government: Citizen-Initiated Contacts in the Era of E-Government. *Journal of Public Administration Research Theory*, 13(1), 83-102.

Tilly, C., 1977. Getting it together in Burgundy, 1675–1975. *Theory and Society*, 4(4), 479-504.

Tilly, C., 1984. Social Movements and National Politics. In C. Bright & S. F. Harding, eds. *Statemaking and Social Movements: Essays in History and Theory*. Ann Arbor, MI: University of Michigan Press.

Tilly, C., 2004. *Social Movements, 1768–2004*, Boulder, CO: Paradigm Publisher.

Tolbert, C.J. & McNeal, R.S., 2003. Unraveling the Effects of the Internet on Political Participation? *Political Research Quarterly*, 56(2), 175-185.

Townsend, A.M., 2001. The Internet and the rise of the network cities. *Environment and Planning B: Planning and Design*, 28(1), 39-58.

Trechsel, A.H. et al., 2003. *Evaluation of the use of new technologies in order to facilitate democracy in Europe.*, W.P., STOA 116 EN.

Treier, S. & Jackman, S., 2008. Democracy as a Latent Variable. *American Journal of Political Science*, 52(1), 201-217.

Trippi, J., 2004. *The Revolution Will Not Be Televised Revised Ed: Democracy, the Internet, and the*

Overthrow of Everything Revised., New York, NY: Harper Collins.

Tsfati, Y., 2003. Debating the Debate: The Impact of Exposure to Debate News Coverage and Its Interaction with Exposure to the Actual Debate. *Harvard International Journal of Press/Politics*, 8(3), 70-86.

Tuomi, I., 2001. Internet, Innovation, and Open Source: Actors in the Network. *The First Monday*, 6(1).

United Nations, 2003. *Plain d'Action*, Geneva.

United Nations Statistics Division, 2008. Standard Country or Area Codes for Statistical Use. Available at: http://unstats.un.org/unsd/methods/m49/m49.htm [Accessed February 10, 2010].

Van Aelst, P. & Van Laer, J., 2010. Cyber-Protest and Civil Society: the Internet and Action Repertoires of Social Movements. In Forthcoming.

Van Aelst, P. & Walgrave, S., 2002. New media, new movements? The role of the internet in shaping the 'anti-globalization' movement. *Information, Communication & Society*, 5(4), 465.

Van Dijk, J., 1991. *De Netwerkmaatschappij, sociale aspecten van nieuwe media*, Bohn: Stafleu Van Loghum.

Van Dijk, J., 2006. Digital Divide Research, Achievements and Shortcomings. *Poetics*, 34(4-5), 221-235.

Van Dijk, J., 2005. *The Deepening Divide: Inequality in the Information Society* 1st ed., Thousand Oaks, CA: Sage.

Van Dijk, J., 2006. *The Network Society: Social Aspects of New Media* 2nd ed., London: Sage.

Van Dijk, J. & Hacker, K.L., 2000. *Digital Democracy: Issues of Theory and Practice*, London: Sage.

Calderaro, Andrea (2010), Digital Politics Divide: The Digital Divide in Building Political E-Practices
European University Institute DOI: 10.2870/2014

Van Dijk, J. & Van Deursen, A., 2009. Inequalities of Digital Skills and How to Overcome Them. In E. Ferro et al., eds. *Handbook of Research on Overcoming Digital Divides: Constructing an Equitable and Competitive Information Society*. Hershey, PA: Information Science Publishing, pp. 278-291.

Verba, S., Schlozman, K.L. & Brady, H.E., 1995. *Voice and equality: civic voluntarism in American politics*, Cambridge, MA: Harvard University Press.

W3Counter, 2010. *Global Web Stats*, Available at: http://www.w3counter.com/globalstats.php [Accessed February 11, 2010].

Wallsten, K., 2009. 'Yes We Can': How Online Viewership, Blog Discussion, Campaign Statements and Mainstream Media Coverage Produced a Viral Video Phenomenon. In Amherst, MA: University of Massachusetts.

Wallsten, S., 2005. Regulation and Internet Use in Developing Countries. *Economic Development and Cultural Change*, 53(2), 501-523.

Ward, S.J., Gibson, R.K. & Lusoli, W., 2003. Online Participation and Mobilisation in Britain: Hype, Hope and Reality. *Parliament Affairs*, 56(4), 652-668.

Ward, S.J. & Vedel, T., 2006. Introduction: The Potential of the Internet Revisited. *Parliamentary Affairs*, 59(2), 210-225.

Warf, B., 2001. Segueways into cyberspace: multiple geographies of the digital divide. *Environment and Planning B: Planning and Design*, 28(1), 3-19.

Warschauer, M., 2004. *Technology and Social Inclusion: Rethinking the Digital Divide*, Cambridge, MA: The MIT Press.

Weaver, D., 1996. What Voters Learn from Media. *Annals of the American Academy of Political and Social Science*, 546, 34-47.

Weaver, D. & Drew, D., 1993. Voter Learning in the 1990 Off-Year Election: Did the Media Matter? *Journalism Quarterly*, 70, 356-368.

Weber, S., 2004. *The Success of Open Source*, Cambridge, MA: Harvard University Press.

Wellman, B. et al., 1996. Computer Networks as Social Networks: Collaborative Work, Telework, and Virtual Community. *Annual Review of Sociology*, 22, 213-238.

White, C.S., 1997. Citizen Participation and the Internet: Prospects for Civic Deliberation in the Information Age. *Social Studies*, 88, 23-28.

Wilhelm, A.G., 2000. *Democracy in the Digital Age: Challenges to Political Life in Cyberspace* 1st ed., New York, NY: Routledge.

Winter, J.P. & Eyal, C.H., 1981. Agenda Setting for the Civil Right Issue. *The Public Opinion Quarterly*, 45(3), 376-383.

Wright, S., 2004. Informing, Communicating and ICTs in Contemporary anti-capitalism movements. In W. V. D. Donk et al., eds. *Cyberprotest: New Media, Citizens and Social Movements*. London: Routledge.

Wring, D., 2004. *The Politics of Marketing the Labour Party*, Basingstoke, UK: Palgrave Macmillan.

Zittel, T., 2009. Lost in Technology? Political Parties and the Online Campaigns of Constituency Candidates in Germany's Mixed Member Electoral System. *Journal of Information Technology and Politics*, 6(3 & 4), 298-311.

Zittrain, J., 2008. *The Future of the Internet, And How to Stop It*, New Haven, CT: Yale University Press.

Zook, M.A., 2005. *The Geography Of The Internet Industry*, Oxford: Blackwell Pub.