SOCIAL POLICY PERSPECTIVE ON INFORMATIONAL CAPITALISM: A CASE STUDY ON DIGITAL INEQUALITY AND DISABILITY IN TURKEY

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

HALUK MERT BAL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
SOCIAL POLICY

AUGUST 2013

Approval of the Graduate School of Social Sciences

_____

Prof. Dr. Meliha Altunışık
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science.

_____

Assist. Prof. Dr. Fatma Umut Beşpınar
Head of Department

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

_____

Assist. Prof. Dr. Çağatay Topal
Supervisor

Examining Committee Members

Prof. Dr. Ayşe Gündüz Hoşgör	(METU, SPL)	_____
Assist. Prof. Dr. Çağatay Topal	(METU, SPL)	_____
Assist. Prof. Dr. Ayşe İdil Aybars	(METU, SPL)	_____

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name : Haluk Mert Bal

Signature :

ABSTRACT

SOCIAL POLICY PERSPECTIVE ON INFORMATIONAL CAPITALISM: A CASE STUDY ON DIGITAL INEQUALITY AND DISABILITY IN TURKEY

Bal, Haluk Mert

M.Sc., Social Policy Programme

Supervisor: Assist. Prof. Dr. Çağatay Topal

August 2013, 116 pages

In this thesis, digital inequality in Turkey with its relation to disability is analyzed. In order to understand digital inequality in Turkey, a theoretical and historical background to the concept is traced with special emphasis on the concept of "informational capitalism." In addition, concept of "disability" is discussed using various models of disability with reference to current conceptualization of disability in the studies of Turkish Statistical Institute. A qualitative research method is employed in the thesis to analyze digital inequality and disability in Turkey in order to understand to what extent digital inequality is a problem for persons with disabilities and in what ways and by which social actors relevant social policy can be designed and implemented for disabled people in terms of information and communications technologies.

Keywords: Digital inequality, information society, informational capitalism, information and communications technologies, disability

ÖZ

SOSYAL POLİTİKA PERSPEKTİFİNDEN ENFORMASYONEL KAPİTALİZM: TÜRKİYEDE DİJİTAL EŞİTSİZLİK VE ENGELLİLİK ÜZERİNE BİR VAKA ÇALIŞMASI

Bal, Haluk Mert
Yüksek Lisans, Sosyal Politika Programı
Tez Yöneticisi: Yrd. Doç. Dr. Çağatay Topal

Ağustos 2013, 116 sayfa

Bu tezde, Türkiye'de dijital eşitsizlik engellilikle olan ilişkisi üzerinden incelenmiştir. Türkiye'de dijital eşitsizliği anlayabilmek için kavramın teorik ve tarihsel arkaplanı "enformasyonel kapitalizm" kavramına özel vurgu yapılarak araştırılmıştır. Bunun yanı sıra, "engellilik" kavramı çeşitli engellilik modelleri kullanılarak ve Türkiye İstatistik Kurumu'nun mevcut kategorizasyonu bu modellerle karşılaştırılarak tartışılmıştır. Tezde, Türkiye'de dijital eşitlik ve engelliliğin incelenmesi ve dijital eşitsizliğin engelliler için ne ölçüde bir sorun olduğu ve engelliler ve bilgi ve iletişim teknolojileri ile ilgili sosyal politikaların ne şekillerde ve hangi toplumsal aktörler tarafından tasarlanıp uygulanacağını anlamak için niteliksel araştırma metodu kullanılmıştır.

Anahtar Kelimeler: Dijital eşitsizlik, bilgi toplumu, enformasyonel kapitalizm, bilgi ve iletişim teknolojileri, engellilik

To Zehra Müge Kuşka
without whose support and care
this study would not have been possible

ACKNOWLEDGMENTS

The author wishes to express his deepest gratitude to his supervisor Asst. Prof. Dr. Çağatay Topal for his guidance, advice, criticism, encouragements and insight throughout the research.

The author would like to thank Prof. Dr. Ayşe Gündüz Hoşgör and Assist. Prof. Ayşe İdil Aybars for their guidance and insights on the research.

The author would also like to thank Prof. Dr. Kamil Yazıcıoğlu for his suggestions and comments.

The assistance of Mr. Bülent Küçükaslan and Mr. Emre Taşgın are gratefully acknowledged.

Endless support of Ms. Zehra Müge Kuşka at all times is profoundly appreciated and acknowledged.

TABLE OF CONTENTS

LIST OF TABLES

TABLES

LIST OF ABBREVIATIONS

ICF	The International Classification of Functioning, Disability and Health
ICIDH	International Classification of Impairments, Disabilities and Handicaps
ICTA	Information and Communications Technologies Authority
ICTs	Information and Communications Technologies
ITU	International Telecommunication Union
ISD	Information Society Department
JAWS	Job Access for Windows and Speech
LITRG	Low Incomes Tax Reform Group
OCR	Optical Character Recognition
OECD	Organisation for Economic Co-operation and Development
PDA	Personal Digital Assistant
SES	Socio-Economic Status
SPO	State Planning Organization
TurkStat	Turkish Statistical Institute
UN	United Nations
UNGA	United Nations General Assembly
WHO	World Health Organization

CHAPTER 1

1. INTRODUCTION

In recent decades, the world has seen an unmatched pace in terms of technological change and innovation. Technological developments have changed everyday life in many aspects including work, education, communication, access to information, type of information and much more. One of the most important technological changes in terms of their effect on social institutions and relations has been the Internet and the information and communications technologies (ICTs) in general.

The proliferation of ICTs and the Internet has changed many social practices in many ways and it has often been presented as some kind of a social remedy for social problems. While various optimistic and pessimistic scenarios and viewpoints are expressed in relation to ICTs and the Internet, a scientific approach is needed in order to collect data and analyze them to learn more about the social patterns that are affected by these technological developments. In addition to this, such a scientific approach should include a policy-oriented concern, since the problems which are dealt with have direct consequences in relation to individuals' daily lives and to society in general. An important social divide and inequality created by the proliferation of the Internet and the ICTs is expressed with the concept of "digital inequality."

Digital inequality refers to a social inequality in terms of access to and use of the Internet and the information and communications technologies in general. One of the most disadvantaged sections of the population in terms of access to and use of the Internet and ICTs is the disabled people. First reason that comes to mind is the fact that such a consequence is caused by the physical impairments of the persons with disabilities. Although this might be one of the factors leading to such consequence, research with a policy-oriented scientific approach is needed in order to determine the social causes of the digital inequalities experienced by the disabled people. In this thesis, the digital inequalities as experienced by the

disabled people will be discussed and examined through a research which is based on a social policy perspective. In this study, in order to have a clear understanding of the issue, various concepts surrounding the digital inequality and disability will be defined and discussed, a research based on qualitative data acquired via semi-structured in-depth interviews with the disabled people who are experienced ICT users will be conducted and the data collected will be analyzed so that meaningful social patterns can be identified and relevant social policies can be recommended on the issue of digital inequality and disability. In the study, it is argued that disability *per se* is not a barrier for disabled people in terms of information and communications technologies and discrimination towards disabled people is a strong barrier faced by disabled people even when they are active and skillful users of ICTs; therefore, it is argued that social policy on disability and digital inequality must include anti-discriminative measures.

1.1 Background

An important premise of this study is that the Internet and the information and communications technologies are important for social sciences and specifically for the social policy. Therefore, it is indispensable to show the importance of the ICTs in terms of the effects they have on the society as a whole.

Since 1970s, social scientists have identified a major paradigm shift away from the modern and industrial organization of the society towards a more service and information-oriented social organization. Concepts like “post-industrialism,” “information society,” “network society,” or “informational capitalism” have been used in order to refer to this allegedly new phase of social organization (Barney, 2004; Castells, 1996/2010). One common aspect of all these concepts in regard to this new phase in social organization in which information and recent computer technology has a central role is that they all emphasize a direction away from industrialism which is defined by Barney as the application of human labor “to the

transformation of basic matter into products which could be circulated and consumed – profitably as marketable commodities in the capitalist model; equitably as centrally distributed collective wealth in the socialist model" (2004, p. 5).

An important point here is that industrialism is not defined only in terms of capitalist mode of production. Industrialism can be applied either in a market economy or a planned economy as long as the main premise of it – application of human labor to basic matter for the transformation of it into a product – is employed. This point shows that the discussion of industrialism and post-industrialism moves beyond the distinction between capitalism and socialism. According to Bell, "A post-industrial society is based on services . . . what counts is not raw muscle power or energy, but information" (1973, p. 127, as cited in Barney, 2004, p. 6). An optimistic attitude towards the post-industrial society is detectable in Bell who expected the post-industrial society to be a society which "would bring with it a more educated, leisured and engaged citizenry, a levelling of economic inequality, a thriving global economy, scientific advance immune to ideology, and rational management of public affairs" (Barney, 2004, p. 6).

Another concept which is commonly used to refer to the current social system is the concept of "information society" which was conceptualized by Masuda as a new type of society that is based on information-centered industries and computers which will modify and even replace mental labor and allow for expanded leisure time and that will feature "voluntary communities, participatory democracy, generalized affluence, equality and psychic well-being" (1981, as cited in Barney, 2004, p. 8).

Information society, as a concept, makes it clear that it is the computer which is at the center of this new type of social organization. This is the main contribution of the concept to the conceptualization of a new society based on information rather than industrial production. However, same kind of optimism

one can found in the concept of "post-industrialism" still persists maybe even in a stronger fashion in the concept of "information society."

Mosco conceptualizes this stage through which a new technology is applauded for its seemingly revolutionary consequences or possible consequences as the "mythic period" which is important since "…myths are important both for what they reveal (including a genuine desire for community and democracy) and for what they conceal (including the growing concentration of communication power in a handful of transnational media businesses)" (2004, p. 3).

While it is true that new information and communications technologies affects the society to a great extent, such optimism and faith in their healing powers for long lasting social problems is problematic both theoretically and practically in terms of social actors' everyday lives. Therefore, a refined theoretical understanding of the Internet and ICTs is needed in order to detect social problems and offer relevant solutions for them.

One important point which should be clarified is that concepts like post-industrialism and information society creates an illusion that there has been a shift from the tangible goods and products of industrial capitalism to a new economy and society in which they are not at the center anymore. Fuchs points out that the new society is not a society based on intangible goods but a "new phase of development of capitalism" with "emergent qualities such as the central importance of cognitive, communicative, and cooperative labor" (2008, p. 143).

Therefore, this new economy in which information has a central place is not completely detached from the previous form of social organization, namely the industrial capitalism. While industrialism (and post-industrialism and information society for that matter) does not exclusively refer to capitalism or socialism, it is clear that both historical and contemporary discussions in the context of Western society and also Turkey must involve a reference to capitalism and problems

associated with it such as inequality which is the central problem discussed in this study.

This point is also important for showing that new technologies are not necessarily progressive and they are open to criticism. Kvasny and Truex criticizes the treatment of new technologies "as an unstoppable force of nature that cannot be questioned" and this "serves a cognitive function of defining technology in terms of bipolar opposites such as growth/stagnation, new economy/old economy, and progress/retreat" (2001, p. 11). Kompridis, going even further, claims that there is a need for "evaluative languages" towards the "language of progress" without being seen as conservative or as someone against science and reason, and these evaluative languages must be based on discussions on what it is to be human (2009, p. 30).

This is especially important when we discuss inequality in terms of the Internet and ICTs because the language which glorifies ICTs has the implication that any problem that is present today will be annihilated by the process of the proliferation of the ICTs itself without any need to intervene for more equitable consequences. Such faith in the ICTs is contradictory from a social policy perspective since social policy requires intervention for equitable conditions when there is a chance for it.

Castells conceptualizes information society in a way that is exhaustive and satisfactory for the purposes of this study, namely to understand the Internet and ICTs in the context of contemporary society and in terms of the experiences of the persons with disabilities, to identify the problems of persons with disabilities on the Internet and ICTs, and to offer social policy recommendations for these social problems.

Castells' contribution to the understanding of contemporary capitalism with its complex relationship with information and technology is the concept of "mode of development" through which the so-called information revolution can be placed

within the broader understanding of capitalism (1996/2010). Mode of development is defined by Castells as follows:

> …modes of development are the technological arrangements through which labor works on matter to generate the product, ultimately determining the level and quality of surplus. Each mode of development is defined by the element that is fundamental in fostering productivity in the production process. (Castells, 1996/2010, p. 16)

Castells mentions three modes of development throughout the history of social structures: (1) agrarian, (2) industrial, and (3) informational modes of development. In the agrarian mode of development, the surplus is the result of "quantitative increases of labor and natural resources (particularly land)" and "the natural endowment of these resources" (1996/2010, p. 16). In the industrial mode of development, the source of surplus and productivity stems from "the introduction of new energy sources" and "the ability to decentralize the use of energy throughout the production and circulation processes (p. 16-17). Lastly, there is the informational mode of development in which "the source of productivity lies in the technology of knowledge generation, information processing, and symbol communication" (p. 17). Even though knowledge and communication have always been crucial to production processes of all modes of development, this new mode of development is based on "the action of knowledge upon knowledge itself as the main source of productivity" (p. 17).

> Information processing is focused on improving the technology of information processing as a source of productivity, in a virtuous circle of interaction between the knowledge sources of technology and the application of technology to improve knowledge generation and information processing: this is why, rejoining popular fashion, I call this new mode of development informational, constituted by the emergence of a new technological paradigm based on information technology. (Castells, 1996/2010, p. 17)

By using the concept of "mode of development," Castells manages to create a strong historical background for the conceptualization of a new type of social organization based on information and communications technologies. Moreover, his conceptualization of a society based on ICTs is directly linked to the development of capitalism. By using such a theoretical understanding, Castells comes up with a new conceptualization for the ICT-based society: informational capitalism (1996/2010, p. 18).

The concept of "informational capitalism" is key in understanding the place of information and communications technologies in the current social organization, since it helps us to go beyond the overly-optimistic tendencies which see ICTs only as solutions to problems and do not see the problematic consequences of them and the broader social context in which they are operated. This concept lets us to research the aspect of inequality in terms of ICTs and their link to the broader capitalist system.

Therefore, the aspect of inequality should be introduced in terms of the informational capitalism. Here, there is also an evolutionary theoretical process in understanding the changing role of inequality in the information age. There are various concepts which are used to refer to inequality in relation to ICTs such as the digital divide, digital exclusion (and digital inclusion), and more recently the digital inequality.

Digital divide is defined by OECD as "the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities" (2001, p. 5). According to OECD, digital divide is measured via three indicators: "access to basic telecommunications infrastructures," "computer availability – and potentially the availability of alternative access through TVs or mobile phones – and Internet access" (p. 5). These are labeled as "readiness indicators" (p.5).

In the recent literature, the approach of digital divide is criticized since it is mostly limited to the measurement of access to a computer and an internet connection even though its definition does not neglect the aspect of inequality in terms of use. Digital divide, as the name suggests, is mainly about the sharp distinction between computer and internet haves and have-nots. While this is an indispensable dimension to the problem, it is not exhaustive enough in a society in which various kinds of computers and the internet have penetrated the daily life deeply. In such a society, a basic understanding of inequality in the context of ICTs must go beyond the basic distinction between haves and have-nots without neglecting the fact that such a distinction also exists. Digital divide is a valuable but inadequate concept to understand inequality in the information age.

This theoretical need for a more exhaustive concept to understand inequality in the information capitalism paved the way for more sophisticated concepts like "digital exclusion" and "digital inequality."

In the report of Low Incomes Tax Reform Group (LITRG), digital exclusion is defined as "exclusion from 'the best use of digital technology, either directly or indirectly, to improve the lives and life chances of all citizens and the places in which they live'" (2012, p. 14). In the report, it is stressed that digital exclusion is not limited to whether one has access to a computer or not and digital literacy –skills that are needed to be able to use digital technologies effectively – is as important as access (p. 6).

This is an important theoretical improvement which places the relationship between inequality and ICTs not only at the level of access, but also at the level of literacy and education which lets one to use digital technologies, e.g. computers, tablet computers, smart phones, the Internet, etc., with a better understanding and efficiency. However, ambiguity of the term "the best use of digital technology" is apparent.

Another concept to have better understanding of the relationship between inequality and the ICTs is the "digital inequality." DiMaggio and Hargittai note that:

> The "digital divide" paradigm served researchers and policy makers well during the opening years of Internet diffusion. But the ongoing expansion of Internet access, along with continuing institutional change, requires that we move beyond that paradigm if we are to document and explain important dimensions of digital inequality as Internet penetration continues to increase. In particular, we call for researchers to: (1) Expand the focus of research the "Digital Divide" between "haves" and "have-nots" (or between users and non-users) to the full range of digital inequality in equipment, autonomy, skill, support, and scope of use among people who are already on-line. (DiMaggio & Hargittai, 2001, p. 16)

The concept of "digital inequality" includes the content of the digital divide and expands it towards a more exhaustive understanding of inequality in the context of ICTs. This exhaustive theoretical outlook involves not only access to certain equipment, but also questions of autonomy, skill (digital literacy), support, and scope of use. This is important because it is possible to have access to a computer and the Internet while not knowing much about how to use them, not having some kind of support for learning about them, relying on others to benefit from them, and having a very limited idea of how to be benefited from them.

In this study, the concept of "informational capitalism" is preferred to refer to the current informational social organization since it is a concept which links capitalism and various kinds of inequalities to the rise of information and communications technologies and it is suitable for a social policy perspective because it does not represent a "mythical" view of computers and the Internet and makes it possible to study the negative aspects of the so-called digital revolution.

Among the concepts on the inequality and ICTs, the preferred concept is "digital inequality" due to its exhaustive definition and the wide range of research possibilities that comes with it.

In addition to this theoretical discussion for choosing the suitable concepts for the study, it is also important to note why disability is chosen as the main focus of the study. In the existing literature, we see that the digital inequality – whether it is termed as such or not in those studies – has been researched and reported in terms of dimensions like urban-rural, race, socioeconomic status (SES), income, education, age and also among countries in terms of a "global digital inequality" (DiMaggio & Hargittai, 2001; Dobransky & Hargittai, 2006; Azari & Pick, 2009). Only recently we find that disability status has become a topic for research in terms of digital inequality (DiMaggio & Harggitai, 2001, p. 3; Solomon, 2000, as cited in Dobransky & Hargittai, 2006, p. 314).

In the Turkish context, it is important to use the data gathered and presented by the Turkish Statistical Institution in order to understand the extent of the digital inequality in regard to disability status.

Table 1. Computer use in the last three months in Turkey by the general population and the disabled between the years of 2004 and 2013

Year	General Population of Turkey			Persons with Disabilities in Turkey		
	Total	Male	Female	Total	Male	Female
2004	16,8	11,6	5,2			
2005	17,7	11,9	5,8	-	-	-
2006	-	-	-	-	-	-
2007	29,6	38,7	20,2	0,6	0,0	1,2
2008	34,0	43,6	24,8	3,7	5,2	2,1
2009	35,6	45,7	25,8	5,9	6,4	5,0
2010	39,1	49,1	29,4	6,3	10,0	0,0
2011	42,1	51,7	32,8	5,6	6,3	4,7
2012	43,5	53,7	33,4	6,6	9,9	3,2

Source: Turkish Statistical Institution, ICT Usage in the Households and by Individuals, 2004-2012 (%)

Table 2. Internet use in the last three months in Turkey by the general population and the disabled between the years of 2004 and 2013

Year	General Population of Turkey			Persons with Disabilities in Turkey		
	Total	Male	Female	Total	Male	Female
2004	13,3	9,4	3,9			
2005	13,9	9,6	4,3	-	-	-
2006	-	-	-	-	-	-
2007	26,9	35,6	17,9	0,6	0,0	1,2
2008	32,2	41,3	23,3	4,5	5,9	3,1
2009	34,0	44,0	24,3	5,3	5,5	5,0
2010	37,6	47,3	28,2	5,0	7,9	0,0
2011	40,5	49,8	31,3	4,9	5,9	3,6
2012	42,7	53,0	32,6	6,3	9,8	2,8

Source: Turkish Statistical Institution, ICT Usage in the Households and by Individuals, 2004-2012 (%)

In the Table 1 and Table 2, it is seen that persons with disabilities are disadvantaged in relation to the use of a computer (Table 1) and the Internet (Table 2). Even though there is an upward trend for the general population of Turkey in terms of use of computers and the Internet, the huge gap between the general population and the persons with disabilities makes the topic of digital inequality and disability important for scientific inquiry. Another important point in the data presented by the Turkish Statistical Institution is that disability is considered to be a category belonging to the sub-category called “not in labour force” which belongs to “employment situation” category in the report named “Individuals using the computer and Internet in the last 3 months by employment situation” (Turkish Statistical Institute, 2004-2012). It is problematic to categorize disability as a social category which does not contribute to the labor force by definition. Moreover, data itself seems to be problematic due to inconsistent findings such as the 0% of use of Internet by female persons with disabilities in 2010.

As a result of these considerations, the digital inequality and disability in Turkey in the context of informational capitalism will be discussed in this study.

1.2 Operational Definition and Research Questions

Aim of this study is to detect patterns and trends in the context of the digital inequalities experienced by the persons with disabilities who already have access to information and communication technologies. Therefore, this study is not aimed at investigating the disability divide in terms of the ICTs. Qualitative research conducted for the purposes of this study is based on interviews conducted with person with disabilities who have access to a computer and the Internet in order to explore the sources of inequality they experienced, advantages they gained via the use of ICTs, and their opinions on how the problems related to ICTs can be solved.

For this purpose, 13 interviews were conducted with persons with disabilities who have access to a computer and an internet connection. Common point of all the respondents of the study is that they have access to a computer and the Internet and they use the medium actively in their lives.

In order to analyze the responses of the interviewees, there is a need for an operational definition of the concept of "digital inequality." Based on DiMaggio and Hargittai's (2001, p. 16) work, following operational definition of digital inequality will be used in this study: digital inequality refers to inequalities in equipment, autonomy, skill, support, and scope of use in relation with the information and communications technologies.

Inequality in equipment refers to access to a computer and the Internet. It refers to barriers to access to certain equipment to benefit from ICTs. Inequality in autonomy is a question of control of the users over their Web use in terms of the place and time (DiMaggio & Hargittai, 2001, p. 9). Inequality in skill refers to the ICT user's degree of competence which is "related directly to individuals' capacity to use the Internet for the purposes they choose" (p. 10). Inequality in support refers to inequalities experienced in terms of the availability of social support in relation to the use of ICTs (p. 11). Sources of social support can be "formal technical assistance from persons employed to provide it," "technical assistance

from friends and family members to whom the user can turn when he or she encounters problems," and "emotional reinforcement from friends and family" (p. 11). Lastly, scope of use refers to variation in use of ICTs and the determinants of this variation (p. 11). Different kinds of use of ICTs include "uses that increase economic productivity or political or social capital" and uses "that represent consumption of entertainment" (p. 11).

As mentioned, the quantitative data gathered together and analyzed by TurkStat have certain problems such as a problematic categorization if the disability and inconsistent results among different years; therefore, a qualitative approach to digital inequality in the context of disability is preferred in order to explore the sources of these inequalities, sources of advantages in terms of the ICTs, and various sources of solutions to the problems in relation with these inequalities. By exploring the patterns and trends related with the inequalities in relation with the ICT use of the persons with disabilities, the study aims at providing a more adequate understanding of disability in the context of digital inequalities.

Respondents of the study are all persons with disabilities who have access to ICTs and who are active users of computers and the Internet. There are 13 respondents in the study. Among these respondents, 9 of them are users of online forums; remaining 4 respondents are reached through non-governmental organizations and through referral as experienced ICT users by other interviewees. Among the respondents, 9 of them are male and 4 of them are female. There are 3 respondents with physical disabilities, 3 respondents with visual disabilities, 1 respondent with both visual and hearing disabilities, 5 respondents with hearing disabilities and 1 respondent with focal segmental glomerulosclerosis (FSGS) disease which refers to "scarring in the kidney" (National Kidney Foundation, 2013, para. 1). Persons in this study describe themselves as "disabled." Therefore, being disabled is a self-reported trait in the study. 8 out of 13 respondents are graduates of a 4-year undergraduate program in a university and 1 out of 8

university graduates is also graduate of a master's degree. Remaining 5 out 13 respondents are high school graduates among which 1 respondent is a student in a university for a 4-year undergraduate program. Respondents reside in various part of Turkey: 4 respondents reside in İstanbul, 4 respondents reside in Ankara, and 5 remaining respondents reside in the cities of İzmir, Bursa, Eskişehir, Kayseri, and Sivas. Among the respondents, 10 out of 13 respondents are employed and 1 respondent out of 10 employed respondents is also retired as well as being currently employed, 1 respondent is a student, 1 respondent is retired, and 1 respondent is unemployed.

Research Question 1

What are the main barriers that persons with disabilities with access to ICTs experience in terms of equipment, autonomy, skill, support, and scope of use?

Research Question 2

What are the advantages brought by the information and communications technologies to the persons with disabilities with access to ICTs?

Research Question 3

What are the possible solutions and social policy recommendations for the digital inequality for the persons with disabilities with access to ICTs in Turkey?

1.3 Structure of the Thesis

The study is composed of 5 chapters: Introduction, literature review, methodology, data analysis and findings, and conclusion. In the introduction chapter, background of the study which include the significance of the study in terms of academic literature and social policy, operational definition of digital inequality and research questions of the study are discussed and defined.

In the literature review, various concepts and previously conducted studies and research in the existing literature is discussed. Concepts discussed include informational capitalism, digital inequality, disability, models of disability such as medical model, social model, biopsychosocial model, biopsychosocio-political/dialectic model, etc., determinants of digital inequality in terms of disability as previously studied in the existing literature, citizenship, and information rights with emphasis on the rights of persons with disabilities.

In the methodology chapter, a discussion of epistemological background of the study based on different research paradigms is discussed. Chosen methodology and research method is stated. Data collection and data analysis processes are also discussed and stated. Strengths and limitations of the study are discussed in the methodology section.

In the data analysis and findings chapter, conducted in-depth semi-structured interviews are analyzed to reach certain trends and patterns in terms of digital inequality and disability in Turkey. Digital inequality and disability in Turkey is evaluated with respect to the dimensions of digital inequality specified in the operational definition: Inequality in equipment, scope of use, inequality in autonomy, inequality in skill, and inequality in support. Opinions of the respondents on relevant social policy and social policy actors are also discussed in this chapter.

Finally, main points of the study are clearly stated and summed up in the conclusion chapter. This includes the research topic, its conceptual background, its significance, subject matter of the research, research process, main findings of the study, and ideas on future research.

CHAPTER 2

2. LITERATURE REVIEW

2.1 Informational Capitalism

The historical background of the concept of "informational capitalism" has been reviewed in the introduction section and in this section the concept itself will be discussed in a more detailed way.

In order to understand the place of ICTs in terms of capitalism, an important tendency within capitalism must be shown. This tendency referred here is what Harvey calls "time-space compression" (1990, p. 426). According to Harvey, "Time is a vital magnitude under capitalism because social labor time is the measure of value and surplus social labor time lies at the origin of profit" and "…the turnover time of capital is significant because speed-up (in production, in marketing, in capital turnover) is a powerful competitive means for individual capitalists to augment profits" (p. 425). Capitalism is a system in which speeding up of all the processes relevant to production and sales is central. In addition to time, space is also important for capitalism in a similar way: "The elimination of spatial barriers and the struggle to 'annihilate space by time' is essential to the whole dynamic of capital accumulation and becomes particularly acute in crises of capital overaccumulation" (p. 425). This tendency of capitalism to reduce spatial barriers and speed-up production processes is expressed by the notion of "time-space compression" by Harvey (p. 426).

It is not hard to see the role of information and communications technologies in a system which tries to destroy spatial barriers and speed-up the processes of production and sales. Within this context, it is possible to conceptualize ICTs as the newest tools of capitalism to compress space and time. This is also the link between informational capitalism and the earlier form of capitalism in which industrialism is the main source of surplus generation. As mentioned by Castells:

> Under capitalism, time became money, as the rate of turnover of capital became a paramount form of profit-making. The faster you could secure your return, and the faster you could reinvest it, the greater the profits to be made. Finance became constructed around the sale of monetized time. Credit was based on time. Speed became essential in financial transactions. The more capitalism went global, the more differences in time zones made possible the proliferation of interdependent financial markets to ensure the movement of capital around the clock. And so, a new form of time emerged in the financial markets, characterized by the compression of time to fractions of a second in financial transactions by using powerful computers and advanced telecommunication networks. (Castells, 1996/2010, p. xl)

The concept of "mode of development," offered by Castells, is already established as a concept that creates the link between informationalism and capitalism of the current global economic system. The tendency of capitalism towards time-space compression can be seen as the main driving force towards newer modes of development, from agrarian to industrial, from industrial to informational, etc. The concept of "time-space compression" makes it easier to see the link between different phases of social organization of capitalism. Since capitalist enterprises pushes forward for speeding up and surpassing spatial barriers, there is a strong incentive for technological development with the aim of maximization of profit.

In addition to Harvey's time-space compression and Castells' mode of development, concepts of "timeless time," "space of places," "space of flows" and "network society" of Castells are insightful on the subject matter (Castells, 1996/2010; 1997/2010; 1998/2010). Castells states that:

> The key spatial feature of the network society is the networked connection between the local and the global. The global architecture of global networks connects places selectively, according to their relative value for the network. (Castells, 1996/2010, p. XXXV)

This networked connection between local and the global is important for the new mode of development which is informationalism. Castells uses the concepts of "space of places" and "space of flows" to conceptualize the networked connection between the local and the global. Space of flows refers to "the material organization of time-sharing social practices that work through flows" and flows mean "purposeful, repetitive, programmable sequences of exchange and interaction between physically disjointed positions held by social actors in the economic, political, and symbolic structures of society" (Castells, 1996/2010, p. 442). Castells also refers to dominant social practices as "those which are embedded in dominant social structures" which refer to "those arrangements of organizations and institutions whose internal logic plays a strategic role in shaping social practices and social consciousness for society at large" (p. 442).

Concept of "flows" and its reference to non-physical exchange and interaction is indispensable to understand the informational mode of development. Space of flows provides "simultaneity" without the necessity of "territorial proximity" (Castells & Ince, 2003, p. 56). It is "not just the electronic/telecommunications circuits, but the network of places that are connected around one common, simultaneous social practice via these electronic circuits and their ancillary systems" (p. 56). It is the very essence of the informational capitalism and its networked structure. However, this does not mean the whole society is shaped by the space of flows.

> The space of flows does not permeate down to the whole realm of human experience in the network society. Indeed, the overwhelming majority of people, in advanced and traditional societies alike, live in places, and so they perceive their space as place-based. A place is a locale whose form, function, and meaning are self-contained within the boundaries of physical contiguity. (Castells, 1996/2010, p. 453)

While space of places is still relevant for the majority of people today, the relevance of space of flows has increased since 1996 with the increase of access to

ICTs. Castells himself acknowledges this fact in his later works by claiming a theoretical mistake on his side by stating that "my theoretical mistake was to assimilate the practice of the space of flows to the global elites and their instrumental activities, while opposing this to the space of places where most people build their meaning and live their lives" (Castells & Ince, 2003, p. 57-58)

> Dominant activities are indeed global (from high-tech manufacturing to financial markets, and from CNN to the drug trade), and so are the elites that thrive as their agents. But the space of flows is materially based on the new technologies of communication. So people of all kinds, wishing to do all kinds of things, can occupy this space of flows and use it for their own purposes. (Castells & Ince, 2003, p. 58)

With this addition to the theory, Castells manages to provide an almost complete picture of informational capitalism with a networked structure from global space of flows to local space of flows and space of places with a new "time regime" that Castells calls "timeless time" which refers to "the mixing of tenses to create a forever universe…" (1996/2010, p. 464).

> I propose the idea that *timeless time*, as I label the dominant temporality of our society, *occurs when the characteristics of a given context, namely, the informational paradigm and the network society, induce systemic perturbation in the sequential order of phenomena performed in that context*. This perturbation may take the form of compressing the occurrence of phenomena, aiming at instantaneity, or else by introducing random discontinuity in the sequence. Elimination of sequencing creates undifferentiated time, which is tantamount to eternity. (Castells, 1996/2010, p. 494)

In other words, while we have a sequential time in the space of places, the space of flows allows another form of organization of the time which involves

nonsequential and discontinuous collections of information and actions. Old and new, past and present can coexist simultaneously in the space of flows.

The importance of all these theoretical discussions is that since capitalism has entered into a new mode of development that is characterized by the rise of ICTs and the shift towards the space of flows (to the online world) is becoming more and more common for the majority of people day by day, then the question of exclusion and inequality in terms of access to and use of ICTs becomes a relevant problem for both scientific inquiry and social policy. This is the main idea behind the concept of "digital inequality."

2.2 Digital Inequality

The concept of "digital inequality" is preferred in this study to use a more exhaustive concept in comparison to the concept of "digital divide." However, digital divide is also a common concept to refer to the inequality in the context of digital technologies; therefore, studies which use the concept of "digital divide" in the existing literature will also be referred in the study.

The digital divide refers to "inequality between 'haves' and 'have-nots' differentiated by dichotomous measures of access to or use of the new technologies" while digital inequality refers "not just to differences in access, but also to inequality among persons with formal access to the Internet" (DiMaggio & Hargittai, 2001, para 1). DiMaggio and Hargittai identify five dimensions to the digital inequality which are inequalities in "equipment, autonomy of use, skill, social support, and the purposes for which the technology is employed" (para. 1). For DiMaggio and Hargittai, the concept of "access" should be redefined. This new understanding of access must go beyond whether one can access to a computer and the Internet at home, work, or at any other place or not and should include what people with access to ICTs are doing, are able to do when they are online (p. 3). In addition to this, they argue that the fact that Internet is not a fixed

object but a "family of technologies and services that is being rapidly reshaped through the interacting effects of profit-seeking corporations, government agencies and nongovernmental organizations" must be recognized (p. 3). According to DiMaggio and Hargittai, inequality trends surrounding digital technologies do not reflect only variations in the financial resources of individuals, but also the economic and political organization of the society so that such variations and differences become important in access to ICTs (p.3).

Therefore, the importance of the shift away from the digital divide towards the digital inequality lies in the fact that access is not the end point of ICT-based inequalities. Digital inequality involves both access to ICTs and inequalities among people who already have access to ICTs. By using the concept of "digital inequality" instead of "digital divide," it will be possible to understand ICT-based inequalities in a broader way in the case of persons with disabilities.

> Digital divides are an expression of the logic of competition because they give benefits to those who participate in the Internet and deprive others of those benefits; it is a phenomenon of exclusion. (Fuchs, 2008, p. 213)

Since it is shown that the current form of capitalism is increasingly informational and information and communications technologies penetrate every corner of everyday life from government services to entertainment, digital inequality must be considered a form of social exclusion. The experiences of the persons with disabilities with the ICTs must be addressed so that better ways to overcome the social exclusion of the disabled in the digital age can be developed.

2.3 Neoliberalism and Digital Inequality

Digital inequality as a problem of informational capitalism is an important topic for social policy since social policy is about the elimination of sources of inequality in society to reach more equitable conditions for all citizens. There is

the problem of determining the way through which the problem of digital inequality will be dealt with. Main debate in terms of social policy and digital inequality is that whether digital inequality is a problem that requires intervention on behalf of citizens or not.

Compaine argues that digital divide, and other forms of inequalities related to access to information and technology, is a "perceived gap between those who have access to the latest information technologies and those who do not" and it is typical that "new and expensive technologies" are first acquired by "those who find it undeniably useful" and "those who can simply afford it" (2000, p. 26). It is also typical for the provider to "focus on commercial ventures and wealthier residential areas" since they consist of "audiences who are most likely to understand the value and be amenable to their service" (p. 26). Compaine accepts that there are disadvantaged households and institutions in the society with regard to ICTs; however, he claims that "self-evident forces of declining cost, natural acculturation and growing availability are so far taking moving quickly in the direction of widespread adoption" (p. 28).

> The early adopters pay higher per unit costs that reflect lower production volumes of manufactured products – such as PCs -- or start-up costs of services, such as Internet access via cable system. But as production builds, unit costs decline, product costs decline and manufacturers are able to lower prices. In the case of personal computer devices, that process is compounded by advances in component technologies such as hard disk drives as "box" manufacturers increase their own output. (Compaine, 2000, p. 26-27)

According to this view, market forces are capable of leading widespread adoption of ICTs and widespread access to the Internet. In the OECD report, Understanding the Digital Divide, it is mentioned that "The liberalisation of telecommunication markets and rigorous implementation of competition in OECD countries have stimulated new investment and increased demand for

communications access and services through falling prices and the offer of new innovative products," which is offered to non-OECD countries as the solution to digital inequality (2001, p. 6). In addition to liberalization, it is mentioned that various policies which target the improvement of access in public institutions, schools, small businesses and for underprivileged groups such as "the disabled and the elderly, and for rural, remote and low-income areas, for reasons of equity and to enhance overall economic efficiency via network effects" (p. 6). Supporting Compaine and the OECD report, the report of Economist Intelligence Unit argues that high levels of competition is one of the smart policies against digital inequality while it is mentioned that the situation must be monitored by the government actively to ensure that there is proper competition in the market (2012, p. 13-14). This approach to the diffusion and adoption of ICTs can be referred as the neoliberal approach to digital inequality due to its focus on competition and market forces.

According to Fuchs, "social information is always the result of the social interactions of many interacting humans then there is no natural or moral owner of it" (2011, p. 89). Therefore, information must be considered as "commons" which refers to "an aspect of society that is needed for its existence and reproduction and should therefore not be limited or restricted to guarantee the reproduction of society and humans to a full extent" (p. 89). However, neoliberalism "has resulted in the further commodification and privatization of parts of the commons" and "commons have been enclosed and dispossessed" (p. 337).

> The Internet is a co-operative factory operated by the labour of millions of humans. Internet corporations are superfluous for human communication; they are unnecessary intermediaries that only exist to derive profit from human communication. Internet corporations exploit human online communication in order to accumulate capital. The surveillance of online communication and uploaded content and the selling of these data to

advertising clients is a central mechanism for capital accumulation. (Fuchs, 2011, p. 337)

According to Fuchs, there is an antagonism between logic of cooperation and logic of competition and social systems can be analyzed using this dichotomy (2008). Competition means "that certain individuals and groups benefit at the expense of others, that is, there is an unequal access to structures of social systems" (2008, p. 33). Cooperation, on the other hand, is a "specific type of communication where actors achieve a shared understanding of social phenomena, make concerted use of resources so that new systemic qualities emerge, engage in mutual learning, all actors benefit, and feel at home and comfortable in the social system that they jointly construct" (p. 33). For Fuchs, exclusion is the result of logic of competition: "Hence, cooperation is a way of achieving and realizing basic human needs, competition a way of achieving and realizing basic human needs only for certain groups and excluding others" (p. 33). Social inclusion is only possible if logic of cooperation is dominant rather the logic of competition. For Fuchs, modern society is based on the logic of competition and therefore it is an "excluding society" (p. 33). Modern society is "shaped by the competition for the accumulation of property, power, and definition capacities" (p. 71).

The neoliberal approach to the diffusion of ICTs and the Internet is an approach based on competition. The neoliberal approach is based on the assumption that competition over ICTs and the Internet will make them more accessible in the long run. The idea of neoliberal stakeholders is that "foreign direct investment and total privatization and deregulation of the telecommunications sector in developing countries will increase infrastructure, wealth, and income" and as a result digital inequalities will disappear (Fuchs, 2008, p. 218). This is an unlikely scenario for Fuchs for several reasons: (1) private companies are profit-oriented and they will offer cheap costs for their services as long as there is not an economic crisis which is inherent in capitalism, (2) continuous investment is required to provide high quality and high speed

access which will result in increase in the fixed capital costs and in turn an increase in costs for the consumers, (3) customers with higher income will be targeted by private firms since they might see low-income households as weak in financial terms, (4) foreign capital might be attracted through private investment and privatization thus making an Internet infrastructure available in the country; however, "it is not automatically the case that wages rise and the mass of people has access to the Internet because it is not assured by markets that profit remains within the country, that high wages are paid, and that income inequality is avoided" (p. 218).

Another approach to digital inequality is technophobia in which it is argued that technology is not needed and is not important especially when there are more basic problems such as poverty and health issues (Fuchs, 2008, p. 222). According to Fuchs, "Information and communication are, just like social security, a fundamental human right" (p. 223). This is explicitly expressed in the Article 19 of the Universal Declaration of Human Rights:

> Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers. (UNGA, 1948, p. 4)

Therefore, following Fuchs, a third, cooperative alternative can be offered to both neoliberal approach which almost exclusively depends of market forces for the elimination of digital inequality and technophobia which argues for the unimportance of technology in general. A cooperative approach to digital inequality should be based on the idea that information and communication are fundamental human rights regardless of the purchasing power of the individuals.

2.4 Disability and Digital Inequality

In order to understand digital inequality in the context of disability, there are two important tasks to be done. First, an elaborate understanding of disability must be put forward since as mentioned earlier even in the TurkStat data it is classified as a category of unemployment. Second, basic determinants of digital inequality as it is discussed in the existing literature must be mentioned since they can be relevant in relation to the persons with disabilities in Turkey. In this section, first, different models of conceptualizing disability will be discussed in order to choose the one most suitable for the purposes of this study, and second, basic determinants of digital inequality will be discussed in their possible relation with the persons with disabilities in Turkey.

2.4.1 Models of Disability

When the definition of disability and how the disability should be understood is discussed, various models of disability are offered in numerous articles and studies such as medical model, individual model, the personal tragedy theory of disability, social model, affirmation model, biopsychosocial/liberal/inter-relational approach (Oliver, 1990; Swain & French, 2000; Barnes, 2003; Susinos, 2007; Reid-Cunningham, 2009).

According to Oliver, there are two main models of disability in which we can place other various suggestions of disability models: individual model of disability and social model of disability (1990, p. 1). Oliver defines individual model of disability as follows:

> There are two fundamental points that need to be made about the individual model of disability. Firstly, it locates the 'problem' of disability within the individual and secondly it sees the causes of this problem as stemming from the functional limitations or psychological losses which are assumed

> to arise from disability. These two points are underpinned by what might be called 'the personal tragedy theory of disability' which suggests that disability is some terrible chance event which occurs at random to unfortunate individuals. (Oliver, 1990, p. 2)

Individual model or models of disability conceptualizes disability as a functional and a psychological problem. Moreover, this problem is assumed to be a problem belonging to the individual rather than belonging to the social institutions. This view is directly linked with the medical model of disability in which disability is treated as a form of medical condition if not a disease. Medical model "implies a 'mandate' to 'cure' people with disabilities" (Scheer, 1988; Shuttleworth & Kasnitz, 2004, as cited in Reid-Cunningham, 2009, p. 104).

For Barnes, International Classification of Impairment Disability and Handicap (ICIDH) which was published in 1980 is mainly a text referring to the medical model of disability (2003, p. 2). ICIDH conceptualizes disability by using a "three-fold typology of 'impairment', 'disability' and 'handicap'" (p. 2).

In ICIDH document, impairment is defined as "any loss or abnormality of psychological, physiological, or anatomical structure or function" (WHO, 1980, p. 27). It represents a "deviation from some norm" in the individual's biomedical status" and "definition of its constituents is undertaken primarily by those qualified to judge physical and mental functioning according to generally accepted standards" (p. 27).

ICIDH defines disability as "any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being" (WHO, 1980, p. 28). Disability refers to "a departure from the norm in terms of performance of the individua1, as opposed to that of the organ or mechanism" and the concept is "characterized by excesses or deficiencies of customarily expected behaviour or activity" (p. 28).

Lastly, ICIDH (WHO, 1980, p. 29) defines handicap as "a disadvantage for a given individual, resulting from an impairment or a disability, that limits or prevents the fulfilment of a role that is normal (depending on age, sex, and social and cultural factors) for that individual" and states that handicap is "characterized by a discordance between the individuals performance or status and the expectations of the particular group of which he is a member" (p. 29). According to the document, handicap is "thus a social phenomenon, representing the social and environmental consequences for the individual stemming from the presence of impairments and disabilities" (p. 29). Even though the concept is neutral in terms of its conception, according to the document, discrimination towards the persons with disabilities can be discussed in its relation to this concept as an "adverse valuation by society" (p. 29). Among the concepts of "impairment," "disability," and "handicap" in ICIDH, handicap seems to be the one with most social references on disability

As it can be seen in the definitions and explanations of the concepts like impairment, disability and handicap, a discourse of abnormality dominates the World Health Organizations report of International Classification of Impairment Disability and Handicap which was published in 1980. Even though it opens room for an anti-discriminatory approach with the concept of handicap, disability is seen as an abnormality belonging to the individual throughout the report.

Barnes argues that since "the ICIDH presents impairment/s as the primary cause of disability and handicap," "disabled people become objects to be cured, treated, trained and changed and made 'normal' according to a particular set of cultural values" (2003, p. 3).

According to Oliver, there is a role for the doctors and the medical profession in general for the persons with disabilities, and this role begins when the person with disability has an illness; however, the disability by itself cannot be approached with a medical mindset (1990, p. 2-3).

> Why then is the medicalisation of disability inappropriate? The simple answer to this is that disability is a social state and not a medical condition. Hence medical intervention in, and more importantly, control over disability is inappropriate. Doctors are trained to diagnose, treat and cure illnesses, not to alleviate social conditions or circumstances. (Oliver, 1990, p. 2)

Disability is defined as a social state rather than a medical condition by Oliver. According to Oliver, there are mainly two reasons behind the realization that problems of disabled people cannot be understand solely in medical terms: (1) "…people with any form of perceived physical or cognitive impairment or abnormality and labelled 'disabled' constitute an increasingly large section of the world's population," (2) "the more technically and culturally sophisticated societies become the more impairment and disability they create" (Oliver, 1990, as cited in Barnes, 2003, p. 1).

The shift away from individualistic medical approach to disability is accompanied by the rise of the persons with disabilities as a separate social group. This alone shows that the conceptualization process itself is strongly bound to social power relations.

This shift in the understanding and conceptualization of disability is towards what is commonly called social model of disability. Oliver states that:

> It is not individual limitations, of whatever kind, which are the cause of the problem but society's failure to provide appropriate services and adequately ensure the needs of disabled people are fully taken into account in its social organisation. Further, the consequences of this failure does not simply and randomly fall on individuals but systematically upon disabled people as a group who experience this failure as discrimination institutionalised throughout society. (Oliver, 1990, p. 2)

With social model of disability, we begin to think about persons with disabilities not as separate individuals who happen to suffer from a personal tragedy but as a social group with its own needs and demands from society. We begin to think about disabled people as a group instead of an agglomeration of boundless persons with a common characteristic by chance.

When disabled people are thought to be a social group, it becomes possible to think in terms of social power relations and social inclusion or social exclusion processes. On medical professionals, Oliver mentions that they are trained to believe that they are experts on disability; however, they do not know what to do when confronted with social problems faced by the disabled people but do not hesitate to use their power on disabled people on important issue like residence, education, work, benefits and services which will be given by public institutions, and in the context of unborn children, whether they should be born or not (Oliver, 1990, p. 3).

Social model of disability is a manifestation of the rise of the disabled people as a social group with needs and demands. Therefore, it is not possible to understand social model without understanding what these needs and demands are.

> …both sides must recognise that way power shapes the experience of disability for both groups. To put the matter unequivocably, the medicalisation of disability have given doctors power and left disabled people powerless. The social model is not an attempt to take power way from doctors and give it to disabled people, but a prescription for sharing power. Given that doctors have power now and disabled people don't, this inevitably implies that doctors must learn to give up some of their power and disabled people must learn how to empower themselves and what to do when they have. (Oliver, 1990, p. 5)

Oliver's remarks show that the social model of disability is mainly about power relations which make disabled people powerless in the face of medical

professionals first and then the society as a whole. Aim of the social model is empowerment of disabled people.

The discussion of medical model and social model is especially important from a social policy perspective. Social policy is about welfare and equality and social model calls for an intervention for a disadvantaged social group. While the role of medicine in the treatment of illnesses experienced by the persons with disabilities is undeniably important, this is not enough for the disabled people when we think of them as an excluded social group. In addition to this, adding power relations into the discussion makes it possible to think about disability in political terms.

Medical model and social model are not the only options when we think about disability. There are approaches which try to combine them and which try to come up with alternatives to them. One approach that tries to combine medical model and social model is what Barnes calls "the inter-relational approach," "the liberal approach" and "biopsychosocial approach" interchangeably (2003, p. 3-4).

An important document to understand biopsychosocial approach is the The International Classification of Functioning, Disability and Health (ICF) which was published in 2002. In this new WHO report on classification of disability, we see a shift away from the medical model towards a new model which incorporates elements from the social model of disability.

In the ICF, human functioning is defined in three levels: "functioning at the level of body or body part, the whole person, and the whole person in a social context" and disability corresponds to "dysfunctioning at one or more of these same levels: impairments, activity limitations and participation restrictions" (WHO, 2002, p. 10)

Impairments are defined as "problems in body function or structure such as a significant deviation or loss" (WHO, 2002, p. 10). An impairment is the physical or body level of disability. An activity is defined as "the execution of a task or

action by an individual" and activity limitations "are difficulties an individual may have in executing activities" (p. 10). Lastly, participation refers to "involvement in a life situation" and participation restrictions are "problems an individual may experience in involvement in life situations" (p. 10). With the ICF, World Health Organization tries to conceptualize disability in terms of human functioning at three levels of body, person, and person in a social context instead of a biased understanding of normality as it was the case in the 1980 report, ICIDH.

ICF's approach to disability, or the biopsychsocial model, is still the dominant view of disability in the reports prepared by World Health Organization and the World Bank, e.g. World Report on Disability and the Disability report of WHO in 2013 (WHO & The World Bank, 2011; WHO, 2013).

While the ICF is an improvement over ICIDH, there are certain criticisms towards this biopsychosocial approach.

> …whilst the ICF asserts that individuals are but one element in the analysis of disability, the 'biopsychosocial' approach is not that far removed from its forerunner in that it retains the individual as the starting point for the analysis of 'bodily function and activity'. The concept of participation is included but underdeveloped in the scheme and is still linked to individual circumstances rather than tied firmly to social and political inclusion. (Barnes, 2003, p. 4)

In other words, ICF's three-fold understanding of disability, biopsychosocial model, lacks the aspect of social power relations which was present in the social model. As mentioned, social model introduces power relations into the discussions of disability and treats disabled people as a social group rather than an agglomeration of disabled individuals. This creates the possibility of a political sphere for the disabled people.

While social model has been influential in terms of rights of the disabled people as a group, it is not immune to criticism. For the social model, "Disability

is not caused by impairment or a function of the individual, but the oppression of people with impairments in a disabling society" (Swain & French, 2000, p. 570-571). However, this is not enough for a non-tragic view of disability for Swain and French who think that a non-tragic view of disability must be about "disability as a positive personal and collective identity, and disabled people leading fulfilled and satisfying lives" and even though social model proposed a model incompatible with the idea of disability as a personal tragedy, it can be claimed that it has not stressed a non-tragedy view in itself (Swain & French, 2000, p. 571). First, they mention that "to be a member of an oppressed group within society does not necessarily engender a non-tragedy view" in the sense that "nothing inherently non-tragic about being denied access to buildings" (p. 571). Secondly, they emphasize the disassociation of impairment from disability which is one of the central ideas of social model and argue that social model "leaves the possibility that even in an ideal world of full civil rights and participative citizenship for disabled people, an impairment could be seen to be a personal tragedy" (p. 571).

The disassociation of impairment from disability is an important theme in criticisms towards social model. Swain and French's criticism of the social model on this point is towards an affirmative model of disability in which both impairment and disability are thought to be positive features:

> The writings and experiences of disabled people demonstrate that, far from being tragic, being impaired and disabled can have benefits. If, for example, a person has sufficient resources, the ability to give up paid employment, and pursue personal interests and hobbies, following an accident, may enhance that person's life. Similarly, disabled people sometimes find that they can escape class oppression, abuse or neglect by virtue of being disabled. (Swain & French, 2000, p. 574)

This view can be criticized by claiming that not all people with impairments and disabilities have sufficient resources, as mentioned by the authors

themselves, to live without employment, even though we assume that such people with sufficient resources might find disability beneficial in the mentioned terms.

The disassociation of impairment from disability has attracted different criticisms towards social model other than the one mentioned above. Social model is criticized for neglecting "impairment related concerns" and that "an impairment such as pain or chronic illness may curtail an individual's activities so much that the restriction of the outside world becomes irrelevant" (Barnes, 2003, p. 7; Crog, 1992, p. 9, as cited in Swain & French, 2000, p. 571).

One way to deal with this criticism is to say that "Pain and chronic illness are neither impairments nor restricted to the experiences of disabled people" and "Non-disabled people experience both pain and chronic illness" (Swain & French, 2000, p. 571-572). However, another and more exhaustive way to look at the problem and the debate on medical model vs. social model is proposed by Shakespeare and Watson:

> Shakespeare and Watson argue that the social model distinction between impairment and disability is untenable, impractical, and represents an outmoded dogma that should be abandoned. For them disability is instead 'a complex dialectic of biological, psychological cultural and socio-political factors, which cannot be extricated except with imprecision'. This leads to the assertion that intervention at the physical, psychological, environmental and socio-political levels is the key to progressive change, and that one should not be a substitute for another. (Shakespeare & Watson, 2002, as cited in Barnes, 2003, p. 7)

According to this view, the disassociation of impairment from disability should be abandoned altogether to look at the problem from an exhaustive point of view which includes all the aspects of disability, namely biological, psychological, cultural, and socio-political aspects of disability. This view is also more exhaustive than the biopsychosocial approach used by the World Health Organization due to

its inclusion of politics and power relations into the definition. Such an approach towards disability might be termed as "biopsychosociopolitical approach" or "dialectic approach" with a reference to Shakespeare and Watson's choice of term on the complex dialectic between all the aspects of disability.

Based on these approaches and models on disability, a critique of Turkish Statistical Institute's categorization of disability as a category of unemployment can be developed (2004 – 2012). We find such categorization of disability in the Turkish Statistical Institute's statistics on information society, in the report called "Individuals using the computer and Internet in the last 3 months by employment situation (%)" in which the use of a computer and the Internet is categorized in terms of different statuses of employment (2004 – 2012). In the data, we see there are two main categories: those who are in labor force and those who are not in labor force. Those who are in labor force include regular employee, casual employee, employer, self-employed, and unpaid family worker. Those who are not in labor force include house workers, the retired, students, those who are not in labor force due to private and family reasons, the disabled people, and the others.

In none of the models we have talked about disability is considered to be a category of unemployment; even the medical model, even though it conceptualizes disability as a form of an individual abnormality, does not state that those with disability cannot work. It is clear that persons with disabilities can be employed and the fact that they are actively employed is documented by the Turkish Statistical Institute in a press release in 2012 with data of the second quarter of 2011, Results of Research on the Labour Force Status of Disabled People, II. Quarter 2011, in which labor participation rate is 50.5%, employment rate is 45.7% and unemployment rate is 9.4% for persons with long-standing health problems and those who have basic activity difficulties (TurkStat, 2012). Therefore, it seems like there is a confusion in Turkish Statistical Institute's conceptualization and categorization of disability in the section on statistics about information society.

2.4.2 Determinants of Digital Inequality and Disability

Studies on digital inequality – also on digital divide, since it has also been a commonly used term for the problem of inequality in relation to ICTs – focus on various determinants which are monitored continually with both academic and policy-centered approaches. Monitoring changes in terms of different determinants is important since these studies guide policy-makers in terms of intervention with the purpose of proliferation of ICTs to wider sections of the society. It is possible that an inequality perceived ten years earlier might have vanished today due to rapid developments in the informational technologies and also rapid changes in their diffusion.

DiMaggio and Hargittai mentions that "Access to new technologies is ordinarily associated with advantaged positions with respect to a number of weakly or moderately correlated statuses or resources – for example, income, white-collar work, educational level, race, rural residence, and gender" (2001, p. 4-5). In addition to these we can mention age as a possible determinant to study, and "most recently, disability status" (p. 3). It is also possible to study digital inequality on global level by using countries instead of individuals as the unit of analysis (Azari & Pick, 2009).

Study of Azari and Pick on "the relationships of socioeconomic factors, business and technology investment, and governmental support framework on technological usage of 110 countries" has important insights on the relationship between policy and digital inequality (2009). In their research, long-term steps of government initiative on issues like information and communications technologies as well as openness, democracy, and a strong legal structure are found to be beneficial for the developing world (p. 8). They also argue that government initiative with social policies that prioritize ICTs, a strong legal structure which include laws on privacy and intellectual property and social openness are also beneficial for developed world in terms of raising socioeconomic conditions of citizens and the utilization of information and communications technologies as it is

seen in the examples of Australia, Ireland, the United Kingdom, and Scandinavian countries (p. 8).

Other studies on global digital inequality focus on education, competition in the telecommunications sector, access price, and regulatory environment as important determinants for the diffusion of connectivity (Hargittai, 1999; Kiirski & Pohjola, 2002; Guillen & Suarez, 2002, as cited in Hargittai, 2003, p. 16).

Castaño-Muñoz, in his/her study on digital inequality among university students, finds that "most interesting relation is that which links the different purposes of Internet use with academic performance" (2010, p. 49).

> The data presented in this paper are in line with the "knowledge gap" hypothesis, which postulates that those students most advantaged in the knowledge of the Internet are those who then take most advantage of it… This confirms Van Dijck's (2005) hypothesis of the appearance of a "usage gap" which separates those who use the Internet for leisure purposes and those who use it for work and education… Social dynamics are maintained, putting those students who use the Internet for leisure at a greater disadvantage, as they will have worse academic results because they have less time to dedicate to academic tasks, have less benefits from good use of the Internet… (Castaño-Muñoz, 2010, p. 49)

The usage gap mentioned in the study of Castaño-Muñoz corresponds to what we call "scope of use" in this study. The concept of "usage gap" as defined is also important because it refers to a certain gap in terms of scope of use: use of the internet for leisure activities on one hand and use of the internet for work and education on the other. This point can also be analyzed for the disabled people in the Turkish context as a part of the scope of use aspect of digital inequality.

As mentioned, disability has recently been a topic for discussion and research in the context of ICTs and information age. As one of the determinants of digital inequality, disability and its relation to ICTs must be carefully examined.

Existing literature on the disability and ICTs mainly focus on certain barriers and benefits of ICTs for the disabled people. Dobransky and Hargittai mention that there are both positive and negative viewpoints on the use of ICTs by the disabled, since while ICTs can improve the lives of the disabled in certain ways; they can reinforce certain inequalities already existing in the society also in the digital world (Goggin & Newell, 2003, as cited in Dobransky & Hargittai, 2006, p. 315). Among the benefits of ICTs, first we can mention psychological benefits of ICT use for the disabled people. Dobransky and Hargittai states that there are views that advocate ICT use can help the disabled people "to escape isolation and stigma" which sometimes "accompany their disabilities" (2006, p. 315). Moreover, with the use of ICTs, the disabled people are able "to obtain more and better information" which in turn improve their "health outcomes" and "health-related quality of life" (Magnusson et al., 2004; Drainoni et al., 2004, as cited in Dobransky & Hargittai, 2006, p. 315). In addition to this, self-help groups and other online support groups such as chat rooms and mailing lists are available for disabilities on the Internet and there is no necessity for "physical co-presence" as there is for traditional social support groups (p. 315-316). To these online social support groups, today we can add online forums and social media since they are widely used both by persons with disabilities and general public. Dobransky and Hargittai state that "The most striking aspect of online communication for people with disabilities is the ability it affords the user to hide aspects of him- or herself" so that they can escape the stigma which can be present in offline interactions with other people (p. 316).

There are also barriers of ICTs for the disabled people. As mentioned in the comparison of digital divide and digital inequality, physical access may not be enough for the disabled people for efficient ICT use (Dobransky and Hargittai, 2006, p. 316). Even if there is physical access, "the hardware or software providing the Internet access may not be configured to allow those with disabilities to use it" and "Many individuals with disabilities require assistive technology to use computers and the Internet" such as screen readers, voice recognition, hearing

aids, mouse and keyboard alternatives and modifications, etc. (World Wide Web Consortium, 2004; Mann et al., 2005, as cited in Dobransky & Hargittai, 2006, p. 316; ITU, 2011). Even though access to these assertive technologies is possible for the individual with disabilities, "much assistive technology is reactive in design, and by the time accommodations are made technology has often moved another step forward" and this causes a "constant lagging behind by users with disabilities" (Dobransky & Hargittai, 2006, p. 316). Therefore, a proactive design for both assistive technologies and computer hardware and software is needed for the disabled people instead of such reactive designs which cannot be modified in accordance with the technological developments. In addition to such barriers related to the technology itself, there is the barrier of cost (p. 17).

> Another barrier to use is cost. Adaptive technology that renders otherwise inaccessible technology usable by people with disabilities is sometimes expensive. For example, as Lenhart et al. (2003) point out, Braille interface machines can run to US$3000 and magnified screens can cost US$2000. Combine this with the fact that people with disabilities generally have less income than those without, and we confront a major obstacle for people with disabilities using ICTs (Lenhart et al. 2003). (Dobransky & Hargittai, 2006, p. 317)

Such high costs for assistive or adaptive technology create a huge barrier for the disabled people even when the technology provides sufficient efficiency of use. Another barrier for ICT use by the disabled people is lack of interest which can be based on informed choice, lack of knowledge on the opportunities of the Internet for the disabled people, or frustrations based on past experience or on frustrating experiences of other users (Dobransky & Hargittai, 2006, p. 317).

Seymour states that while the "technological superhighway," the Internet, "offers a route to transcend problems of mobility, communication, time and space" which are "fundamental barriers to social participation" for the disabled people, "The problem of under-use or abandonment of technology is well documented in

the rehabilitation literature" (2004, p. 1). Seymour locates the problem not in the individual or technology *per se*, but "within the broad dimensions of global capitalism" (p. 2).

> While many people with disabilities are successful computer users, most ICTs are not specifically designed for people with disabilities. ICTs are consumer instruments that people with disabilities, like everyone else, may use to a greater or lesser extent to achieve a more or less satisfactory outcome. Despite benign and utilitarian connotations, the benefits of technology are not evenly distributed. Usage of information technology is higher among men, professionals, university graduates and the employed (ABS 1999): the daily escalation of computer use reproduces and strengthens social divisions related to gender, age (Barnett 1998), education and work (Sapey 2000). The technology that holds the key to more egalitarian participation could well become the instrument of further discrimination. (Seymour, 2004, p. 2)

Conceptualization of ICTs as consumer instruments is important to link the question of technology and the Internet to the broader context of global informational capitalism. This problem should be seen in the correct light so that relevant social policy can be developed without being affected by mythic presentations of technology. Seymour states that "Many people with disabilities experience disrupted education, restricted social interaction and diminished opportunities to participate in the labour market" and this can be overcome to a certain extent with the use of ICTs or not depending on their use (2004, p. 2). Seymour mentions "lack of consumer consultation, inappropriate device selection, poor device performance and changes in the consumer's needs or priorities" as causes of under-use and abandonment of ICTs by the disabled people (p. 2-3). Seymour's research shows that "Merely staying connected is a daily struggle for some of the participants" and most participants of the study "live with a constant fear of breakdown, obsolescence and dependence on others" (p. 13). For Seymour,

there is nothing inherently democratic about ICTs; however, they can be used to bring satisfaction to the lives of the disabled people (p. 14). In addition to this, Seymour's study affirms that access by alone is not enough for the disabled people and it must be "accompanied by ongoing and reliable infrastructure to facilitate, but not circumscribe, engagement" (p. 15).

2.4.3 Literature Review on Turkey

There are also various studies on digital inequality in the Turkish context. Acılar, Koca, and Karamaşa's study focuses on digital divide among different types of enterprises in Turkey and finds that:

> …there is a significant difference between small and large enterprises in terms of use of computers and the Internet and website ownership. There is a significant digital divide exists in the use of ICTs among enterprises in Turkey. As enterprise size increases, the use of ICT also increases among enterprises. Even though the use of computer and Internet increased among small enterprises from 2005 to 2010, it was found that only 48 percent of small enterprises with 10-49 employees have a website in 2010. (Acılar, Koca & Karamaşa, 2011, p. 8)

Acılar, in his study on digital divide in Turkey as a developing country, analyzes digital divide in Turkey in terms of age, gender, education level, geographical location (rural-urban divide), and general socio-economic development (2011). According to Acılar, age is an important determinant of digital divide in Turkey:

> …while the rates of computer and Internet user are 65.2% and 62.9% respectively for 16-24 age group, these rates are 2.7% for 65-74 age group. There is a huge gap between younger and older individuals in terms of computer and Internet use. (Acılar, 2011, p. 236)

On gender, Acılar states that "Even though the number of computer and Internet users has increased, gender gap in using these technologies still remains" and "While the rates of computer and Internet use among male residents are 53.4% and 51.8% respectively, these rates among females are 33.2% and 31.7% in 2010" (2011, p. 237).

With respect to education level, Acılar finds that there is a positive correlation between education level and the rate of computer and Internet use in a survey of the Turkish Statistical Institute (2011, p. 238). In this survey, Acılar states, 15.3% of those with a primary level education, 71.8% of those with a high school level education, and 90.4% of those with a higher level of education reported using computers in the last 3 months (p. 238). In a similar line with the results of computer use, while only 14.0% of those with a primary level education reported using the Internet in the last 3 months, 89.6% of those with a higher level of education reported using the Internet in the last 3 months (p. 238).

Another important indication on education and digital inequality in Turkey is that students in Turkey can access to ICTs less at school than they can at home (Güzeller, 2011, p. 352). This can be seen as problematic for the learning of ICT-related skills at school and use of ICTs with academic purposes.

Lastly, geographical location in terms of whether one lives in an urban or rural location is an important determinant of digital divide according to Acılar's study (2011). In the survey of Turkish Statistical Institute, it is seen that there has been an increase in the use of computers and the Internet both in rural and urban areas from 2004 to 2010 while a gap between urban and rural locations in relation with the usage of computers and the Internet is apparent (p. 238). In the research on computer and Internet use by Turkish Statistical Institute in 2010, computer and Internet use rates are 25.6% and 23.7% for rural residents while they are 50.6% and 49.2 for urban residents (p. 238). These numbers clearly show that there is an urban-rural gap in Turkey in terms of ICT use.

Geographical location in terms of ICT accessibility can also be thought in relation to different regions in Turkey. Güzeller notes that "there is still a great achievement and accessibility of ICT gap between regions and schools in Turkey" with Western Marmara region being at the top and South Eastern Anatolia region being at the bottom in terms of ICT accessibility at school and home (2011, p. 353).

Acılar's findings show that there are persisting inequalities in Turkey in terms of access to and use of ICTs. In terms of policy implications of these results, Acılar says that access to and use of ICTs is in a close relationship with the socio-economic development of a country (2011, p. 238). Hence, Acılar argues that there is a positive correlation between socio-economic development and ICT adoption including various indicators on information society (p. 238). In their study, it is emphasized that "level of literacy" and the design of "appropriate IT tools around the capabilities of users" are important so that wider segments of society can benefit from the proliferation of ICTs in everyday life (Rao, 2005, as cited in Acılar, 2011, p. 238). Acılar argues that a policy of education especially for rural residents and a policy of provision of information and communications technologies and services with low costs to bridge the digital divide are needed in the context of developing countries (p. 238). In this sense, it can be claimed that for Acılar, education barrier and cost barrier are the two main barriers challenging citizens of developing countries in terms of access to and use of ICTs.

This study shows that education and having necessary skills to use ICTs as well as having sufficient financial resources to access to ICTs are important in the context of digital inequalities in Turkey. There is no mention of disability in Acılar's study; however, his findings and remarks on policy can be beneficial for a study in the context of disability and digital inequality.

Geray's study on digital divide in Turkey analyzes digital divide in terms of "income, age, gender, education, profession and region" (2000). Disability is not mentioned as a determinant of digital divide. Study is important especially in

terms of the relationship between income and digital divide. Study shows that there is a positive correlation between income level of a household and its computer adoption (2000, p. 4-5). Geray shows that the rate of technology ownership is in correlation with income at the household level in Turkey.

In accordance with Acılar and Geray, Öztürk's study on digital inequality and "income group distribution and education level distribution of ICTs" in Turkey shows that "people with low income and low education level cannot benefit from ICTs sufficiently" (Öztürk, 2005, p. 127).

Study of Gündüz conducted in primary schools in Sakarya shows that the influence of income on adoption and usage of ICTs is also important at the primary school level since the study shows that few of those students coming from low socio-economic level families, most of those students coming from middle socio-economic level families and close to all of those coming from high socio-economic level families have a computer at their homes (2010, p. 50). These results show a positive correlation between socio-economic level and computer and Internet adoption at home.

In addition to this relationship between socio-economic level and ICT adoption, a relationship between ICT adoption and academic success is noted in the study of Gündüz:

> A meaningful difference is found out in academic success of students according to their internet connection in their homes. It is also seen that the average grade of students that have computer and internet connection in their homes is higher than the average grade of those who do not. (Gündüz, 2010, p. 51)

This point shows the importance of having access to ICTs in the age of informationalism. Access to information and communications technologies is directly linked to access to information and academic success in the information age.

In Konur's study on computer-assisted teaching and assessment of disabled students in higher education, digital divide is mentioned as a threat with the proliferation of the use of computer-assisted teaching and assessment in higher education courses, since the disabled students in higher education can be excluded from these courses due to lack of "suitable disability adjustments" (2007, p. 209).

On his study on disabled people employed in the public sector, Tezcan argues that discrimination towards persons with disabilities is more visible in the public sector than private sector since disabled people who are employed in the public sector have to show up at work as required by law (2013, p. 156-7). As Tezcan states, disabled people are seen as workers with the lowest level status in the workplace regardless of their skills and qualifications (p. 158).

As it can be seen in the discussed examples in the literature, studies on the digital inequality and digital divide in Turkey focus on various determinants such as age, gender, education level, income, and geographic location both in terms of urban-rural divide and inequalities among regions; however, disability is an understudied topic in terms of digital inequality and information age specifically.

When we look at the social policy implementations and decisions on disability and digital inequality, we see that while there are attempts to reduce digital inequality in favor of disabled people, disability is not mentioned in important official texts on ICTs. We find that disabled people and their first degree relatives get a 25% discount for all DSL (Digital Subscriber Line) tariffs in Turkey (ICTA, 2013). On the other hand, we see that disability is not mentioned at all in the report on dissemination of computer ownership by the Information Society Department of State Planning Organization (currently Ministry of Development) for the e-Transformation Turkey Project (SPO – ISD, 2006). In the other documents of e-Transformation Turkey Project, disability is mentioned in terms of the accessibility standards of public web sites (SPO – ISD, 2005, p. 13; SPO – ISD, 2006b, p. 17), sectoral vocational training, integrated social assistance services through which all governmental social aids will be gathered together in a

database (SPO – ISD, 2006b, p. 15, 24), and in terms of Public Internet Access Points which were planned to deliver public Internet access for citizens (SPO – ISD, 2006a, p. 24). These points show that governmental bodies on information society are aware of disabled people as a disadvantaged group in terms of ICTs especially in terms of public web site design and high costs of Internet access; however, the attention given to disabled people in terms of ICTs is mainly limited to the problem of access. Moreover, attention given to disability in terms of ICTs is lacking in content on points such as how sectoral vocational training will be delivered online to persons with disabilities or when these Public Internet Access Points will be available and in what ways they will be suitable for persons with disabilities.

In conclusion, in the Turkish context, disability is an understudied topic in the academic literature and we find rather superficial references to disability in terms of ICTs in the governmental documents. Both points show that there is a need to study disability in terms of ICTs in Turkey.

2.4.4 Disability and Information Rights

In various international documents and studies, we find that disability is addressed in relation to ICTs, in terms of barriers to and advantages of ICTs for the disabled people, and in the context of information rights of the disabled.

Convention on the Rights of Persons with Disabilities, drafted in 2006, is one these key texts for the rights of the disabled both in general and in relation to information and ICTs. Turkey became a signatory to the convention on March 3, 2007 and ratified the convention on 28 September, 2009. The document mentions that "The States Parties to the present Convention" recognizes "the importance of accessibility to the physical, social, economic and cultural environment, to health and education and to information and communication, in enabling persons with disabilities to fully enjoy all human rights and fundamental freedoms" (UN, 2006,

p. 3). Accessibility to information and communication is defined within the broader conceptualization of human rights and fundamental freedoms in the text.

In the Article 2 of the convention, it is stated that:

> "Communication" includes languages, display of text, Braille, tactile communication, large print, accessible multimedia as well as written, audio, plain-language, human-reader and augmentative and alternative modes, means and formats of communication, including accessible information and communication technology. (UN, 2006, p. 4)

With this clarification of the concept of "communication" which now includes accessible ICTs, it becomes possible to conceptualize access to ICTs in terms of human rights and fundamental freedoms with reference to the convention. In addition to this, the concepts of "discrimination on the basis of disability," "reasonable accommodation," and "universal design" are defined in the convention as follows:

> "Discrimination on the basis of disability" means any distinction, exclusion or restriction on the basis of disability which has the purpose or effect of impairing or nullifying the recognition, enjoyment or exercise, on an equal basis with others, of all human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field. It includes all forms of discrimination, including denial of reasonable accommodation; "Reasonable accommodation" means necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms; "Universal design" means the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. "Universal design" shall not exclude assistive devices

for particular groups of persons with disabilities where this is needed. (UN, 2006, p. 4)

These concepts defined in the convention create the conceptual basis for the social inclusion of the disabled people into all spheres of everyday life including access to ICTs. As mentioned in the definition of the universal design, persons with disabilities may need to use certain assistive technologies in accordance with their specific disability. These assistive technologies help the disabled people in their everyday lives and also in their interaction with ICTs. Therefore, access to assistive technologies cannot be disassociated from access to ICTs and digital inequality in general.

Assistive technologies vary by the disability of the person. For the persons with physical disabilities and motor impairments, assistive technologies include mouse alternatives and replacements (trackballs, joysticks, tablets), keyboard modifications and alternatives (miniaturized keyboards, enlarged keyboards, programmable keyboards, half-keyboards), voice recognition, augmentative and alternative communication (text-to-speech generating devices, speech generating devices), and accessible buildings and workstations (ITU, 2011, p. 13-15). For the vision-impaired, they include enhancements to the visual display of the computer (higher contrast, enlargement of icons), screen magnification, alternatives to the visual display such as screen readers (e.g. JAWS), optical character recognition (OCR), note-takers and/or accessible Personal Digital Assistants (PDAs), and braillers (p. 17-18). For the hearing-impaired, they refer to hearing aids "which amplify sound from the surrounding environment", captions, and subtitles (p. 20).

For disabled people, information and communications technologies include such assistive technologies since it might be impossible to use ICTs in certain cases without such assistive technologies.

In Article 4 of the Convention on the Rights of Persons with Disabilities, it is stated that states parties undertake:

(g) To undertake or promote research and development of, and to promote the availability and use of new technologies, including information and communications technologies, mobility aids, devices and assistive technologies, suitable for persons with disabilities, giving priority to technologies at an affordable cost;

(h) To provide accessible information to persons with disabilities about mobility aids, devices and assistive technologies, including new technologies, as well as other forms of assistance, support services and facilities. (UN, 2006, p. 6)

With this article, research, development and informing persons with disabilities become responsibilities of the states that are parties to the convention. Again, we see that assistive technologies are thought to be an important part of the access to information and information and communications technologies.

Another article on ICTs and disability in the convention is Article 9 in which it is stated that "States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas" (UN, 2006, p. 9). In addition to this, these mentioned measures include promotion of "access for persons with disabilities to new information and communications technologies and systems, including the Internet," promotion of "the design, development, production and distribution of accessible information and communications technologies and systems at an early stage, so that these technologies and systems become accessible at minimum cost" and promotion of "other appropriate forms of assistance and support to persons with disabilities to ensure their access to information" (p. 10).

Lastly, Article 21 mentions that states parties to the convention "shall take all appropriate measures to ensure that persons with disabilities can exercise the right to freedom of expression and opinion, including the freedom to seek, receive and impart information and ideas on an equal basis with others and through all forms of communication of their choice" including by "Urging private entities that provide services to the general public, including through the Internet, to provide information and services in accessible and usable formats for persons with disabilities" (UN, 2006, p. 14-15). Through the mediation of the states parties to the convention, private institutions that provide ICT services are encouraged to take necessary measures for the disabled people so that they can reach information and ICTs.

Convention on the Rights of Persons with Disabilities is a key text for both right of the disabled people and a new type of rights which apply specifically to the informational capitalism and information age in general: information rights. Information rights are recently conceptualized as a new type of rights following Marshall's well-known typology of rights: civil, political, and social rights (Marshall, 1950/2009; Bovens, 2002).

Marshall defines citizenship as "a status bestowed on those who are full members of a community" and "All who possess the status are equal with respect to the right and duties with which the status is endowed" (1950/2009, p. 149-150). While citizenship has always been a "principle of equality," first forms of rights were not in conflict with the inequalities of capitalism (p. 150). These first group of rights were civil rights, which were "indispensable to a competitive market economy" because "They gave to each man, as part of his individual status, the power to engage as an independent unit in the economic struggle and made it possible to deny to him social protection on the ground that he was equipped with the means to protect himself" (p. 150). Civil rights provide the legal basis for engaging in the competition to possess objects in the market without having any guarantee of possessing them (p. 151). However, citizenship did not stop at this

point and since it refers to a sense of community and belonging together, it gave rise to national consciousness and public opinion, which created the basis for political rights (p. 151). According to Marshall, political rights were dangerous to the capitalist system unlike civil rights, because it was giving working classes the power to change the system without an upheaval or revolution (p. 152). Marshall says that while civil rights were also important for the workers to raise their social and economic status, it was the political rights through which social rights were realized (p. 152). Social rights "imply an absolute right to a certain standard of civilization which is conditional only on the discharge of the general duties of citizenship" and their "content does not depend on the economic value of the individual claimant" (p. 152). As a result of these social rights, "social integration spread from the sphere of sentiment and patriotism into that of material enjoyment" (p. 153). In other words, if citizenship is based on a having a sense of community, social rights provided the necessary economic basis for working classes so that such a social integration could emerge.

Based on this typology, Bovens conceptualizes a new set of rights which accompany the proliferation of ICTs and the rise of information age: information rights (2002, p. 4). These information rights are conceptualized as constitutional rights (p. 4). Information rights are not "rights on line", such as classic civil liberties of freedom of speech or right to privacy in an online setting or intellectual property rights which are more about civil rights in an online setting (p. 7-8). Bovens' information rights are defined on the basis of a three-fold typology of primary, secondary, and tertiary information rights (p. 14-15). Primary information rights are "rights giving citizens direct claims to access to actual (government) information" (p. 14). Secondary information rights "are the rights entitling citizens to government support in gaining access to crucial information channels" (p. 14). Lastly, tertiary information rights are "rights that support citizens in their horizontal information relations with other citizens and with private legal entities" (p. 14-15).

Secondary information rights as defined by Bovens are especially important in the context of digital inequality and disability since secondary information rights are at the intersection of information rights and social rights which are required for social inclusion. Within the context of secondary information rights, "it is an issue of social justice that the government also support citizens in gaining access to crucial societal information channels" (Bovens, 2002, p. 21). According to Bovens, we should understand physical, financial, and intellectual support when governmental support in gaining access for the citizens is mentioned (p. 22). Physical support is "the government's concern in ensuring that the information channels can function unimpeded." Financial support is "ensuring that this access is affordable." Lastly, intellectual support means that "Citizens must possess the skills needed to make use of these channels," which refers to "on the one hand, a question of general literacy, basic education and computer training, on the other hand one of user friendliness and operating ease" (p. 22).

Information rights as constitutional rights linked to the historical development of citizenship can be an important basis for social policy aiming at the elimination of digital inequality for the disabled and for all people with disadvantages regarding ICTs.

In conclusion, a social policy approach to digital inequality is directly linked with the idea of "information rights" which can be conceptualized as both fundamental rights and citizenship rights following other sets of rights such as civil, political, and social rights. Even though market forces might create an Internet infrastructure suitable for widespread use, market forces do not guarantee an income level which is sufficient to access to ICTs and the Internet and use these technologies in a satisfying manner for the disabled people. Therefore, it is necessary to go beyond the exclusively market-driven neoliberal approach and also technophobia which underestimates the benefits of technology for society and the disabled people. An alternative to neoliberal approach and technophobia is to come up with a cooperative understanding of the Internet, ICTs and digital

inequality. Such an understanding will be based on the social inclusion of the excluded segments of society including the disabled people. Such a cooperative approach to digital inequality must be based on information rights and must include biological, psychological, social, and political aspects of the problems faced by the disabled people including digital inequality and other aspects of social life.

CHAPTER 3

3. METHODOLOGY

3.1 Epistemological Background and Research Paradigms

A broad account of different epistemological approaches and their relationship to basic research paradigms in social sciences and social policy must be given so that a solid epistemological and methodological basis for the study is provided.

Epistemology is interested in how we, as human beings, come to know reality; therefore, it is closely related with ontology which is the "philosophy of reality" (Krauss, 2005, p. 758-759). Ontology is about the nature of reality and epistemology is about how we know that reality. Epistemology is also directly related with methodology which "identifies the particular practices used to attain knowledge" of reality however it is defined (p. 759). Therefore, a research methodology is linked to how we perceive reality and how we perceive the knowledge of that reality so that we can come up with "particular practices" to know that reality.

There are mainly two types of research methods employed in the social sciences: quantitative research methods and qualitative research methods. According to Krauss, differences between these two methods or research paradigms lie in philosophical questions of reality and knowledge (2005, p. 759). Quantitative method "is routinely depicted as an approach to the conduct of social research which applies a natural science, and in particular a positivist, approach to social phenomena" (Bryman, 1984, p. 77). Main assumption of positivism is that "science quantitatively measures independent facts about a single apprehensible reality" and "the data and its analysis are value-free" (Healy & Perry, 2000, as cited in Krauss, 2005, p. 760). In other words, positivist ontology is based on a single reality and positivist epistemology argues that "the goal of knowledge is simply to describe the phenomena that we experience" (Krauss, 2005, p. 760). The idea of a "value-free knowledge," which is science in this viewpoint, is essential to

positivism. Quantitative research methods are logical conclusion of positivist understanding of ontology and epistemology.

Qualitative research methods, on the other hand, are mostly based on epistemologies and ontologies which are in direct contrast with positivism. Qualitative researchers do not assume that "there is a single unitary reality apart from our perceptions" and there are "multiple realities" in the sense that reality may change in accordance with the experiences of the experiencing subject (Krauss, 2005, p. 760). This puts the concept of "context" forward for the qualitative researchers. Qualitative researchers believe that "the best way to understand any phenomenon is to view it in its context" and they find "all quantification as limited in nature, looking only at one small portion of a reality that cannot be split or unitized without losing the importance of the whole phenomenon" (p. 759). In other words, qualitative research methods are generally based on a "relativistic, constructivist ontology that posits that there is no objective reality" and this is accompanied by the idea that "People impose order on the world perceived in an effort to construct meaning; meaning lies in cognition not in elements external to us…" (p. 760). Therefore, qualitative research methods are concerned with how meaning is produced within a certain context and what these meanings constructed by different subjects refer to. An alternative to the contrasting research paradigms of qualitative and quantitative research methods has been proposed by Roy Bhaskar, which is called critical realism (Bhaskar, 2008; Krauss, 2005). As mentioned by Healy and Perry, "While positivism concerns a single, concrete reality and interpretivism multiple realities, realism concerns multiple perceptions about a single, mind-independent reality" (Healy & Perry, 2000, as cited in Krauss, 2005, p. 761). According to this critical realist understanding of nature and science, while there is a single reality, there are also multiple viewpoints towards that reality; therefore, reality is not entirely knowable through a value-free procedure of scientific research or it is not the case that all knowledge we can produce is or have to be value-laden as it is claimed by constructivist/interpretivist researchers: "…realism is instead value cognizant;

conscious of the values of human systems and of researchers" (Krauss, 2005, p. 761). Main point of critical realism is that it allows both qualitative and quantitative research methods since it accepts both the idea of a single reality and the idea of multiple perspectives.

In this study, a qualitative research technique, semi-structured in-depth interview, is chosen to be able to collect in-depth data with a small group of persons with disabilities who are active users of information and communications technologies so that disadvantages and advantages of being an active user of ICTs for a person with disabilities and the experiences a person with disability has had in the process of becoming an active user can be identified in a detailed manner. However, this does not necessarily mean that an epistemology which is based on a relativist and subjectivist understanding of the social world is assumed to be true in this research. The discussion of critical realism is meaningful in the sense that it is an epistemological framework which allows for an objectivist understanding of the social world without enforcing quantitative research techniques as the sole source of knowledge.

3.2 Methodology of the Study

In this study, qualitative research methods are employed in order to have an in-depth understanding on the relationship between disability and digital inequality with the aim of determining certain patterns and trends in a social policy context in order to come up with policy recommendations to reduce inequality for the disabled people in the information age. First, main differences of qualitative research from quantitative research will be clarified in terms of methodology in addition to the mentioned philosophical differences in the section above. Second, the reasons of choosing a qualitative research method for the study of disability and digital inequality in the context of Turkey will be stated.

Qualitative research methods and their differences from quantitative research methods are marked by "the qualitative data analysts' orientation to in-depth, comprehensive understanding in which the analyst is an active participant as compared to the quantitative data analysts' role as a dispassionate investigator of specific relations among discrete variables" (Schutt, 2012, p. 324). In addition to this, Schutt mentions the following features of qualitative methodology: (1) "A focus on meanings rather than on quantifiable phenomena," (2) "Collection of many data on a few cases rather than few data on many cases," (3) "Study in depth and detail, without predetermined categories or directions, rather than emphasis on analyses and categories determined in advance," (4) "Conception of the researcher as an 'instrument,' rather than as the designer of objective instruments to measure particular variables," (5) "Sensitivity to context rather than seeking universal generalizations," (6) "Attention to the impact of the researcher's and others' values on the course of the analysis rather than presuming the possibility of value-free inquiry," and (7) "A goal of rich descriptions of the world rather than measurement of specific variables" (pp. 324-325).

In this study, qualitative research method is employed in order to analyze disability in terms of the digital inequality for the following reasons based on the aforementioned features of qualitative methodology:

- The data used by the Turkish Statistical Institute in the study ICT Usage in the Households and by Individuals is problematic in terms of classification of the disability as a category of unemployment and in terms of inconsistency of the data between years (TurkStat, 2004-2012). These two problematic points in the study of the Turkish Statistical Institute show that there is a need for a theoretical and a qualitative study so that disability can be categorized properly and the experiences of the persons with disabilities with information and communications technologies can be analyzed via their own perceptions in an in-depth manner.

- Disability in the context of digital inequality is an under-studied topic in the Turkish academic literature. A qualitative methodology can be helpful to determine patterns and trends in terms of the relationship between disability and digital inequality so that further qualitative and quantitative research can be designed based on the findings of this study.

- A qualitative method will be beneficial to understand whether the academic literature worldwide is applicable in the Turkish context for the disabled people in relation with digital inequality. Since qualitative methodology allows the researcher to come up with new theoretical viewpoints based on data, a study based on qualitative methodology can help to come up with new theories applicable to the issue of disability and digital inequality in the context of Turkey.

It is believed that the analysis of the collected qualitative data in this study will be beneficial both in terms of its findings on the experiences of the disabled people regarding the ICTs and digital inequality and in terms of providing a basis for future research and research designs.

3.3 Data Collection and Data Analysis

Qualitative data used in this research have been collected through semi-structured in-depth interviews. Interviews were conducted in ways in accordance with the conditions of the related persons with disabilities. Some interviews were face-to-face interviews while some interviews were conducted via phone in cases in which it is hard for the respondent to arrange a face-to-face meeting. In addition to this, online methods to conduct interview were employed in cases in which face-to-face interview and interview via phone are not viable options. Respondents are all persons with disabilities and they are all users of ICTs which is important for this study because their familiarity with ICTs make them an important source of experience and information on the trends and patterns existing in the context of

disability and digital inequality. Some of the respondents are key informants in terms of disability and digital inequality since they are in leading positions in certain non-governmental organizations and online forums in the community of the disabled people.

Purposive sampling method is used to find suitable respondents for the study. Since respondents of the study are chosen to be disabled people who are active users of ICTs, purposive sampling method suits this need. Respondents are reached through online forums for disabled people and non-governmental organizations.

There are 13 respondents in the study. Among these respondents, 9 of them are users of online forums; remaining 4 respondents are reached through non-governmental organizations and through referral as experienced ICT users by other interviewees. Among the respondents, 9 of them are male and 4 of them are female. There are 3 respondents with physical disabilities, 3 respondents with visual disabilities, 1 respondent with both visual and hearing disabilities, 5 respondents with hearing disabilities and 1 respondent with focal segmental glomerulosclerosis (FSGS) disease which refers to "scarring in the kidney" (National Kidney Foundation, 2013, para. 1). Persons in this study describe themselves as "disabled." Therefore, being disabled is a self-reported trait in the study. 8 out of 13 respondents are graduates a 4-year undergraduate program in a university and 1 out of 8 university graduates is also graduate of a master's degree. Remaining 5 out 13 respondents are high school graduates. Respondents reside in various part of Turkey: 4 respondents reside in İstanbul, 4 respondents reside in Ankara, and 5 remaining respondents reside in the cities of İzmir, Bursa, Eskişehir, Kayseri, and Sivas. Among the respondents, 10 out of 13 respondents are employed and 1 respondent out of 10 employed respondents is also retired as well as being currently employed, 1 respondent is a student, 1 respondent is retired, and 1 respondent is unemployed.

Table 3. Respondents of the Study by Disability Status, Age, Gender, Education, and Occupation

Respondent	**Disability Status**	**Age**	**Gender**	**Education**	**Occupation**
Mehmet	Physical Disability – Paraplegia	40	Male	High school	Disable pensioner, e-business owner
Halil	Physical Disability	32	Male	High school	Manager at family firm
Ahmet	Physical Disability – Muscle Weakness	50	Male	High school	Pensioner
Anıl	FSGS Patient	26	Male	Bachelor's degree	Engineer
Selin	Visual Disability	35	Female	Bachelor's degree	Civil servant
Emrah	Visual Disability	24	Male	Bachelor's degree	Civil servant
Merve	Visual Disability	25	Female	High school graduate / Bachelor's degree (student)	Student
Zeynep	Hearing and Visual Disability	28	Female	Bachelor's degree	Research assistant
Ali	Hearing Disability	27	Male	Bachelor's degree	Unemployed
Özlem	Hearing Disability	27	Female	Bachelor's degree	Graphic designer

Table 3. (continued) Respondents of the Study by Disability Status, Age, Gender, Education, and Occupation

Murat	Hearing Disability	41	Male	Bachelor's degree	Engineer
Hüseyin	Hearing Disability	24	Male	High school	Web designer
Osman	Hearing Disability	45	Male	Master's degree	Engineer

Both face-to-face and phone interviews were recorded with an audio recorder, online interviews were already in a text form. Face-to-face and phone interviews were transcribed. After the transcription phase was finished, concepts in the collected data were identified; the data were coded and categorized in order to determine various trends and patterns in relation to disability and digital inequality. Also, pseudonyms are used when the respondents are quoted due to reasons of anonymity and confidentiality. Finally, relationships between concepts in the data were identified and the identified relationships, trends, and patterns were presented in the related section.

In addition to these, interview questions must be discussed so that their relevance in terms of the research questions and the operational definition is clear. With this aim, research questions and the operational definition of the study must be re-stated.

First, in this study digital inequality refers to inequalities in equipment, autonomy, skill, support, and scope of use in relation with the information and communications technologies. Inequality in equipment refers to access to a computer and the Internet. It refers to barriers to access to certain equipment to benefit from ICTs. Inequality in autonomy is a question of control of the users over their Web use in terms of the place and time (DiMaggio & Hargittai, 2001, p. 9). Inequality in skill refers to the ICT user's degree of competence which is

"related directly to individuals' capacity to use the Internet for the purposes they choose" (p. 10). Inequality in support refers to inequalities experienced in terms of the availability of social support in relation to the use of the ICTs (p. 11). Sources of social support can be "formal technical assistance from persons employed to provide it," "technical assistance from friends and family members to whom the user can turn when he or she encounters problems," and "emotional reinforcement from friends and family" (p. 11). Lastly, scope of use refers to variation in use of ICTs and the determinants of this variation (p. 11). Different kinds of use of ICTs include "uses that increase economic productivity or political or social capital" and uses "that represent consumption of entertainment" (p. 11).

Second, research questions of the study are as follows:

Research Question 1

What are the main barriers that persons with disabilities with access to ICTs experience in terms of equipment, autonomy, skill, support, and scope of use?

Research Question 2

What are the advantages brought by the information and communications technologies to the persons with disabilities with access to ICTs?

Research Question 3

What are the possible solutions and social policy recommendations for the digital inequality for the persons with disabilities with access to ICTs in Turkey?

As mentioned, interviews conducted for this study are semi-structured in-depth interviews. This means that while there are certain interview questions which were prepared on the basis of theoretical background and literature review, there are also questions and probing which are shaped by the interaction between the interview and the interviewee in each specific interview. It is important to state

some of the questions which correspond to the operational definition and the research questions.

In addition to questions on age, education level, employment status, occupation, and disability status, certain questions on the respondents' experiences on ICTs and their opinions on policies to overcome problems of the disabled people are asked.

On inequality in equipment, questions on whether they have access to a computer and an Internet connection or not, on what the problems they face on access to ICTs, and whether they use any assistive technology in order to use computers and the Internet or not and what these assistive technologies are if they use any are asked to the respondents.

On inequality in autonomy, questions on to what extent they are able to use ICTs by themselves and the location of ICT use are asked.

In order to evaluate inequality in skill, questions on what their ICT-related skills are and whether they have any chance to use their ICT-related skills in the workplace or school or not are asked.

On inequality in support, questions on whether any kind of institutional social support is provided by public institutions, non-governmental organizations, and the private sector or not and what the sources of support are provided by these institutions, and how they evaluate the support provided by these organizations are asked.

On scope of use, the question on with what purposes they use computers and the Internet is asked.

In the context of social policy, the questions on what they think on which institutions should be involved in solving the problems of persons with disabilities in terms ICT use and in what ways these institutions can solve the problems of persons with disabilities in terms of ICTs are asked.

The data analysis and the presented results are based on these semi-structured in-depth interviews which include the aforementioned interview questions and further questions which are shaped by the interaction between the interviewer and the respondent. These questions are also mentioned in the results section when the relevant answers are analyzed.

3.4 Strengths and Limitations of the Study

Since the study is based on qualitative data, its aim is limited to identifying trends and patterns rather than generalization. Findings of the study cannot be generalized to a wider population and the study is mainly exploratory: it is aimed at identifying experiences of ICT access and use of disabled people who are users of ICTs; so that problems of the disabled people in the context of information age and possible solutions can be discussed and determined. In addition to this, as a strength of the study for future researchers, future research on the issue can be designed in a better way on the issue because of the conceptual clarification on disability and ICTs and the first-hand experiences of the disabled people with ICTs presented in the study.

Respondents of the study have two points in common: First, they identify themselves as disabled; second, they are all users of ICTs. Other than these two points, respondents have diverse backgrounds including their disability status, age, location of residence, etc. This is both a strength and a limitation for the study. It is a strength since respondents with various backgrounds provide rich and diverse qualitative data so that diverse tendencies in terms of disability and ICTs can be identified. On the other hand, it is a limitation since the collected data is not focused on a certain group so that generalization to a wider population is out of question.

Due to the demand and needs of the respondents and lack of researcher's knowledge of sign language, not all interviews could be conducted with face-to-face interview technique. Since the researcher does not know Turkish sign

language, interviews with people with hearing disabilities were conducted online. Besides the online interview requirement for persons with disabilities, certain respondents with visual and physical disabilities demanded either over the phone or online interview techniques to be used. With these persons with visual and physical disabilities, over the phone interview technique was preferred. These points also show that ICTs do help persons with disabilities in terms of their communication needs, since without the use of over the phone and online interview techniques; some respondents could not be able to become a part of the research.

In addition to these, the fact that the researcher is not a disabled person himself creates another limitation for the study since the researcher did not and cannot experience the challenges and problems faced by persons with disabilities in terms of ICTs. The researcher has not used any assistive technologies to be able to access to ICTs and has not experienced any of the problems faced by persons with disabilities both in terms of ICTs and in general. Since the problems of persons with disabilities are not only limited to ICT use, a disabled researcher would be able to identify the sources of problem which transcends ICT use and physical disabilities. On the other hand, the fact that the researcher of the study is not a disabled person might produce some positive results too. Due to this lack of first-hand experience, the researcher has been forced to do a thorough literature review and conceptual research so that disability can be better conceptualized and understood.

. To sum up, limitations of the study include inability to generalize the results of the study to a wider population, respondents with diverse backgrounds which also contribute to this inability to generalize, the necessity to conduct some interviews over the phone or online, and the fact that the research is not a disabled persons himself. On the other hand, these limitations provide some strengths for the study such as the identification of trends and patterns surrounding the issue of disability and information and communications technologies, collecting a rich set

of data due to diverse backgrounds of respondents, collecting experiences of persons with disabilities without methodological necessity to generalize, showing the effects of ICTs through the process of data collection, and in-depth research on the existing literature and conceptual background of disability and ICTs due to the lack of first-hand experience by the researcher since he is not a disabled person himself.

CHAPTER 4

4. DATA ANALYSIS AND FINDINGS

In this section, collected data will be discussed, analyzed, and found patterns and trends in terms of disabled people and ICTs will be presented. First, en evaluation of digital inequality and disability based on the gathered data on the respondent of the study will be presented in terms of the concepts defined in the operational definition: inequality in equipment, scope of use, autonomy, skills, and support. Barriers to and benefits of ICTs for the persons with disabilities will discussed and determined as far as the respondents of the study are concerned. Second, opinions of the persons with disabilities on policy which should be pursued by various actors including government and public institutions, non-governmental organizations and private sector will be discussed and findings will be presented.

4.1 Evaluation of Digital Inequality and Disability in Turkey

4.1.1 Inequality in Equipment

Inequality in equipment is a type of inequality which is mainly about access to certain technology by the persons with disabilities. In this section, whether the problem of access to ICTs – mainly to computers and the Internet – by the disabled people persists and what the reasons behind the problem of access might be will be discussed based on the interviews conducted with the disabled people who are already users of these technologies.

Mehmet is 40 years old and he has a physical disability which is known as paraplegia. In order to access to Internet, he uses a notebook and he uses his notebook both at his home and at his workplace. He chooses not to use smart phones since he is accustomed to his notebook and he says that this choice has nothing to do with his disability status. According to Mehmet, disability status by itself is not a barrier to access to ICTs. However, he mentions that type of

disability is important. According to Mehmet, “access to software such as screen reader might be a problem for people with visual disabilities.” He also mentions that there are solutions for persons with severe visual disabilities, hearing disabilities and for people who cannot use their hands; however, they are too expensive and impractical.

> There are persons who cannot use their hands at all. There are persons who use the computer only by the movements of their heads. There are various software solutions for these. Some people use their breath, some use the camera of the computer to control it… There are solutions like these but they are too expensive… In addition to this, some people want to use the Internet; however, they might think that if it will take a day to write just one page it is not worth it. (Mehmet, 40 years old, physically disabled)

Therefore, the problem of access is directly related with income and the design of the related software or the assistive technology. For Mehmet, the system in which we live creates poverty for the disabled people. He finds that prices of access to computer and the Internet are too high for the disabled people who are already a low-income social group due to reasons of unemployment. Ahmet, who is 50 years old and who has a physical disability known as muscle weakness, says that:

> We, persons with disabilities, already have trouble with being a burden to our families. Persons with disabilities cannot ask for everything to their families. They cannot say "buy me a computer." I experienced that before having a job and being in a suitable economic condition. (Ahmet, 50 years old, physically disabled)

These remarks show that poverty and the feeling of being a burden to other members of the family might be a factor in terms of digital inequality and the disabled people.

Emrah, who is 24 years old and visually impaired, mentions that assistive technologies for the visually impaired are expensive and sometimes they are even more expensive than a computer and access to the Internet. Emrah says that it is impossible for a visually impaired person in Turkey to use these software solutions with license. Therefore, users are compelled to use demo software which are limited both in features and time, free software which are often inadequate, and software without license which might have legal consequences for the user. Emrah states an important problem especially for the visually impaired employed in the public or private sector. Since institutions cannot use unlicensed software and the software solutions are too expensive not only for the individuals but also and even for public institutions and private companies, persons with disabilities in public and private sectors face challenges to access to assistive technologies such as screen readers.

> You cannot use unlicensed software in a public institution. You have to be provided with licensed software; however, it is too expensive. The person with disability wants to work, he has the relevant skills to work, but cannot work with computers due to software barrier. (Emrah, 24 years old, visually impaired)

Expensive assistive technologies, therefore, are especially problematic in the context of employment of the persons with disabilities. Even if the person with disability overcomes the software barrier as an individual via use of demo, free, or unlicensed software, s/he cannot do this as an employee. Same point is also relevant for educational institutions, e.g. universities. According to Merve, a 25-year-old person with visual disability, licensed software and accessible computers for the disabled people are still problematic even in the universities which are known to be resourceful.

According to Halil, who is 32 years old, physically disabled and a manager at his family's business, low income and unemployment are main barriers for person with disabilities in terms of access to ICTs.

> There are jobs for the disabled people; however, these jobs are mostly cleaning jobs and jobs like that. Naturally, disabled people cannot work. Unemployment is the main source of economic problems of the persons with disabilities. Therefore, if there is a problem of income and a problematic family in economic terms, they can barely fulfill their basic needs. (Halil, 32 years old, physically disabled)

According to Murat, who is 41 years old and has a hearing disability, disabled people are disadvantageous in their careers regardless of their work experience, title, and expertise and they have lower wages than those without disabilities even though they have same set of skills and experience.

Until this point, problems related to income of the disabled people seem to be dominant in terms the inequality in access to equipment. It is seen that especially for persons with visual disabilities, there is a huge cost barrier to access to assistive technologies like screen readers especially when they are employed in a public institution or a private company. Problem persists even in educational institutions like universities. Other than access to assistive technologies, access to a computer and an internet connection is also problematic for low income persons with disabilities. According to the respondents, most persons with disabilities belong to a low income social group due to widespread unemployment of the disabled people. Therefore, it is no surprise that the disabled people lag behind those without disabilities in the context of information and communications technologies.

There is another barrier mentioned by some of the respondent in terms of access to ICTs by the disabled people: education barrier. This is also related with the inequalities in autonomy and skill. According to Emrah, computer education for the disabled people begins too late in many cases.

> There are people with disabilities who could not reach any computer education until they come to the university. (Emrah, 24 years old, visually impaired)

This is an important barrier because such people may not be able to use ICTs even if required hardware and software is provided in the university or in the workplace when they are employed in the future. Education is also important in terms of interest level of the persons with disabilities towards ICTs.

> I think persons with disabilities must complete their education. They should be graduates of a university no matter what. This is not just to have a job. With university level education, persons with disabilities can have a wider vision on life, they will develop a need to do research and learn. (Zeynep, 28 years old, both visual and hearing disability)

Lack of interest towards ICTs by the disabled people is also noted by Anıl who is a 26-years-old focal segmental glomerulosclerosis patient – a condition which affects kidneys. According to Anıl, access problems might be related to the lack of interest by the disabled people towards ICTs as well as economic problems. Merve, a 25 years old person with visual disability, believes that there are differences between urban and rural areas in terms of interest towards ICTs. On the basis of these remarks, it is possible to think that cost and education barriers may have effect on the interest level of persons with disabilities

In conclusion to this part, there are three main barriers which are mentioned by the persons with disabilities on inequality in equipment which refers to access to ICTs: (1) cost barrier, (2) education barrier, and (3) lack of interest. Low level of education, with the addition of cost barrier, may be an important factor in terms of the interest level towards ICTs by the disabled people. Those with visual disabilities have a cost and education barrier in terms of assistive technologies such as screen reader software as well as basic ICT equipment. These results are correlated with both international and Turkish academic literature in which income

and education are found to be two main determinants of digital inequalities. In the context of Turkey, cost barrier is addressed only in terms of DSL services while main cost barrier faced by persons with disabilities is the cost barrier of devices, assistive technologies, and software. Even though a 25% discount for persons with disabilities for DSL service is meaningful and important, it might be expanded to include certain devices, assistive technologies, and software especially for workplaces and educational institutions.

4.1.2 Scope of Use

Scope of use of the Internet is both important by itself as a factor of inequality in the digital sphere and as an indicator that shows the competence of the users. Therefore, it is directly related with inequality in autonomy and inequality in skills which will be discussed in the further sections of the study. Data on scope of use give ideas about the daily online activities of the respondents.

Another concept which is important in terms of the scope of use is "usage gap" as mentioned in Castaño-Muñoz's article (2010). Usage gap is the gap between those who use the Internet only for leisure and entertainment purposes and those who use it for work and education. Leisure-centered users are considered to be disadvantaged since they do not use the Internet for purposes that create value for their education and careers. Table 4 shows the respondents and their respected scope of use of the computers and the Internet mentioned in their interviews. It should be stressed that respondents of this study are already active users of computers and Internet; however, how they use the Internet was not a factor in the sampling process.

Among the respondents, 10 respondents out of 13 have a job currently. Among those 10 respondents who work, 4 respondents mention "work," 2 respondents mention "banking operations," 1 respondent mentions "research," 1 respondent mentions both "research" and "banking operations," and 1 respondent

mentions both “work” and “research.” Only 1 of the working respondents, Osman, did not mention work specifically; he mentioned “e-mail” without giving any further details. Most of the respondents are employed and 9 out of 10 working respondents mentioned at least one of the keywords of “work,” “research” and “banking operations” as one of the purposes of their Internet use.

Table 4. Scope of Use of the ICTs by the Respondents

Respondent	**Disability Status**	**Age**	**Gender**	**Occupation**	**Scope of Use**
Mehmet	Physical Disability – Paraplegia	40	Male	Disable pensioner, e-business owner	Socialization, work, access to information, watching movies and TV shows
Halil	Physical Disability	32	Male	Manager at family firm	Work, following news on the market, control of the automated software of the business, following the live stream of cameras set up in the business facilities, social media
Ahmet	Physical Disability – Muscle Weakness	50	Male	Pensioner	Socialization, following news, watching documentaries, music
Anıl	FSGS Patient	26	Male	Engineer	Socialization through online forums, access to information, movies, music
Selin	Visual Disability	35	Female	Civil servant	Surfing, e-mail, banking operations, playing betting games

Table 4. (continued) Scope of Use of the ICTs by the Respondents

Emrah	Visual Disability	24	Male	Civil servant	To become organized through social media, movies, music, video games
Merve	Visual Disability	25	Female	Student	Access to information, e-mail, surfing
Zeynep	Hearing and Visual Disability	28	Female	Research assistant	Research, following news, e-mail, watching TV shows, entertainment
Ali	Hearing Disability	27	Male	Unemployed	Social media, news
Özlem	Hearing Disability	27	Female	Graphic designer	Work, news, research
Murat	Hearing Disability	41	Male	Engineer	E-mail, research, banking operations, movies, research on hobby
Hüseyin	Hearing Disability	24	Male	Web designer	Work
Osman	Hearing Disability	45	Male	Engineer	Social media, daily newspapers, access to information through search engines, e-mail, video games

In Table 4, we see that 4 out of 13 respondents mention “access to information,” 5 respondents mention “news,” 1 respondent mentions both “access to information” and “news,” 2 respondent mentions “research” and “news,” and 1 respondent mentions “research.” Although these do not necessarily mean educational use of the Internet, it is clear that these respondents who mention the aforementioned keywords use the Internet to access to information rather than

exclusively entertainment-related purposes. Research as a scope of use of the internet might refer to both work and education depending on the needs of the respondent. Main point of these mentioned purposes of the Internet is that the respondents of the study use the Internet not only to entertain themselves, but to benefit from it for their careers and to increase their knowledge on their areas of interest.

This does not mean that respondents do not use computers and the Internet for entertainment. Among 13 respondents, 4 respondents mention "social media," 4 respondents mention "movies," 3 respondents mention "games," 3 respondents mention "music," 2 respondents mention "surfing," 1 respondent mentions "documentaries" (some respondents mention more than one of these entertainment-related purposes of use as it can be seen in the Table 4). These show that respondents of the study use computers and the Internet for entertainment as well as work, education, and information-related purposes.

Disabled people who use online channels such as online forums do not only seek information but also disseminate information. Thus, they create a community of the disabled people, as stressed in the social and biopsychosocio-political models of disability, at least in terms of the consumption and dissemination of information about the problems of and opportunities for the disabled people.

> A new legislation is published in the official journal at 12:00, it is copied to our forum at 12:01. A ministry makes an announcement, just after a second, it is copied to the forum by a lot of users. Think about a news website, they have mostly at most 3 editors. This is not the case with us. In our online forum, all members of the forum and all visitors are kind of a reporter. (Mehmet, 40 years old, physically disabled)

This remark shows that the disabled people who use online channels actively both seek and disseminate information on changing conditions and opportunities for the disabled people. In other words, ICT usage of disabled people

who use online forums go beyond the limits of using ICTs only for entertainment and recreation.

As far as the respondents of the study are concerned, no evidence of a usage gap in terms of the ICT use of the disabled people has been found.

In terms of the scope of use and the purposes of usage of ICTs, socialization comes forward as one of the central purposes of use of computers and the Internet for persons with disabilities. Mehmet, 40, mentions the importance of online forums for disabled people:

> Online forums have an important role for the socialization of the disabled people. This socialization include anything from a conversation for the first time with a member of the opposite sex to first time sexual experiences and even marriage...Even the number of messages one have in an online forum is important in terms of reputation, it is kind of a rank. (Mehmet, 40 years old, physically disabled)

Anıl, 26, also mentions that he met a lot of people through online forums and these forums are centrally important for the socialization of the disabled people. Ahmet, 50, explains this importance of the Internet as a tool of socialization by saying that "since we cannot go out whenever we want, we spend most of our time at home" (Ahmet, 50 years old, physically disabled). This points to another problem which persons with disabilities face in everyday life, which is not to be able to go outside due to poor conditions of municipal facilities including roads, pavements, sidewalks, bus and railway stations, etc. This inability to go outside freely makes online world indispensable for the disabled people and their need for socialization.

> A disabled person is a lonely person even when he is in the crowd. Internet and computer is the best opportunity to eliminate this loneliness of the disabled person. (Murat, 41 years old, hearing disability)

The disabled people who have the resources to go online use the Internet to meet and talk to new people and some of them use these online channels to build long-lasting friendships and even organizations including online forums and non-governmental organizations.

> We had a group of 3.5 years and it was formed on the Internet. We started to get together by using social media and an e-mail group. Then we continued with activities in the field, face-to-face activities and later formed an association. I think we are one of the few groups who got organized through computers in Turkey. (Emre, 24, visually impaired)

Therefore, Internet does not only mean socialization for the disabled people, but also means being organized so that they can know each other better and they can learn experiences of other persons with disabilities and teach themselves as a community to learn their rights in a systematic way.

Internet is important for socialization and forming associations and organizations not only for physically disabled and visually impaired. While those with hearing disabilities have less difficulty going out in the sense that they are not disabled in terms of the mentioned municipal facilities, there is still the challenge of speaking which makes socializing over the Internet makes a lot easier for them.

> Hearing loss creates shyness and inhibition in social life. We can write to someone that we cannot talk to or we have a problem of communication with. Writing is more comfortable for an individual with hearing disability. (Zeynep, 28 years old, both visual and hearing disability)

To sum up, the disabled people who are active users of computers and the Internet use these technologies and online channels for various reasons including work, access to information, socialization, forming associations and organizations, and entertainment including watching movies, TV shows, and listening to music. As far as the respondents of this study are concerned, there is no evidence of a usage gap which refers to a gap between those who use ICTs for entertainment and

those who use these technologies for work and education. Socialization and access to information through Internet is indispensable for the respondents of the study, since they have difficulties meeting and talking to new people in face-to-face events and organizations.

4.1.3 Inequality in Autonomy

Inequality in autonomy refers to a person's ability to use information and communications technologies whenever and wherever they want. In the case of persons with disabilities, achieving autonomy to use ICTs may require some sort of technological assistance which are called assistive technologies such as screen readers for the visually impaired or hearing aids for persons with hearing disability.

All respondents state that they can use computers and the Internet without direct support of other people. This does not mean that they are not supported by the people around themselves or they do not benefit from assistive technologies. This means that they can use a computer and an internet connection, also smart phones and tablet computers in cases in which the respondent uses those devices, when they want or need without being dependent on assistance of some people. Especially persons with visual and hearing disabilities make great use of assistive technologies. Persons with visual disabilities use screen readers and in some cases magnifiers to be able to use information and communications technologies. Persons with hearing disabilities use devices like hearing aids so that they can communicate in a more comfortable way in both digital and face-to-face interactions and that they can use online audio material.

Another important point in terms of autonomy of ICT use is the location of access and use. Table 5 shows the location of access and use of the respondents.

Table 5. Location of Access and Use of ICTs by the Respondents

Respondent	**Disability Status**	**Age**	**Gender**	**Occupation**	**Location of Access and Use**
Mehmet	Physical Disability – Paraplegia	40	Male	Disable pensioner, e-business owner	Home, work
Halil	Physical Disability	32	Male	Manager at family firm	Home, work
Ahmet	Physical Disability – Muscle Weakness	50	Male	Pensioner	Home
Anıl	FSGS Patient	26	Male	Engineer	Home, work
Selin	Visual Disability	35	Female	Civil servant	Home, work
Emrah	Visual Disability	24	Male	Civil servant	Wherever there is a device and a wireless connection
Merve	Visual Disability	25	Female	Student	Home, cannot use the Internet at university
Zeynep	Hearing and Visual Disability	28	Female	Research assistant	Home, work
Ali	Hearing Disability	27	Male	Unemployed	Home
Özlem	Hearing Disability	27	Female	Graphic designer	Work
Murat	Hearing Disability	41	Male	Engineer	Home, work
Hüseyin	Hearing Disability	24	Male	Web designer	Home, work
Osman	Hearing Disability	45	Male	Engineer	Home, work

Among 13 respondents, 8 respondents use ICTs both at home and at work, 1 respondent mentions that he can use ICTs wherever there is a device like a notebook computer and a wireless connection, 3 respondents mention that they can use ICTs only at home, and 1 respondent states that she can use ICTs only at work. Among the respondents who mention that they can use ICTs only at home, Merve specifically states that she cannot access to Internet at her university. Reason for this is the lack of enough and accessible screen readers installed in computers at the university campus.

These results show that disability *per se* does not inhibit the autonomy of ICT users as far as the respondents of this study are concerned. It should be restated that the respondents of the study are already active and experienced users of ICTs. However, it is still important to note that persons with disabilities are able to access and use ICTs in various locations when they have certain tools such as assistive technologies at hand. Emrah mentions that:

> I think that the problems faced by the disabled people are not caused by their physical disabilities; they are caused by the viewpoint of the society towards the disabled people. This is not only about the Internet or computers; this is the case everywhere in society. In social life or when we go somewhere, this is the case. When you walk on the street, you are not challenged by any physical disability, you are challenged by the obstacles on the sidewalk, you would be walking if there were no obstacle. Disabled people are disabled by such obstacles, not by their physical disabilities. When it comes to computers and the Internet, it is the viewpoint of the people that disable the disabled people. (Emrah, 24 years old, visually impaired)

Such a perspective on what causes the disability of the disabled people brings discussion of models of disability forward. This perspective seems to be in line with the social model of disability in which disability is seen as a social consequence of a disabling society rather than an individual physical condition

which requires medical intervention. Emrah's viewpoint calls for social intervention to the perspective of people towards the disabled people as well as to the disabling conditions in terms of municipal and other services. This point is important in terms of a policy-oriented perspective on disability and digital inequality.

Mehmet also mentions that "disability is not especially related to problems faced by the disabled people in terms of ICTs." He mentions the need for assistive technologies for the visually impaired and specially designed computer devices such as mouse for people who have difficulty in using their hands. He states that sometimes such specially designed devices may not even be necessary and the disabled people find solutions to their problems by themselves:

> Some people who cannot use their hands tie their hand to the mouse or some use a stick like a pencil to hit the keys of the keyboard. (Mehmet, 40 years old, physically disabled)

Such creative solutions to problems faced by the disabled people while using ICTs show that disabilities can be overcome and digital inequality should not be assumed to be a result of physical disabilities of any kind. Digital inequality is a social condition which requires relevant social policy and social assistance so that all persons with disabilities can become active users of ICTs if they choose to become one.

4.1.4 Inequality in Skill

Access and use of ICTs is not only about having the necessary resources, it is also about having the necessary education and basic skills. This is also one of the reasons why the concept of "digital inequality" is preferred in this study rather than the concept of "digital divide" which is focused mainly on access. For example, having an internet connection at home does not mean that all members of

that household go online. Having basic ICT skills is also directly related to the inequalities in autonomy and scope of use. Those who do not have basic computer and Internet skills are expected to be less autonomous since they will be dependent on others who have the basic computer and Internet skills. Moreover, those with less ICT skills are expected to use ICTs in a less satisfactory way than those with basic ICT skills, since their use will be limited to only very basic and simple online activities and their scope of use will be narrow.

Computer education and available opportunities to use computers and ICTs in general are indispensable for developing necessary ICT skills. In the context of disability, these are accompanied by availability and education of assistive technologies at least for certain types of disabilities, especially for visual disabilities, hearing disabilities and physical disabilities which affect hands. As it was the case for inequality in equipment, both cost and education are central in terms of inequality in skill. In certain cases, these are accompanied by a discriminative perspective towards persons with disabilities and their ICT skills by the non-disabled people in society especially in the workplaces.

In section on the scope of use, it has been seen that the disabled people interviewed in this study are able to use ICTs for various purposes which requires various skills such as e-mailing, registering and writing to online forums and mail groups, watching movies, TV shows and listening to music online, carrying out online banking operations, etc. This is relevant as far as the respondent of this study are concerned since they are already active and experienced users of ICTs. Not all persons with disabilities enjoy such resources both in terms of costs, education, and social support.

As mentioned by Merve, a 25 year-old visually impaired respondent, who says she can use computers and the Internet only at home, there are still lack of computer labs accessible by all types of persons with disabilities in universities. This is directly related to the high costs of founding and maintaining such computer labs which will require licensed software such as screen readers.

According Murat, even access to an Internet connection costs too much in Turkey in comparison to other countries. Also, mobile websites of institutions are either non-existent or in bad condition. Moreover, Emrah mentions that there are persons with disabilities with no computer education prior to university.

These points show that cost and education barriers are main barriers for the persons with disabilities in terms of inequality in skills. Having basic skills for ICTs requires a familiarity with ICTs, which means that one has to be in an environment with a continuous access to computers and Internet. As in the case of Merve, who cannot have access to ICTs at school, there are persons with disabilities for whom this continuity of access is broken when they change location due to lack of required resources such as an accessible computer lab designed for the needs of the disabled people.

Another important factor in terms of inequality in skill is discrimination. Discrimination, in this context, refers to a negative attitude towards the disabled people in terms of their ICT skills on the sole basis of their disability rather than an objective evaluation of their ICT skills.

> Those who cannot see are thrown into the call center. Most of my friends answer calls even if this is not their job. Even though they are income experts, they work at the call center. Whether you are able to use computers or not, when you cannot see you are seen as an obstacle. (Selin, 35 years old, visually impaired)

As we have seen earlier in the section on the scope of use, Selin uses computers and the Internet for various tasks including managing her banking operations and playing betting games online. Selin, who is a civil servant, states that she cannot use any of her skills including her ICT skills at workplace.

> My skills including my Internet skills have not been used in any way in the public institution that I work. It has become like a personal hobby of mine. I speak advanced level English, I can do translations, I have a good level of

> French but I did not even use those in my job. I thought I could use them, but since I cannot see, I have not been considered to use these skills. (Selin, 35 years old, visually impaired)

Because of this discriminative attitude towards the disabled people, even having certain skills such as computer-related skills and even an advanced level of foreign language can become irrelevant when a certain disability is present. According to Selin, the reason behind this is "insensitivity, exclusion, and disdain" towards the disabled people by the society. Emrah mentions the same problem as Selin and adds that this problem is related to the lack of trust of employers and higher ranking officers at the workplace towards persons with disabilities.

> People do not know what persons with visual disabilities can or cannot do with a computer. People accept that persons with visual disabilities can use a computer, but they do not know what this usage consists of. Therefore, they cannot trust. (Emrah, 24 years old, visually impaired)

This lack of trust, insensitivity, exclusion, and disdain towards the ICT skills of persons with disabilities seem to be based on one common characteristic of these people which is the disability itself. It seems like persons with disabilities are not even given a chance to show their skills whether they are related to ICTs or something else such as a foreign language. Therefore, this negative attitude towards disabled people can be conceptualized as discrimination. Discrimination is one of the central problems of the disabled people in terms of inequality in skill and digital inequality in general.

According to Mehmet, discrimination is the main problem of the disabled people in terms of access to both ICT skills and ICT equipment in both direct and indirect ways. For Mehmet, poverty of the disabled people and the related cost barrier is also result of discrimination. Digital inequality, according to Mehmet's perspective, is caused by poverty which is caused by discrimination towards disabled people.

> This is obviously about discrimination. People do not want to see disabled people as neighbors, coworkers, managers, even as students together with other non-disabled children. Discrimination is the sole reason; there is no other reason for this. Association of poverty with disability itself may be only up to 10%. 90% of poverty associated with disabled people is caused by discrimination. If a child cannot find a place at a kindergarten because he does not have one of his arms, if a school principal can say "she does not have to come to school, I will arrange a degree for her", in employment if a janitor's job can be given to an engineer with amputation, then discrimination is the main cause of all these. This is a discriminative system with all its government, education, social relations and everything and definitely this system is mostly accountable for the unjust treatment of the disabled people. (Mehmet, 40 years old, physically disabled)

This point shows that a relevant social policy for better conditions of ICTs for disabled people cannot only rely on the disabled people, their education, their employment, and their sources of income. The problems that persons with disabilities face have direct and indirect links to the perspectives of the non-disabled people. Therefore, social policy on digital inequality experienced by persons with disabilities must involve attempts to change the attitudes of non-disabled people towards disabled people. Disabled people must be in positions suitable for their skills and should not be discriminated against due to their impairments. Non-disabled people and especially those who are in positions of power, such as managers, school principals, high ranking officers, must be trained to understand the conditions, skills, and demands of disabled people at all spheres of everyday life including the workplace, school, streets, and homes.

Discriminatory practices identified in this study towards disabled people in terms of their ICT related skills especially at the workplace are correlated with Tezcan’s findings in his study on disabled people employed in the public sector in which it is argued that persons with disabilities are treated as workers with the

lowest level status regardless of their skills, qualifications, and education (2013, p. 158). This point shows the importance and urgency of policy measures to be taken on the attitude towards disabled people by the public.

To sum up, digital inequality in skill consists of three sets of barriers for disabled people: (1) cost barrier, (2) education barrier, and (3) discrimination barrier. First, cost barrier refers to high costs of access to computers, Internet connection and assistive technologies depending on the disability type. Second, education barrier refers to both lack of computer education and to lack of resources at education facilities such as computer labs. Third, discrimination barrier refers to judgment towards disabled people based on their disability and lack of consideration of the skills of disabled people. This last barrier is especially important because it might be a factor which strengthens other barriers since because of discrimination persons with disabilities are not given a chance to show their skills and they are treated unjustly in every sphere of everyday life from kindergartens to employment. In addition to this, barrier of discrimination is important since it shows that disability *per se* is not a barrier for disabled people in terms of ICTs and while more apparent barriers such as cost barrier are addressed by government institutions even though they are limited to the problem of access, discrimination towards disabled people in terms of ICTs are not mentioned in official policy documents on information society in Turkey.

4.1.5 Inequality in Support

Inequality in support means inequalities experienced in terms of the availability of social support in relation to the use of ICTs (DiMaggio & Hargittai, 2001, p. 11). Social support can include technical assistance, support of family members and friends, and support by government, non-governmental organizations, and private firms. Inequality in support is also directly related with social policy since aim of social policy is to eliminate sources of inequity in society. In the context of ICTs,

aim of social policy is to increase the accessibility of ICTs in the aforementioned dimensions of equipment, autonomy, scope of use, skills, and social support. In this sense, inequality in support is especially important for social policy since social support partly refers to what can be done by the institutions for the disadvantaged populations. Opinions of the persons with disabilities themselves are also important since aim of the study is to identify the sources of digital inequality for the disabled through the first-hand experiences of disabled and active ICTs users. In this section, institutional social support, which means social support by government including local governments, non-governmental organizations, and the private sector, will be given special attention since institutional support is the aim of social policy and this type of social support is mentioned more commonly by the respondents of the study. Other types of social support, technical assistance and support of family and friends, will also be paid attention as well as institutional social support.

In Table 6, we see institutions thought to be responsible for developing solutions for the disabled people in terms of digital inequality according to the respondents.

Table 6. Institutions Responsible for Social Support Against Digital Inequality for the Respondents

Respondent	**Disability Status**	**Age**	**Gender**	**Occupation**	**Mentioned Institutions**
Mehmet	Physical Disability – Paraplegia	40	Male	Disable pensioner, e-business owner	Public institutions, local governments, non-governmental organizations, organizations of the disabled people, private firms
Halil	Physical Disability	32	Male	Manager at family firm	Government, public institutions, non-governmental organizations
Ahmet	Physical Disability – Muscle Weakness	50	Male	Pensioner	Government, local governments
Anıl	FSGS Patient	26	Male	Engineer	Public institutions, non-governmental organizations, private sector
Selin	Visual Disability	35	Female	Civil servant	-
Emrah	Visual Disability	24	Male	Civil servant	Ministries, non-governmental organizations, universities

Table 6. (continued) Institutions Responsible for Social Support Against Digital Inequality for the Respondents

Merve	Visual Disability	25	Female	Student	Social state, non-governmental organizations, organizations of the disabled people
Zeynep	Hearing and Visual Disability	28	Female	Research assistant	Non-governmental organizations for the disabled, student clubs and societies
Ali	Hearing Disability	27	Male	Unemployed	Government, employers
Özlem	Hearing Disability	27	Female	Graphic designer	-
Murat	Hearing Disability	41	Male	Engineer	Government
Hüseyin	Hearing Disability	24	Male	Web designer	An R&D team which consists of experts on disability
Osman	Hearing Disability	45	Male	Engineer	Government, local governments, associations for the disabled people

Among the respondents, 9 out of 13 mentioned government including keywords such as “public institutions,” “social state,” and “ministries.” Among 9 respondent who mentioned government, 3 mentioned local governments as well. Among all respondents, 7 respondents mentioned non-governmental organizations

including keywords like “organizations of the disabled people” and “associations for the disabled people,” 3 respondents mentioned private sector including keywords of “private firms” and “employers,” 1 respondent mentioned universities, 1 respondent mentioned student clubs and societies, and 2 respondents did not mention an institution which should be responsible for taking measures against digital inequality. It should be noted that some respondents mentioned more than one institution, so these numbers do not reflect exclusively mentioned categories. For example, 6 respondents mentioned both government and non-governmental organizations, as it can be seen in the Table 5.

There is a strong preference for government as an institution which should be responsible for coming up with solutions for the problems faced by the disabled people in the information age. Since most problems have been associated with high costs, poverty, unemployment, and discrimination by the respondents, and these associated problems are related with the current form of capitalist society which was conceptualized as informational capitalism in this study; this attitude of the respondents is not a surprise since these are problems which require large resources like those of the state. These preferences show that the respondents of the study are inclined to support government intervention for equal treatment of persons with disabilities.

This inclination for governmental support for social equity and inclusion can be interpreted in terms of the antagonism between logic of competition and logic of cooperation, as they are defined and discussed by Fuchs (2008). According to Fuchs, logic of competition means benefit to certain groups at the expense of others while cooperation means benefit to all social actors through mutual understanding and a jointly constructed social system which lets participants to feel at home (p. 33). It is reasonable that a disadvantaged group will be inclined to the logic cooperation over logic of competition. The disabled people as a community are a disadvantaged group in terms of ICTs in the informational capitalism, and their first address for social inclusion and social equity is

government which is seen as a social actor which, at least ideally, should defend the rights of all citizens without privileges and discrimination for any group. However, as it is seen in Table 6, government is not the only source of solution for the respondents. In fact, it is not the only social actor which acts in terms of logic of cooperation. There are also non-governmental organizations that act for social equity for various disadvantaged groups including persons with disabilities. In addition to the expectation of governmental social support, expectation of non-governmental social support is present in 7 respondents' opinions on social support. This inclination towards support from non-governmental organizations can also be linked to a need to organizations that work with logic of cooperation rather than logic of competition found especially but not exclusively in the private sector.

In addition to this general outlook on who thinks what kind of social support would be more beneficial for the disabled people against digital inequality, a more in-depth approach that will focus on individual remarks on social support is needed. According to Mehmet, who is 40 years old and has a physical disability, the social system in general is responsible for the poverty of the disabled people and others problems including digital inequality follows this poverty. High costs of digital services, inadequate municipal services, lack of continuous and systematic social support are responsible for the disadvantaged position of persons with disabilities. For Mehmet, government subsidies are indispensable if there will be a solution for digital inequality. These government subsidies must make access to computers and Internet affordable for persons with disabilities. As mentioned earlier, access to Internet is important for disabled people who already have problems of communication with other people including the disabled and the non-disabled due to their impairments. Different persons with different disabilities experience such communication problem in different ways. A person with a physical disability may have a hard time going out by himself/herself, while a person with a hearing disability may find it difficult to talk to another person even though s/he has no difficulty in terms of municipal services. Such difficulties in

communication with other people make the Internet a valuable tool of communication for persons with disabilities maybe even more than it is for the non-disabled. According to Mehmet, only affordable digital services can make it possible for more persons with disabilities to benefit from these technologies.

According to Mehmet, another part of the solution which should be expected from the government is a possible legislation against the discrimination towards persons with disabilities.

> No kindergarten should be able to rebel against a child who is disabled, they should not be able to find enough courage for this. This must be a crime. Or a landlord should not be able not to rent his house to a person just because he is disabled. Such acts must be considered to be criminal… Even though punishment will not solve everything by itself, I think it is a necessity. (Mehmet, 40 years old, physically disabled)

In addition to this, Mehmet believes that the education system must be more inclusive towards disabled people and other groups that are disadvantaged:

> Education system must be much more inclusive on every topic not only towards disabled people but also towards gays, refugees, women, towards all differences. (Mehmet, 40 years old, physically disabled)

Therefore, there are three ways, according to Mehmet, that government can be helpful for the elimination of digital inequality: (1) economic function of government through subsidies against the high costs of access to ICTs, (2) legislative function of government against discrimination towards the disabled people, (3) educational function of government through regulation of education system. However, for Mehmet, these are necessary but inadequate moves for the disabled people. There is a role for both private sector and non-governmental organizations. Private sector, according to Mehmet, must take responsibility through corporate social responsibility for persons with disabilities through reduction of costs and development of services specifically designed for the needs

of the disabled. In relation with the non-governmental organizations, Mehmet mentions that:

> I would actually prefer to stand on my feet without relying on public institutions. However, neither individuals nor non-governmental organizations in Turkey are adequate in fighting such problems... Governmental institutions from ministries to local governments, must lead the way. (Mehmet, 40 years old, physically disabled)

In a sense, even though Mehmet prefers non-governmental organizations over government, he finds non-governmental organizations in Turkey weak for dealing with the problems faced by the disabled people in terms of both digital inequality and discrimination in general. Therefore, government support is preferred necessarily as an institution that is supposed to represent all citizens.

For Anıl, an FSGS patient who is 26 years old, Internet is too expensive in Turkey and it should either be subsidized by the government or these costs must be reduced by private firms for the disabled people. However, according to Anıl, support by government is too superficial and private firms are too profit-oriented. This leaves out non-governmental organizations as the ideal form of institutional social support for disabled people.

According to Ahmet, solution of digital inequality is the integration of the disabled people into society through creating the necessary conditions so that the disabled can blend into the public. An important part of such solution is employment, since for Ahmet, main factor behind problems related to access to ICTs is the fact that persons with disabilities feel that they are a burden to their families. Only through employment and economic independence, persons with disabilities can become psychologically and financially secure enough to buy online services and be equal with non-disabled people. This point shows that government can have a role of providing employment for persons with disabilities so that they can afford to use ICTs.

Emrah thinks that government should provide both necessary ICT equipment and an adequate computer education beginning in early ages for persons with disabilities through the related ministries and public institutions. In addition to these, non-governmental organizations and universities should lead for a better computer education for the disabled people. According to Emrah, the real problem in terms of digital inequality for disabled people is the perspective of the non-disabled people towards persons with disabilities; therefore, better education for both non-disabled and disabled will help to reduce digital inequality. Education for Emrah is not only a technical education on how to use computers and the Internet, it also means to be trained to understand what persons with disabilities can or cannot do with ICTs. Such education must be specifically given to managers in both public and private institutions so that they can develop trust for disabled people and their ICT skills.

Zeynep also believes that education is the key for the elimination of digital inequality. However, she does not emphasize the role of government. She emphasizes the role of disabled individuals themselves on their own future. For Zeynep, persons with disabilities should invest in themselves through education so that they will demand more and realize their own capabilities in terms of ICTs. For Zeynep, persons with disabilities are both insecure and ambitious and only through education they can become adequate and reduce such negative feelings. According to Zeynep, there is a need for psychological social support for the disabled through education. She focuses on associations for disabled people and non-governmental organizations and their activities for developing solutions for digital inequality.

For Merve, the key to a solution for digital inequality lies in the perspective of social state which will provide necessary assistive technologies and ICTs for persons with disabilities and reduce poverty through employment and financial support. In addition to governmental social support, non-governmental organizations for the disabled people can provide similar services in terms of provision of assistive technologies and ICTs through their own budget. Merve

views the elimination of digital inequality for persons with disabilities within a broader perspective on development on national level. For her, elimination of digital inequality for disabled people will become an indicator that Turkey has become a developed country in many ways.

Halil provides examples for the lack of adequate governmental social support and he thinks that the problem is not that government does not consider the problems of persons with disabilities. Rather, the problem according to Halil is the way the governmental social support is organized. Because of the way the governmental social support is organized, support becomes another obstacle for disabled people.

> It is not that state does not think about persons with disabilities or neglects them. I do not think that laws are prepared by competent people. Better legislation requires better research both in academy and in the market. There is need for good research on the needs of the disabled people so that constitutional and legal regulations will serve their purposes. (Halil, 32 years old, physically disabled)

For Halil, main problem with government regulation for the disabled people is lack of good research on the needs and demands of the disabled people. This causes unintended consequences of various legislations. Halil says that when a social service is provided to persons with disabilities and when non-disabled people around disabled people exploit this social service, governments try to come up with limitations to end exploitation by the non-disabled; however, these limitations become obstacles for disabled people and lose their meaning and effectiveness. Halil gives the example of reduction in motor vehicle tax for persons with disabilities and the regulations of limiting the cars for tax reduction to those with 1600 cc or less engine capacity and the limitation of using tax reduction for once in five years.

> If a disabled persons wants to access to a device and needs financial support, it must be fairly easy and it must be provided through governmental positions or by civil servants who think in a positive and scientific way to determine whether there is an actual need for such support or not. (Halil, 32 years old, physically disabled)

According to Halil, there is a negative pattern in the present governmental social support. First, a social service is provided to persons with disabilities; second, this is exploited by non-disabled people or this service is criticized for being too generous; third, strict limitations and regulations are employed to minimize exploitation or complaints and the governmental support itself becomes an obstacle for persons with disabilities. For Halil, in order not to have such a negative pattern for a governmental solution for digital inequality, large scale research on disability and digital inequality is needed so that actual demands and needs of persons with disabilities can be identified and efforts can be organized in a more efficient way to combat digital inequality in the context of disability.

In a similar line with Halil, Hüseyin mentions that a solution for digital inequality in terms of disability can be developed by a team of research and development which consists of experts of disability and digital technologies.

Ali thinks that the source of digital inequality for disabled people is unemployment; therefore, institutional social support must focus on employment. Social actors related to this aim are ministries and public institutions on employment and employers. This emphasis on employers is important since it gives employers responsibility for digital inequality and persons with disabilities as well as government.

According to Murat, legislation is important to force private firms to support persons with disabilities through reduction of consumption costs of digital services; however, most private firms try not to implement the law. Therefore,

inspection of whether legislation is implemented by private firms and other social actors is as important as legislation itself.

For Osman, a public institution, like Services for the Disabled and Elderly under the Family and Social Policies Ministry, should lead the way for the elimination of digital inequality through cooperation with local governments and other related organizations of all kinds.

Selin has a pessimistic outlook on the future of disabled people in terms of digital inequality. For Selin, it is problematic that persons with disabilities are not given a chance to show their abilities in the workplace; however, she does not believe that awareness in terms of the disabled people, their skills and demands will take place in public or private institutions in Turkey.

> I think it seems difficult that institutions will become conscious on disability. There may be a chance if top civil servants and managers are reached, but I think it is very hard in Turkey. (Selin, 35 years old, visually impaired)

This attitude towards a possible solution for digital inequality for disabled people shows the feeling of despair which is shared by at least some of the persons with disabilities.

To sum up, mentioned ways of institutional social support for the elimination of digital inequality in terms of disability shows that respondents of the study emphasize the logic of cooperation over logic of competition in the sense defined by Fuchs. Respondents focus on legislation against discrimination and legislation towards private firms to encourage or enforce them to reduce costs to ICTs, government subsidies and financial support against high costs of ICTs, provision of employment for persons with disabilities to reduce economic dependence, research for better legislation and education in terms of both computer education and training at institutions for a better understanding of skills and capabilities of persons with disabilities.

4.2 Social Policy Discussion and Recommendations

In this section, social policies against digital inequality will be discussed on the basis of policy preferences of respondents also with reference to the theoretical background of the study – to concepts such as informational capitalism and logic of cooperation and logic of competition. While the aim of social policy has been stated throughout the study, it should be defined in detail.

Social policy, for Dean, refers to "the study of the social relations necessary for human wellbeing and the systems by which wellbeing may be promoted" and wellbeing means "how well people *are*" (2006, p. 1). Social policy is about everything which makes "life worth living" including "essential services, such as healthcare and education; a means of livelihood, such as a job and money; vital but intangible things, such as love and security" and these can be organized "by government and official bodies; through businesses, social groups, charities, local associations and churches; through neighbours, families and loved ones" (p. 1-2). In brief, social policy encompasses every measure taken with the aim of increase in wellbeing and welfare of citizens. Therefore, social policy is directly related to the problem of inequality and poverty. Reduction and, if possible, elimination of a social inequality by raising the general wellbeing of citizens is the main aim of social policy.

Informational capitalism has its own challenges and own types of inequalities. Inequality and poverty have new meanings in this new form of social organizations based on information. Access to information is not a luxury, but a necessity in informational capitalism. Having and using necessary skills related to information and communications technologies is a requirement in order to cope with the rapid changes in everyday life which mark the information age. The disabled people, both as a community and as individuals, are disadvantaged in terms of both access to ICTs and benefits that come with the use of ICT skills. As it has been seen in the section on data evaluation, persons with disabilities may

experience difficulties in using their ICT skills even when they are active and experienced users of ICTs as far as the respondents of the study are concerned.

Recommended social policy by the respondents of the study must be carefully categorized and analyzed in order to understand the trends and patterns that surround the issue of digital inequality and disability. A set of social policies in relation with the digital inequality and disability can be determined with such categorization. This categorization would also be helpful for future research on the issue.

Social policy related preferences of the respondents of the study focus mainly on governmental social support to the disabled people since it is believed that barriers such as high ICT costs and lack of education are problems so big that only an organization as powerful and resourceful as the state can overcome them. Another reason for this inclination towards a resourceful organization such as the state is that most respondents of the study feel that digital inequality is directly related to the general problems of the disabled people. In this understanding, disabled people are not only disadvantageous in the context of ICTs, but also in every field of the everyday life. Digital inequality is the direct result of poor conditions of and the discrimination against the disabled people. Therefore, only an organization that can act on the largest scale can be helpful in order to minimize the effects of inequalities that disabled people experience including the digital inequalities. Lastly, there is an idea among the respondents that non-governmental organizations are mostly weak in Turkey and their solutions are temporary. However, it should be noted that while government is seen as a source of solution for the disabled people in terms of the digital inequalities, this is also a criticism towards contemporary measures which are seen to be temporary and inadequate.

Main demand of persons with disabilities in this study is essential and long-term solutions and plans for their problems. While such essential and long-term plans can be made via government, this does not mean that non-governmental organizations, associations, and individuals should be passive. On the contrary,

non-governmental organizations are seen as the most helpful organizations which act for the rights of the disabled people. There is a trend to see non-governmental organizations as the ideal but inadequate sources of solution. Non-governmental organizations are seen, at least ideally, as organizations away from corruption related to power and profit as it might be the case for government and private firms. This is important since it shows a preference towards logic of cooperation over logic of competition. This is also apparent in the demand towards regulation of private firms so that they will be encouraged to reduce costs of ICTs and develop and offer services designed for persons with disabilities.

There are fewer respondents that see private sector as social policy actors in comparison to government and non-governmental organizations. References to private sector is mainly made by those respondents who demand government regulation of private firms so that they will be compelled by law to come up with better solutions for persons with disabilities in their services. Respondents who think that private sector is also responsible for social policy for the disabled people focus on either high costs of ICTs and Internet provision by private firms or employment-related problems of the persons with disabilities. Corporate social responsibility is seen by some of the respondents as a social policy approach which will benefit both private firms as a channel of advertisement and disabled people as consumers of ICT products. While this is supported by some of respondents, most respondents including those who mention corporate social responsibility believes that government must be the leading actor through legislation and social policy since it is believed that a for-profit organization cannot be a stable actor for social policy because of its very basic motivation of functioning: profit. Private firms are inclined to invest in families and individuals who are more likely to consume their products and in regions in which more people who can afford high costs of ICTs and Internet access live. Logic of competition is based on benefiting some of the population at the expense of others; therefore, corporate social responsibility is limited with the profitability of the social responsibility even or organization as a tool of advertisement. Demands of persons with inequalities

cannot be solved solely by the efforts of private sector since there is a need for change on all aspects of everyday life including anything from basic municipal services to accessible digital technologies.

One of the strongest trends identified in the study is that respondents do not treat digital inequality as a separate problem from their problems as persons with disabilities; therefore, solutions proposed by the respondents are all-encompassing and all comprehensive rather than narrow downed, focused, and specific. In this sense, main demand of the respondents of study is institutional and long-term social support which is not given as a favor as if something in return in the form of power and profit is expected by the giving party. Respondents think that the problems faced by the persons with disabilities are related to their disabilities only to a limited extent and the bigger problem is discrimination and a general lack of understanding and consideration. Taking anti-discrimination measures are also seen as one of the fields in which government must lead the way through relevant legislation for both non-governmental organizations and private firms. Main idea behind this inclination is to have either a nationwide standard for persons with disabilities or implement international human rights and rights of the persons with disabilities in the context of Turkey.

Moreover, research is mentioned by some of the respondents as one of the lacking areas in Turkey on the needs and demands of persons with disabilities. Lack of research is seen by these respondents as the most important reason behind unstable, temporary, and disorganized governmental and non-governmental support for the disabled people. This point is supported by the fact that the disabled people are categorized in a wrong way in the data on information society collected and presented by the Turkish Statistical Institute. According to the respondents who mentioned research, better and more exhaustive research on disability will provide better results in terms of wellbeing of persons with disabilities. With better research, better policies can be implemented with less risk of exploitation by non-disabled people, if potential sources of exploitation can be

identified and solutions for them are presented before the implementation of the policy.

Recommended social policy actors and relevant areas of policy according to the respondents can be categorized as follows:

1. Government:
    a. Economic function of the government: social state, subsidization.
    b. Legislation for disabled people for better conditions of employment and for reduction in the costs of ICTs by private firms.
    c. Provision of employment.
    d. Legislation against discrimination towards persons with disabilities.
    e. Educational reform for persons with disabilities.
2. Non-governmental Organizations:
    a. Provision of computer education where formal education is inadequate.
    b. Action against discrimination and action for rights of the persons with disabilities in line with the national and international standards.
3. Private Sector:
    a. Employment
    b. Reduction of high costs of ICTs for disabled people.
    c. Development of assistive technologies, ICTs, and software specifically designed for disabled people.
    d. Corporate social policy which can be beneficial to both companies and persons with disabilities.

Advantages and disadvantages of the mentioned social actors according to the respondents are summed up in Table 7:

Table 7. Advantages and Disadvantages of Social Policy Actors against Digital Inequality for the Respondents

Social Policy Actor	Advantages	Disadvantages
Government	1. Legislation power 2. Adequate resources for social spending	1. Inadequate research 2. Risk of exploitation of the measures which usually brings limitations for those who are supposed to be benefited by the measures
Non-governmental organizations	1. Non-profit social support 2. A field for an organized community of disabled people	1. Lack of financial resources
Private sector	1. Most employment takes place in private sector 2. Development of assistive technologies, ICTs, and software for disabled people	1. Profit-oriented 2. High costs of products

Government is equipped with resources for social spending and legislation power; however lack of research in Turkey on the needs and demands of persons with disabilities result in poor measures which are open to exploitation by non-disabled people. Exploitation of the measures result in limitations and these limitations make the measures which were taken to benefit persons with disabilities become meaningless.

Non-governmental organizations are seen as ideal for the rights of disabled people and to combat digital inequalities to pressure government and private sector and to form organizations which belong to persons with disabilities; however, lack of financial resources creates less than ideal conditions for non-governmental organizations in Turkey.

Private sector has the chance to provide employment for persons with disabilities and development of assistive technologies, ICTs, and software is mostly carried out by private firms; however, private firms are not inclined to act for the benefit of the persons with disabilities since logic of competition permeates the private sector. Therefore, pressure from non-governmental organizations and legislation by the government seems necessary for private firms to act for the interest of the disabled people.

High cost of access to Internet in Turkey is addressed by Information and Communications Technology Authority through a 25% discount for DSL access via legal requirement for private firms which provide DSL services. While this is a positive attempt to reduce digital inequality for persons with disabilities, it is limited to the problem of access and to access to DSL. Governmental institutions do not address high costs of ICT devices, assistive technologies and software designed for disabled people and this is the main problematic point with the current governmental approach to cost barrier faced by disabled people in terms of ICTs. In addition to this, discrimination is not addressed in official policy texts. In this study, it is argued that disability *per se* is not a barrier for disabled people in terms of ICTs. Therefore, social policy on disability and digital inequality must address the barrier of discrimination towards disabled people in every sphere of everyday life including workplaces and educational institutions through anti-discriminative measures.

CHAPTER 5

5. CONCLUSION

In this study, digital inequality in the context of disability has been investigated based on data collected via interviews conducted with disabled persons who are experienced and active users of information and communications technologies. An evaluation of digital inequality and disability in Turkey and social policy actors and approaches mentioned by the respondents have been discussed and presented in the study. Digital inequality has been understood, discussed, and presented in its relation to informational phase of global capitalism. Relevant social policy for minimization and elimination of digital inequality for persons with disabilities has been understood, discussed, and presented in the context of the antagonism between logic of cooperation and logic of competition. Findings of the study, which are identified trends and patterns in terms of digital inequality and disability in Turkey based on qualitative data, are discussed and presented.

Research in the study is based on qualitative research methods. In-depth interviews have been conducted with respondents who are both persons with disabilities and experienced and active users of ICTs. In the process of collection, both face-to-face, over the phone, and online data collection methods have been employed in accordance with the conditions and demands of the persons with disabilities. Since research is based on qualitative data, it is not aimed at discovering causes and effects or testing hypotheses. Main aim of the research is identifying trends and patterns in terms of digital inequality, disability and relevant social policy in Turkey. Conceptual framework of the study is based on concepts like informational and informational capitalism, logic of cooperation and logic of competition, and different models of disability such as medical, biopsychosocial, social, biopsychosociopolitical or dialectic models of disability. Concepts of "informationalism" and "informational capitalism" have been used to understand the problem of digital inequality with a historical and structural approach. By using these concepts, historical background of the study has been presented and

the structural framework in which digital inequality occurs has been discussed. Discussion on the models of disability is important in conceptualizing disability in order to compare and contrast various outlooks on persons with disabilities so that social policy can be designed in a more efficient way. An inadequate conceptualization of disability may result in failed measures. Concepts of "logic of cooperation" and "logic of competition" have been found beneficial in order to discuss and categorize different social policy actors and goals. They overlapped with the responses on social policy actors in the interviews. This also shows the relevance of the concepts for the subject matter of the study.

Main findings of the study can be summarized as follows:

1. Main barriers to ICTs by the disabled people are cost barrier, education barrier, lack of interest, and discrimination.

2. Main benefits of ICTs for disabled people are socialization, organization, access to information, and work-related benefits such as easier management banking operations and working-at-home. This point also shows that there is no usage gap – defined as a gap between ICT usage for entertainment and ICT usage for work and education – for disabled people in terms of ICTs as far as the respondents of the study are concerned.

3. Persons with disabilities do not believe that digital inequality is caused by their physical disabilities. They are able to use ICTs with a wide scope of use when required assistive technologies and software is present.

4. Discrimination against person with disabilities and a general negative outlook towards persons with disabilities dominant in society is seen as the strongest barrier by the respondents against equal chances for persons with disabilities in terms of use of ICTs.

5. Employed persons with disabilities in the study think that they are over-qualified for the offered jobs, their skills related to ICTs are not used at the

workplace and they are not even given a chance to show their skills due to issues like lack of information, lack of consideration, and discrimination by employers and managers in both private and public sector.

6. In terms of institutional social support and social policy, respondents think that government must be the leading social actor through legislation and subsidization. This shows that respondents are inclined to prefer government intervention against digital inequality rather than a neoliberal *laissez-faire* approach based on the logic of competition.

7. Non-governmental organizations are seen as an ideal but inadequate social actor for social policy due to its lack of financial resources like those of the state and NGOs in Turkey are perceived to be weak.

8. Non-governmental organizations are praised by the respondents as a non-profit source of help for disabled people and as a way of getting organized by disabled people.

9. In terms of ICTs, private sector involvement in social policy is perceived to be essential; however, it is believed that pressure by non-governmental organizations and legislation by the government is necessary so that private firms will act for the interests of disabled people.

10. More exhaustive and conceptually clear research is needed to develop relevant social policy for the problems of persons with disabilities in the context of ICTs. The fact that disability is categorized as an unemployment category in the statistics on information society published by the Turkish Statistical Institute shows the urgent need for this point to be realized.

When interpreting these findings of the study, main limitation of the study, which is the lack of nation-wide and quantitative data required to make statistical generalizations and hypothesis-testing, should be kept in mind. These are the trends and patterns identified in terms of digital inequality and disability based on

the respondents of the interviewees who are disabled persons with experience and active usage on information and communications technologies.

In this study, in addition to the findings listed above, it is argued that discrimination towards disabled people is one of the strongest problems faced by persons with disabilities and disability *per se* does not constitute a problem in terms of ICTs as far as the respondents of the study are concerned. Therefore, social policy on disability and digital inequality should not be limited to solutions towards the cost barrier. While there are attempts to reduce cost barrier for disabled people as we have seen in the policy of 25% discount for DSL tariffs, they do not include measures to reduce costs of devices, assistive technologies and related software. Moreover, digital inequality experienced by disabled people is not limited to cost barrier, it has a strong dimension of discrimination. Therefore, anti-discriminative measures as a component of social policy for disabled people must be taken especially in public and private workplaces, educational institutions and curriculums.

Since this study is an in-depth analysis of digital inequality in relation with disability in the context of Turkey, it is also beneficial for future research since various trends and patterns have been identified which can be basis for new research projects based on either qualitative or quantitative research methods. In addition to this, the conceptual discussions in the study can be beneficial for conceptualization of disability in the context of information age. Future research can be focused on digital inequality in terms of different types of disability; on effects of available financial support to persons with disability with respect to digital inequality, on the organization patterns of the disabled people with emphasis on online tools such as forums, e-mail groups, and social media; on less expensive assistive technologies and software for the disabled people, on employment conditions of disabled people with emphasis on the computer skills of persons with disabilities; on specific ways of long-term institutional social support; on the role of private sector in terms of social policy, digital inequality, and

disability with reference to logic of competition and logic of cooperation; on the perceived lack of financial resources of non-governmental organizations and their role in social policy in the context of disability and digital inequality, etc.

The importance of this study lies in the historical and structural understanding and conceptualization of digital inequality, discussion on different models of disability with references to relevant social policy as a result of each outlook, and research based on primary data with an in-depth investigation approach through interviews with persons with disabilities who are active users of information and communications technologies. Findings of the study show the experiences and opinions of the interviewed persons with disabilities and various trends and patterns in terms of digital inequality and disability in the context of Turkey has been presented. Findings are both important by themselves and important for future research. More research on the topic of digital inequality in terms of disability is needed so that better and more efficient social policy measures can be taken.

REFERENCES

Acılar, A. (2011). Exploring the Aspects of Digital Divide in a Developing Country. In *Issues in Informing Science and Information Technology*, Volume 8, 2011, pp. 231-244.

Acılar, A., Koca, G., and Karamaşa, Ç. (2011). Digital Divide Among Enterprıses in a Developing Country. In *International Journal Of eBusiness And eGovernment Studies*, Vol 3, No 2, 2011 ISSN: 2146-0744.

Azari, R. and Pick, J. B. (2009). Understanding Global Digital Inequality: The Impact of Government, Investment in Business and Technology, and Socioeconomic Factors on Technology Utilization. Proceedings of the 42nd Hawaii International Conference on System Sciences – 2009.

Barnes, C. (2003). Rehabilitation for Disabled People: A 'Sick' Joke? In *GLADNET Collection.* Paper 324.

Barney, D. (2004). *The network society*. Cambridge: Polity.

Bhaskar, R. (2008). *A realist theory of science*. Oxon: Routledge.

Bovens, M. (2002). Information Rights: Citizenship in the Information Society. In *The Journal of Political Philosophy*, Vol. 10, nr. 3 (September 2002), pp. 317-341.

Bryman, A. (1984). The Debate about Quantitative and Qualitative Research: A Question of Method or Epistemology? In *The British Journal of Sociology*, Vol. 35, No. 1. (Mar., 1984), pp. 75-92.

Castaño-Muñoz, J. (2010). Digital Inequality Among University Students in Developed Countries and its Relation to Academic Performance. In *RUSC*, vol. 7, n.º , ISSN 1698-580x

Castells, M. (1996/2010). *The rise of the network society* (2nd ed. with a new pref.). West Sussex: Wiley-Blackwell.

Castells, M. (1997/2010). *The power of identity* (2nd ed.). West Sussex: Wiley-Blackwell.

Castells, M. (1998/2010). *End of millennium.* (2nd ed.). West Sussex: Wiley-Blackwell.

Castells, M. and Ince, M. (2003). *Conversations with manuel castells.* Oxford: Polity Press.

Compaine, B. (2000). Re-Examining the Digital Divide.

Dean, H. (2006). *Social policy*. Cambridge, UK: Polity.

DiMaggio, P. and Hargittai, E. (2001). From the 'Digital Divide' to `Digital Inequality': Studying Internet Use as Penetration Increases.

Dobransky, K. and Hargittai, E. (2006). The Disability Divide in Internet Access and Use. In *Information, Communication & Society*, Vol. 9, No. 3, June 2006, pp. 313–334.

Economist Intelligence Unit. (2012). Best practices from around the world: Smart policies to close the digital divide - A report from the Economist Intelligence Unit. The Economist Intelligence Unit Limited.

Fuchs, C. (2008). *Internet and society: Social theory in the information age*. New York: Routledge.

Fuchs, C. (2011). *Foundations of critical media and information studies*. Abingdon, Oxon: Routledge.

Geray, H. (2000). Extent and Scope of 'Digital Divide' in Turkey: Policy Perspectives. Paper Prepared for OECD/DSTI, WPIE/TISP Workshop The Digital Divide: Enhancing Access to ICTs.

Gündüz, H. B., (2010). Digital Divide in Turkish Primary Schools: Sakarya Sample. In *The Turkish Online Journal of Educational Technology* – January 2010, volume 9 Issue 1, pp. 43-53.

Güzeller, C. O. (2011). The Inter-Regional Inequality of Access to Information and Communication Technology in Turkey Based on Pisa 2009 Data. In *The Turkish Online Journal of Educational Technology* – October 2011, volume 10 Issue 4, pp. 349-354.

Hargittai, E. (2003). The Digital Divide and What To Do About It.

Harvey, D. (1990). Between Space and Time: Reflections on the Geographical Imagination. In *Annals of the Association of American Geographers*, Vol. 80, No. 3, pp. 418-434.

ICTA. (2013). Information and Communications Technologies Authority Decision, 2013/DK-ETD/163, 03.04.2013.

ITU. (2011). Connect a School, Connect a Community Toolkit: Module on Using ICTs to promote education and job training for persons with disabilities. Executive Summary.

Kompridis, N. (2009). Technology's Challenge to Democracy: What of the Human? In *Parrhesia*, Number 8, pp. 20-33.

Konur, O. (2007). Computer-assisted teaching and assessment of disabled students in higher education: the interface between academic standards and disability rights. In *Journal of Computer Assisted Learning* (2007), 23, pp. 207–219.

Krauss, S. E. (2005). Research Paradigms and Meaning Making: A Primer. In *The Qualitative Report*, Volume 10, Number 4, December 2005, pp. 758-770.

Kvasny, L. and Truex, D. (2001). "Defining Away the Digital Divide: the Influence of Institutions on Popular Representations of Technology", In B. Fitzgerald, N. Russo, and J. DeGross (Eds.), *Realigning Research and Practice in Information Systems Development: The Social and Organizational Perspective*, (pp. 399-415), New York: Kluwer Academic Publishers.

Low Incomes Tax Reform Group. (2012). *Digital Exclusion*. London: Tax Reform Group of The Chartered Institute of Taxation.

Marshall, T. H. (1950/2009). Citizenship and Social Class. In Manza, J. and Sauder, M. (eds.), *Inequality and Society* (2009), pp. 148-154. New York: W. W. Norton and Co.

Mosco, V. (2004). *The digital sublime: Myth, power, and cyberspace*. Cambridge, Mass: MIT Press.

National Kidney Foundation. (2013). FOCAL GLOMERULOSCLEROSIS. Retrieved June 27, 2013 from http://www.kidney.org/atoz/content/focal.cfm

OECD. (2001). *Understanding the digital divide*. Paris: OECD.

Oliver, M. (1990). The individual and social models of disability. Paper presented at Joint Workshop of the Living Options Group and the Research Unit of the Royal College of Physicians.

Öztürk, L. (2005). Türkiye'de Dijital Eşitsizlik: Tübitak-Bilten Anketleri Üzerine Bir Değerlendirme. In *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, Sayı: 24, Ocak - Haziran 2005, pp. 111-131.

Reid-Cunningham, A. R. (2009). Anthropological Theories of Disability. In *Journal of Human Behavior in the Social Environment*, 19, pp. 99–111.

Schutt, R. K. (2012). *Investigating the social world, the process and practise of research*. (7th ed.). Canada: Sage Publications, Inc.

Seymour, W. (2004). ICTs and disability: exploring the human dimensions of technological engagement. International Conference, "ICTs & Inequalities: the digital divides", Paris, Carré des Sciences, November 18-19, 2004.

SPO – ISD. (2005). *e-Transformation Turkey Project 2005 Action Plan*.

SPO – ISD. (2006). *e-Dönüşüm Türkiye Projesi 2005 Yılı Eylem Planı 34 nolu "Bilgisayar Sahipliğinin Yaygınlaştırılması" Eylemi Raporu*.

SPO – ISD. (2006a). *Information Society Strategy (2006 – 2010)*. Ankara: State Planning Organisation.

SPO – ISD. (2006b). *Information Society Strategy Action Plan (2006 – 2010)*. Ankara: State Planning Organisation.

Susinos, T. (2007). 'Tell me in your own words': disabling barriers and social exclusion in young persons. In *Disability & Society*, Vol. 22, No. 2, March 2007, pp. 117–127.

Swain, J. and French, S. (2000). Towards an Affirmation Model of Disability. In *Disability & Society*, 15:4, pp. 569-582.

Tezcan, T. (2013). *Discrimination experienced by disabled employees in the public sector: "Institutional discrimination area"*. Unpublished master's thesis, Middle East Technical University, Ankara, Turkey.

TurkStat (2012). Results of Research on the Labour Force Status of Disabled People, II. Quarter 2011. Retrieved June 14, 2013, from http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=13125

TurkStat. (2004-2012). ICT Usage in the Households and by Individuals. Retrieved May 31, 2013, from http://www.turkstat.gov.tr/VeriBilgi.do?alt_id=60

UN General Assembly. (1948). Universal Declaration of Human Rights, 10 December 1948, 217 A (III). Retrieved August 1, 2013, from http://www.refworld.org/docid/3ae6b3712c.html

United Nations. (2006). Convention on the Rights of Persons with Disabilities.

World Health Organization (1980). *International classification of impairments, disabilities, and handicaps: A manual of classification relating to the consequences of disease*. Geneva: World Health Organization.

World Health Organization (2002). *Disability*. Sıxty-Sıxth World Health Assembly, A66/12.

World Health Organization (2002). *Towards a Common Language for Functioning, Disability and Health: ICF*. Geneva: World Health Organization.

World Health Organization, & World Bank (2011). *World report on disability*. Geneva, Switzerland: World Health Organization.

APPENDICES

Appendix A: TEZ FOTOKOPİSİ İZİN FORMU

ENSTİTÜ

Fen Bilimleri Enstitüsü ☐

Sosyal Bilimler Enstitüsü ☐

Uygulamalı Matematik Enstitüsü ☐

Enformatik Enstitüsü ☐

Deniz Bilimleri Enstitüsü ☐

YAZARIN

Soyadı : Bal

Adı : Haluk Mert

Bölümü : Sosyal Politika

TEZİN ADI (İngilizce) : SOCIAL POLICY PERSPECTIVE ON INFORMATIONAL CAPITALISM: A CASE STUDY ON DIGITAL INEQUALITY AND DISABILITY IN TURKEY

TEZİN TÜRÜ : Yüksek Lisans ☐ Doktora ☐

1. Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir. ☐
2. Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir. ☐
3. Tezimden bir (1) yıl süreyle fotokopi alınamaz. ☐

TEZİN KÜTÜPHANEYE TESLİM TARİHİ: