

Preface

Benefitting from the recent changes in realities within the international system, the research on borders has suffered a series of changes, which open up new perspectives of analysis. If in the past we referred to borders only from a national state point of view, recently we can discuss about new types of borders or frontiers, such as social, economic, ethnic, and religious frontiers. These are most evident in Europe, where the European space best represents the fluidity of borders and frontiers that is determined by the transformation of national frontiers into axes beyond old borders and by free movement within the European Union. Thus, the European Union is the best space to perform research on a new type of frontier, namely the electronic frontier.

The keyword analyzed within our research is *frontier* or *border*, which, as we have stated above, presents new fluidities that provide it with new meanings and understandings. Moreover, an important meaning of frontiers is strictly tied to *territory* or *space*. In the information age, we are prone to state that territory no longer matters due to the Internet and the way in which it has affected society and economy. Even so, the territory is constantly changing in tandem with the frontiers which have defined it and are defined because of it. As Gerard Delanty stated, “new types of frontiers have come into existence, older ones disappear, while some frontiers take on new functions” (Delanty 2006, p. 46).

The second concept that is essential to the present research is *the Internet*. A part of our day-to-day dwellings, the Internet is considered one of the biggest innovations of mankind. Even so, *the Internet* is the result of an innovative process that has stretched a few decades and started with the invention of the microchip, the first computers, and the need to digitize information. The Internet is the result of a collaborative process of American researchers and is, in fact, the global communication network that is based on a series of protocols and digital information and that is the starting point for information and communication technologies, such as electronic mail. The information distributed by the computers that are connected to the Internet has been cataloged with the help of an algorithm created by a European

engineer, Sir Tim Berners-Lee, who created the World Wide Web at the beginning of the 1990s.

In other words, Internet users connect to the global network, but actually use the World Wide Web to search for information, to communicate, and to socialize. The Internet has become a colloquial term for engaging in these activities, hence we have chosen to use this concept in our research. Thus, information and communication technologies, which have the Internet at their core, are at the basis of the transformation of society and world economy and are determining factors for globalization. The sense given by the European Union to information and communication technologies that they are general-purpose technologies with an effect throughout society opens the discussion related to their revolutionary potential. Their use in society and economy has truly important benefits, but it also creates losers in this equation. Those who lose are the ones whose socioeconomic or territorial conditions do not allow them to converge in the virtual space.

The relations between these two spaces, but also the influence of the Internet on society leads us to two other important concepts for our research, namely *digital divide* and *digital inclusion*, which define connections or barriers even within the virtual space. Digital divide refers to an adverse effect of the Internet on daily life, namely the differences in access, as well as the digital use and competences. As a result, we support the point of view according to which these information and communication technologies are not the panacea of the European society's problems, because we state that there are important splits in these three important pillars of Internet interaction. On the other hand, digital inclusion is the European Union's answer to these socioeconomic and territorial differences. Here, we must interplay the overlap of virtual space on the current territory, because it helps us understand why we have such differences. More precisely, this research aims to emphasize the role of territory in the creation, maintenance, and extension of the virtual space, both from a social and an economic point of view.

The basis of our research converges from two directions, the first being the position according to which globalization has contributed to the transformation of space and frontiers, but it has not succeeded in their complete elimination. At the same time, an important determinant of globalization, namely information and communication technologies, has contributed to the transformation of society and economy and has applied the logic of networks to them. The exponent of this theory is Manuel Castells, a sociologist, who states the following: "as a historical trend, the dominant functions and processes from the information society are more and more organized around networks" (Castells 2009, p. 500). Moreover, according to this logic, space and time are also transformed to become "a space of flows" and "timeless time". Essentially, space is no longer only material, but it is also virtual.

On the other hand, there is another point of view according to which frontiers have suffered a metamorphosis. This point of view starts from a point of view, which conflicts Castells' perspective. Indeed, the logic of networks in society and economy is more and more present, but author Peter Dicken states that transformations given by globalization must take into consideration the element of *territory*. Even if he recognizes the merits of information and communication

technologies in the transformation of world economy, most of these activities are engaged in a certain space. The first impulse in any discussion on frontiers/borders is to affirm that they are no longer relevant, but the reality contradicts us and determines us to take into consideration the other types of frontiers—social, economic, ethnic, or religious ones. These are no longer only lines of separation, but become links. However, barriers between communities still exist, given socioeconomic or cultural differences. Thus, the frontier becomes both a barrier, which needs to be demolished, and a link.

This research is focused on the socioeconomic component of frontiers and on the way in which these frontiers have evolved at the community level, based on the neoliberal logic of liberalization and proposing a series of answers to the following question: what types of frontiers have information and communication technologies created in Europe? Which is the foundation of these new frontiers? How does the network society function in Europe and which type of frontier prevails? Moreover, we must emphasize the neofunctionalist perspective of this research that helps us explain better the idea of the overlapping of virtual space and territory. Thus, for the European Union, the creation of a virtual space, which must be capitalized from a socioeconomic point of view, can represent a new integration space that is subject to a process of functional *spillover*. The last question asked above leads us to the conceptual delimitation of frontiers made by Liam O'Dowd, the delimitation which we use to define the electronic frontier. He states that frontiers have four dimensions, namely barriers, bridges, resources, and symbols of identity. Moreover, he states that these four dimensions are present in new frontiers, even if one or more are more poignant than others. The dimensions of frontiers that are emphasized by Liam O'Dowd demonstrate the need to build multidisciplinary and multidirectional research in order to reveal a new frontier, namely the electronic frontier.

On the basis of the theoretical delimitation of the present research, on the concepts that have been discussed and the questions that have been posed, we must postulate a series of hypotheses meant to guide our research. The first hypothesis refers to the metamorphosis of frontiers and postulates the existence of an electronic frontier. This concept will be defined, detailed, and exemplified in the context of the development of information and communication technologies and the Internet. The electronic frontier is one of the answers to the statement according to which the Internet knows no boundaries, no limits, no frontiers, and the purpose of this research is to make an enquiry for this. There is a supposition according to which the Internet is a free space, of all possibilities, in which information travels without any restrictions and users can access it regardless of their location. This fact is only partially true, because there are still many transnational restrictions in the virtual space, but there are several means of Internet access for users, which create limitations between the real and virtual environments. The Internet and cyberspace succeed in determining such a metamorphosis of frontiers, by creating this electronic frontier, the subject of this thesis.

The second hypothesis is aimed at the transformation of frontiers, from barriers to bridges or resources, like Liam O'Dowd states. The basic characteristic of this transformation is permeability, namely the degree in which frontiers, as barriers,

can be overcome in order to transform into bridges and resources. Thus, the third hypothesis aims to research in what degree electronic frontiers are permeable at European level.

The structure of the research follows the logic of the three main hypotheses. Chapter 1, entitled *Borders and Frontiers in the Internet Age*, is the theoretical foundation of the research and analyzes a series of keywords and the connections between them, especially the relation between globalization and frontiers, the existence of a network society as stated by Manuel Castells and its influence on frontiers. Moreover, another important point of this chapter regards the theoretical approach on frontiers, marked by the delimitation made by Liam O'Dowd that allows us to define socioeconomic frontiers and eases the understanding of the electronic frontier.

Chapter 2, entitled *The Socioeconomic Evolution of the European Union. A Frontier Perspective*, starts from the idea that socioeconomic frontiers have evolved at the European level due to the transformations brought on to the community space. With this chapter, we revisit the evolution of European frontiers from the perspective of the efforts to accomplish the common European space, in an attempt to preface the new frontier, the electronic one, as well as the common informational space in the EU, namely the Digital Single Market.

Chapter 3 prefaces the case study of this research and is aimed at defining and contextualizing the electronic frontier. Its definition is realized in the context of the network society, a concept brought by Manuel Castells, as well as in the context of the importance of territory at the European level, according to Peter Dicken. Thus, we deduce that there is an electronic frontier between the virtual and real environments, as well as within the virtual environment, which is manifested according to the delimitations proposed by Liam O'Dowd. Thus, the definition of the electronic frontier reaches into all these characteristics, both for the limit between *real* and *virtual* and within the *virtual* space.

Chapter 4, the final chapter, is dedicated to the mapping of the characteristics of the electronic frontier. Split into four sections, the case study begins by offering a retrospective look and an analysis of the way in which the Union has tackled the issue of ICT starting from the 80s. This section aims to identify how the priority of information and cyberspace has evolved. The next sections follow and detail the characteristics of the electronic frontier, namely a barrier entitled *digital divide*. Then, we look into its quality of becoming a bridge in the network with efforts of digital inclusion by the EU and the way in which it can help build a virtual community with the help of network communication. The fourth section details the way in which this frontier can become an economic resource, from two points of view: electronic commerce and research and development in ICT.

This study is based on a solid methodology both from a qualitative point of view and a quantitative point of view. The methodology was created in concordance with the multidisciplinary overview of the research, which contains aspects relating to European studies, economy, or social sciences. The theoretical chapter is based on an overview of specialized literature connected to the globalization, frontiers and

introduces useful concepts, such as the network society. Then, we used the diachronic methods of presenting the evolution of European Union frontiers from a socioeconomic point of view, using primary sources, especially EU and EC documents, press articles, or secondary sources.

Based on Liam O'Dowd's theoretical perspective on frontiers, the conceptualization of the electronic frontier is a support for the next two chapters, which are built according to a case study method. The last chapter represents a detailed and applied analysis on the electronic frontier in the European Union as a barrier, bridge, and resource. This analysis has two levels, the qualitative that offers a diachronic retrospective on community policies, on information society, digital economics, and the Internet. The retrospective is based on document analysis using official EU documents. The qualitative level supports the quantitative analysis, which aims to detail the electronic frontier, using relevant indicators, such as the percentage of people who have never used the Internet, the proportion of the ICT sector within the European economy, the degree of sophistication of the Internet usage, etc. In order to obtain a representative image and to obtain meaningful results on the success or the lack of success of the EU regarding ICT, we illustrated the evolution of these indicators starting from the beginning of the Digital Agenda for Europe, namely 2010, as the basis of our analysis. The analysis of these indicators allowed us to formulate conclusions regarding the mapping of the electronic frontier in the EU both as tendency of construction and deconstruction. The access to indicators was eased by an initiative of the Digital Agenda for Europe, entitled *Digital Agenda Data*, which provides relevant statistics in a single web page on the information society and digital economy. This data was extremely important in mapping digital divide and digital inclusion within the EU, as well as the ICT sector in the European economy. The quantitative analysis was made both at member state level, and at European level. Beyond the holistic perspective of this research, there is a series of limitations that invites new scientific directions. Mainly, we include here the quality of the electronic frontier to be a symbol of identity, a quality which has not been detailed in the case study because of the mainly socioeconomic character of the research. The symbol of identity refers mainly to Europe's cultural frontiers.

Why look at such an abstract concept? This research theme stems from the need to offer an innovative perspective on border and frontier studies, especially given the fact that information and communication technologies have become indispensable parts of society and economy. There is a gap in the specialized literature that needs to be filled with an overall perspective of the relation between frontiers and information and communication technologies, especially the Internet. The overview of the literature has revealed that the influence of the Internet is generally viewed from two perspectives, the voluntaristic and revolutionary image of the Internet, and the need to secure the cyberspace connected to the censorship in cyberspace. On the other hand, the literature already offers a perspective on the influence of the Internet on society which could lead to the exploration of the electronic frontier, namely digital divide. This refers to the societal gaps in different levels of access to the Internet, the usage and digital competences of user. Even so,

digital divide does not have the overall frame that the analysis of the electronic frontier can offer. The electronic frontier is the result of a socioeconomic analysis on the relation between the Internet and the new frontiers in society and economy.

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