

# **THE EMPOWERMENT DYNAMICS OF E-GOVERNMENT: EVIDENCE FROM EU 27**

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## Abstract

*E-government has added to the transformation of the public sector worldwide. It has complemented the reforms in the public administration, as well as the necessity for public consultation in policy-making at the beginning of the 21st century. The present study offers both an analytical framework of and empirical evidence on the key aspects of online engagement initiatives in the countries of the European Union. The two research questions explored here address the factors that influence the quality of the governmental services online and the range of participation opportunities provided in a top-down manner. In the first part of the thesis, the analysis carried out on the 2009 Eurostat dataset shows that the percentage of broadband penetration and the percentage of individuals using internet for communication – both measured at the national level – account for 50% of the variance in the quality of the online governmental services across EU27. The second part of the study focuses on the opportunities for online civic participation available through the websites of the ministries of education in EU27 and provides a classificatory typology meant to assess the development of e-government in connection with initiatives for public engagement, based on two dimensions: interactivity and public outreach. The findings of this research, conducted in May 2009, point towards a trend of increased access to information in education-related policymaking. A comparison between e-government web-based applications in Western and Eastern Europe reveals slightly lower standards for the post-communist countries, with high potential for fast modernization.*

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# Table of contents

<b>LIST OF FIGURES AND TABLES.....</b>	<b>V</b>
<b>LIST OF ABBREVIATIONS.....</b>	<b>VI</b>
<b>INTRODUCTION.....</b>	<b>1</b>
<b>CHAPTER 1.</b>	
<b>FROM ACCESS TO INFORMATION TO CIVIC EMPOWERMENT .....</b>	<b>4</b>
1.1. THE PARADIGM SHIFT: DIGITAL ERA GOVERNANCE .....	4
1.2. E-GOVERNMENT IN EU 27 .....	6
1.3. ONLINE PARTICIPATION AND THE SUPPLY SIDE .....	10
<b>CHAPTER 2</b>	
<b>ONLINE SERVICE DELIVERY DEVELOPMENT AND ITS SOCIAL IMPACT IN EU 27.....</b>	<b>13</b>
2.1 DIGITAL DIVIDE AND ITS IMPLICATIONS .....	14
2.2 CITIZEN INTEREST IN ICT USAGE .....	17
2.3 DETERMINANTS OF E-GOVERNMENT AVAILABILITY – AN EXPLANATORY MODEL.....	18
2.3.1. <i>Methodology</i> .....	18
2.3.2 <i>Findings</i> .....	20
2.3.3. <i>Limitations</i> .....	21
<b>CHAPTER 3</b>	
<b>A COMPARATIVE FRAMEWORK FOR GOVERNMENT-LED INITIATIVES OF ONLINE ENGAGEMENT .....</b>	<b>22</b>
3.1. TOP-DOWN EMPOWERMENT AND HOW TO ASSESS IT .....	22
3.2. CREATING A TYPOLOGY FOR ONLINE CIVIC ENGAGEMENT OPPORTUNITIES .....	25
3.2.1. <i>Methodology</i> .....	25
<i>Case Selection</i> .....	25
<i>Operationalization</i> .....	27
3.2.2. <i>Findings</i> .....	28
3.2.3. <i>Discussion</i> .....	31
3.2.4. <i>Limitations</i> .....	37
<b>CONCLUSIONS .....</b>	<b>39</b>
<b>BIBLIOGRAPHY .....</b>	<b>41</b>

# List of Figures and Tables

Figure 1. “The Knowledge Society” – a three-sided relationship .....	9
Table 1. Computer use and Internet access in 27 EU member states in 2009.....	16
Table 2. Regression model (response variable: e-government availability) .....	20
Table 3. Framework for the dimensions of online citizen participation .....	28
Table 4. A classificatory typology of the national educational ministries according to the opportunities for online civic engagement .....	29
Figure 2. Comparison of average scores for interactivity and public outreach features for the websites of national ministries of education in Cyprus and Portugal.....	31
Figure 3. Percentages of average scores for interactivity and public outreach features in the “High interactivity – Low Public Outreach” category .....	33
Figure 4. Percentages of average scores for interactivity and public outreach features in the “High interactivity – Extended Public Outreach” category .....	35
Figure 5. Comparison of average scores of interactivity and public outreach features for EU-15 and newer member states.....	36

## List of Abbreviations

DEG – Digital Era Governance

EC – European Commission

ESD – Electronic Service Delivery

ICT – Information and Communication Technology

IT – Information Technology

NPM – New Public Management

OECD – Organization for Economic Cooperation and Development

# Introduction

Seventeen years have passed since the birth of electronic government in US. E-government<sup>1</sup> represents the delivery of information and public services through internet technology twenty-four hours a day, seven days a week. In the last decade, EU has made electronic government a priority, but discrepancies in online civic engagement at the level of national governments across member-states remain visible.

In recent times, e-government has been successfully applied in a wide range of activities conducted through the national public administration, from the payment of utility bills to passport application, while online platforms have facilitated the exchange of information between different departments dealing with public affairs. As different studies showed (Reddick 2005, Accenture 2004), not only did e-government perfect the daily bureaucratic works, but it also improved citizen interaction with government in general. Nevertheless, the degree to which the regular citizen is active in shaping policies that concern him directly through the means of information and communication technologies (hereafter ICT) is still limited. Concurrently, the supply side contributes extensively to creating the nowadays picture of the implementation of online government policies, as opportunities offered shape the demands raised and strengthen the support for increased participation.

While measures have been constantly taken in the European Union from 2001 onwards for the use of ICT in the public sector, much of what has been done already is restricted to providing information via web-based applications. The present study can be placed on the supply-side perspective, with its research questions aiming to examine what determines the quality of online public services and in which of the EU member states the governmental websites are offering extended opportunities for online civic participation.

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<sup>1</sup> Throughout this paper, the term will be used interchangeably with *electronic government*, *digital government* and *online government*.

Whereas the specific ministries for the adoption and development of ICT are constantly monitored by different national and international-level organizations, the study of other ministerial websites has remained relatively unexplored. Thus, after analysing the empirical data on e-government availability in the EU 27 using Eurostat 2009 measurements, the present inquiry concentrates around the national ministries of education, which are particularly attention-grabbing for two major reasons: the interest of the government in introducing ICT-related changes through the means of public education and the interest of the citizens in participating in educational policy-making which affects both themselves and future generations. These websites have been analyzed in May 2009 based on two dimensions of online civic engagement – interactivity and public outreach. The results have been incorporated into a classificatory typology of civic engagement of e-citizens in the framework of electronic government evolution.

The practical relevance of this study consists in offering a clear picture of e-government implementation in EU member-states in 2009 and its underlying causal links. Further implications concern the degree of direct access and the increased transparency of ministries that offer electronic access to different types of documents and provide for mechanisms of online participation in the decision-making process. Having informed citizens able to question different bureaucratic procedures and participate in the public debates represents a step forward in increasing transparency and strengthening the accountability of those holding public positions. The present empirical research offers an overview of the extent to which these procedures have been realised and allow for extended citizenry engagement.

The novelty of this research resides in its comparative assessment of the current situation in all EU member-states, firstly by providing an explanatory model based on recent empirical evidence from 2009, which accounts for 50% of the variation in the data for two



predictors: percentage of broadband connection and percentage of individuals using the internet for communication at the national level. Secondly, the classificatory typology to be created represents a unique attempt to compare national ministerial websites of education by the level of citizen interaction they enable. The analysis will include a total of 31 websites (25 national ministries plus 6 regional-level ones) and it is expected that the dimensions employed would be indicative of the extent to which interactivity is easier to achieve, as opposed to public outreach.

The structure of the study is as follows. The meaning of e-government and the literature on online citizen participation in policy-making are discussed throughout the first chapter. The next section puts into perspective and introduces the dimensions for considering the broader social effects of ICT use in public administration and the main causes for different levels of service quality throughout EU 27, while proposing an explanatory regression model. The third chapter incorporates the research design and methodology for the creation of a typology based on the government-led online opportunities of national ministries of education in all EU countries and emphasizes the implications of the findings. Finally, conclusions are drawn and future research directions are indicated.

## CHAPTER 1.

# From Access to Information to Civic Empowerment

### 1.1. The paradigm shift: digital era governance

Globalization brought about a new paradigm shift in public administration and has changed tremendously the nature of government bureaucracy as the traditional intermediary between citizens and the state. It has moved the focal point from the new public management trend towards democratic governance, with accelerated processes of “service aggregation” and “direct communication”. At the basis of this fundamental change, referred to mainly as the “network society”<sup>2</sup> (Castells 1996), stands the acknowledgement of information and communication technologies as facilitators for democratic governance. The information and communication technology changes have acquired a central role in contemporary public administration, with a wide range of impacts: political, financial, cultural, organizational, and behavioral (Dunleavy et al. 2006, 217). Europe, and especially the European Union member states, did not initially take the lead in the web-based technologies for public services delivery, but had important contributions to their development and set, rather early on, in 2001, specific goals for ICT development.

By the turn of the century, online communication had altered the mode of interaction between the private sector and its customers and has pushed for a transformation of the government approach (Stiglitz et al. 2000, 25), from using e-commerce for public procurement to creating one-stop access points for governmental information. This new

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<sup>2</sup> As opposed to the “informational society” denomination, which implies a high degree of homogeneity all around the world.

paradigm in which the public administration places ICTs as central in their daily work and objective has been theoretized as the “digital era governance” (Dunleavy et al. 2006).

In Castells’s words,

“What must be retained for the understanding of the relationship between technology and society is that the role of the state, by either stalling, unleashing, or leading technological innovations, is a decisive factor in the overall process, as it expresses and organizes the social and cultural forces that dominate in a given space and time” (Castells 1997, 13).

Seen as a key opportunity to provide better services at lower costs, the move towards *online* government took momentum. Freedom of information legislation was coupled with this change, and in turn it destabilized the new public management (NPM) model, popular in the 1990s (Mathiasen 1996; Lynn 1996, 1998; Terry 1998; Kelly 1998; Peters and Pierre 1998). This is not to say that the NPM has disappeared completely all around Europe, but rather that it became complementary to new approaches to governance.

The expansion of the internet has become integrated in different definitions of globalization, with the latter encompassing a dual process of “transformation” and “transcendence” (Bartelson 2000). While the first dimension points to the intensification of European exchanges, the second dimension captures the process of increased institutionalization at the international level. As such, the development of World Wide Web (WWW) cannot but be perceived as an instance of a globalized society. Being classified at the same time as “borderless” and as a “public resource and vast information commons” (Crews and Thierer 2003, XVI), the internet escapes the common definitions of legal jurisdiction, as well as those of the nation-state sovereignty. The case of the European Union is thus more interesting, as both these concepts overlap in the attempt to create a single European Information Space (EU 2005, 4), which will delimit the space of legal action and cooperation at the state level.

## 1.2. E-government in EU 27

A variety of definitions for e-government exist<sup>3</sup>. A comprehensive definition is the one provided by Koh and Prybutok (2003, 34) as e-government being “the use of information and communication technology in all facets of the operation of a government organization”. Building on this, the manner in which the European Commission describes digital government includes the desirable effects as well. By “the use of information and communication technologies (ICT) in public administrations combined with organizational change and new skills in order to improve the public services and democratic processes and strengthen support to public policies”<sup>4</sup>, the EC adds the importance of the online public consultation as part of its understanding. While various international sources<sup>5</sup> use their own designation in reference to e-government, what they have in common when defining electronic government is the use of information technology for the delivery of public services to citizens, businesses, and government agencies, while enabling interaction beyond the constraints of traditional office time and office space. For the purpose of this study, e-government is understood particularly in connection with web-based applications for the use of citizens.

In spite of the fact that the purposes of developing e-government range from the accelerated modernization of public administration communication services to the efficient management of the welfare state, Löfstedt (2006, 4) argues that it is largely about “enhancing democratic processes and also about using new ideas to make life easier for the citizens by, for example, transforming government processes, enabling economic development and renewing the role of government, itself, in society”.

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<sup>3</sup> See West (2000), Pardo (2000).

<sup>4</sup> COM 567 (2003).

<sup>5</sup> For example World Bank, UN or Global Business Dialogue on Electronic Commerce.

In Europe, the main concern in recent years has concentrated around the lack of consistency in the strategy pursued for the genuine definition and real implementation of the electronic government policy. Alabau (2005) points to the fact that there are many opportunities to improve this field and their carrying out is urgent in the member states of the European Union. As mentioned in the 2000 Lisbon strategy, “the promotion of the Information Society appeared as one of the keys to achieving the economic development goals that were set there for the time horizon of 2010. To this, one should add the undeniable interest in promoting public procurement of ICT equipment and applications at a time when the sector is in difficulty” (Alabau 2005, 32).

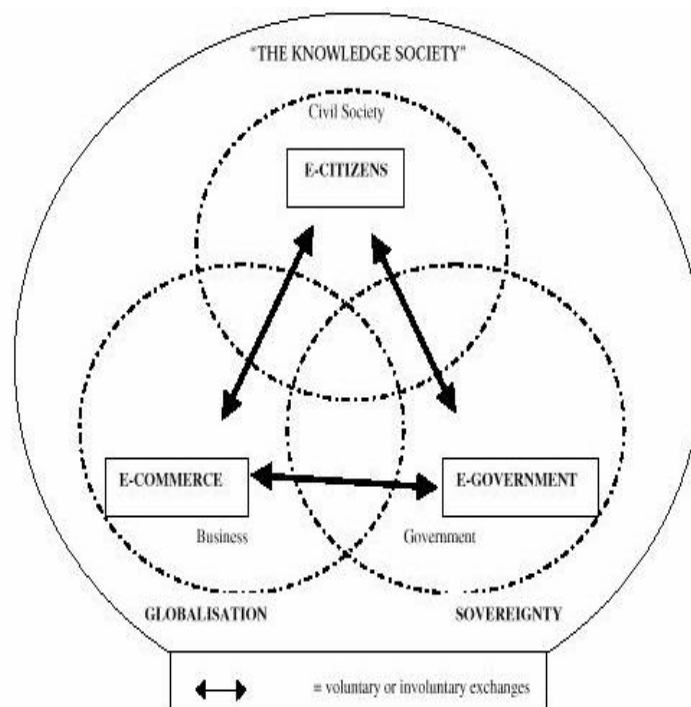
Notwithstanding these substantial implications, it has become necessary to establish a strategy for the implementation of ICT in public administration throughout Europe. Dating back to 2001, the White Paper on European Governance includes broad guidelines meant to help the member states to reach a “more open, inclusive and productive public sector, in line with good governance” (COM 567 2003, 8). However, nine years later, major discrepancies still exist between different EU member-states in terms of web-based e-government implementation.

In 2005, the EU launched a new strategic framework for the development of the ICT sector, the “i2010 – a European Information Society for growth and employment”, which set out three main priorities: the formation and well functioning of a Single European Information Space, the innovation and investment in ICT research and a more inclusive Information Society within Europe with better public services provision (EU 2005). As the lifespan of this strategy is approaching an end, an assessment of the current situation appears as appropriate. Civic engagement with public authorities via online means represents the link between increased accessibility and enhanced inclusion, being, therefore, a proper indicator for the success of the “i2010” strategy.

Concomitantly with the positive changes envisioned by the European Commission for the effective introduction of the ICT in the public sector, the ability of the government to control the activities in which the citizens engage is reduced. In what regards public affairs, it prevails the need for citizens to become involved in a cooperative endeavour to secure that governmental decisions do not override the public interest. For this reason, access to information supports an increased citizen demand for a mode of consultation that is not mediated only by representatives, but rather by the people themselves.

Throughout the process of moving most of the activities online, groups rarely play a role, as the government-led opportunities of participation are mainly created for individual engagement. In turn, this brings about the transformation of the regular citizen into an “e-citizen”. E-citizens are defined as “citizens that access government websites” (Reddick 2005, 39), but at the same time they are representatives of a type of societal interest aggregation working for the public benefit. At the same time, every citizen is able to choose which source of authority to trust and to what extent to become involved, whereas the governments adopting the electronic technologies as means of reaching out to the citizenry are constantly challenged by the competitive exchange of information. In this environment, according to a definition of e-government by Chief Executives Group on Information Management and Technology (Fang 2002, 6), a three-sided relationship emerges: civil society, business entities and government.

**Figure 1. “The Knowledge Society” – a three-sided relationship**



Source: Chief Executives Group on Information Management and Technology, 1999.

Presenting from a broader perspective the intermingling of extensive processes with short, medium and long-term results on every stakeholder in the development of the knowledge society, this chart points to the importance of treating actors as communities continuously interacting. In the present study, the relationship between e-government and e-citizens becomes particularly interesting, given that the aim of reaching individuals in the virtual world presupposes major changes with physical consequences on both sides: on the one hand, the role of the bureaucracy changes in a wired world as compared to traditional workload and daily tasks; on the other hand, the individual impact of being engaged online goes beyond the wired environment and materializes in the changes occurring in the day-to-day activities.

### 1.3. Online participation and the supply side

The possibility of creating an active citizenry depends on the provision of information in a top-down manner, as well as on the existence of a public channel of communication for citizens to reach the decision-makers with a real influence on policy – shaping. Standing out in the online interactions as two main attributes, access to information and civic consultation procedures became the focus of citizen empowerment studies<sup>6</sup>. In the “democracy of civic engagement” envisioned by James Fishkin (1995, 34-41), two more prerequisites for an extensive participation of the citizenry were added: political equality and non-tyranny, which comprised the tyranny of the majority as well.

Based on the degree of participation required from the citizens, West (2005, 9-10) identified four stages in the development of e-government: (1) the billboard stage, in which governmental websites display information without requiring any type of interaction; (2) partial-service delivery stage, with limited services available online and more diverse mechanisms of retrieving information; (3) portal stage, in which fully executable online services and security protection are a must, but advancements are only efficiency-oriented and (4) interactive democracy, focused on public outreach and accountability via web personalization and automatic email updates customized to the needs and interests of different types of users.

The latter stage has been regarded as problematic in the framework of modern representative democracy, which is nowadays facing the voter apathy problem (Aldrich 1997, 373-390) by falling short of enhancing political participation, with low turnout rates in countries where voting is not compulsory raising critical legitimacy questions. While different authors put forward different justifications for this phenomenon, they “share a general premise that existing social infrastructure for the support and encouragement of

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<sup>6</sup> See Tsagarousianou et al. (1998), Hubert and Caremier (2000), OECD (2001).



public debate and political action has been severely eroded and undermined” (Tsagarousianou et al. 1998, 5).

Held’s participatory model of democracy, while remaining an ideal type, provides the insight for the basic features that can enhance or undermine this political regime: “Democracy has been championed as a mechanism that bestows legitimacy on political decisions when they adhere to proper principles, rules and mechanisms of participation, representation and accountability” (Held 1996, 297). Informed and active citizens are needed in order to avoid the state of “pseudo-participation” (Verba 1961, 220), which is based not on creating the opportunity for participation, but rather on creating the feeling that participation is possible. This has long been deemed to undermine the e-government policy by the use of a controlled framework of action in which interest groups, rather than individual citizens, were more likely to make their opinions known.

Pateman (1972, 71-72) distinguishes between partial and full participation. While the latter represents “a process where each individual member of a decision-making body has equal power to determine the outcome of decisions”, the definition of partial participation applies accurately to the objective of online engagement as “a process in which two or more parties influence each other in the making of decisions, but the final power to decide rests with one party only”. Nonetheless, such an interaction represents a step forward in the mode of participation; an individual-based model of consultation, as opposed to the representative-based one, advances a different role of the government, that of remaining in permanent contact with the people. Further implications concern transparency and accountability, since the mechanisms of citizens’ control over governmental processes cannot be restricted to a small number of delegates.

By complementing traditional functions of government through online service delivery and by encouraging interactivity, e-government has the potential to reduce the gap between the representatives and their electorate in modern politics (West 2005, 8). By contrast, Putman (2000) argues that only face-to-face communication and interaction could help the citizens to acquire the necessary skills for democratic participation and negotiation, by increasing the social capital. However, his study neglects any in-depth consideration of the power of information and communication technology to transform the public service delivery into a two-way interaction.

In this sense, Macintosh et al. (2002) explore the emergence of citizens as producers, not just consumers of policies and information, with an important role in setting the agenda for policy formulation. Different case studies have described accurately the mechanisms for civic empowerment in small communities or in working with targeted groups (Guidi 2000). Nevertheless, large - scale studies evaluating e-government policies, such as UN 2008 E-government Report or EU User Satisfaction Report 2008 tend to focus more on technical issues and digital divide, rather than interactivity and transparency features. West (2005, 2) also assesses that e-government research has mainly been bifurcated between in-depth case studies (mainly concentrating on specific local projects rather than focusing on national level) and highly theoretical conceptualisations, with little empirical relevance. This is consistent with what Norris and Lloyd (2007) conclude: e-government is a young and growing field to further develop during next decades.

## CHAPTER 2

# Online service delivery development and its social impact in EU 27

This chapter focuses on the major societal transformations brought about by ICT development in a globalized world. In the European context, two relevant aspects are analysed: the digital divide and the long-term social effects of digital inequalities. These are conceptualized in the broader framework of the interplay between the quality of basic ICT infrastructure and the level of citizen interest for reaching governmental agencies via online means. Based on the 2009 Eurostat dataset, I propose an explanatory regression model for assessing the quality of basic services delivered online in the 27 EU member states, which will be evaluated against the opportunities for online participation, discussed in Chapter 3.

In the past twenty years, the European digital imbalances have often been integrated into different interpretative frameworks of left or right-wing ideology, treating ICT access disparities as part of social inequalities or, respectively, as inherent to the range of differences that make individuals special (Hacker and Mason 2003, 100). Opposing this view, Ho and Tseng (2003, 5) argued that these great differentials in ICT capacity worldwide create disparities that go beyond the structure of the current social inequalities<sup>7</sup>. Studying the effect of ICT diffusion, Bikson and Panis (1995) found important differences among ethnic groups in the use of ICT, which were independent from the income and education levels. Needless to say, those who are already in a socially-disadvantaged position are indeed the first ones to be excluded from the benefits associated with the advent of information society. Still, it is

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<sup>7</sup> For an alternative view, see van Dijk (2000), who argues that the diffusions of new technologies only reinforces existent inequalities due to the cumulative requirements of complex digital skills.

important to consider the leapfrogging effect in analysing the patterns of access to internet, especially when comparing Western and Eastern Europe.

According to a United Nations Report from 2001, the Internet usage represented a “global enclave”, with 79% of all worldwide users living in the OECD countries, which comprised only 14% of the world population. This problem was usually depicted as a matter of relative divide<sup>8</sup> between wealthy and poor states (ICT Development Report 2006), rather than one of absolute digital divide (James 2009, 1124). Current reports from 2009 on internet usage show that the world average penetration rate is 25.6%, but the distance between the most wired and the least wired region of the globe is as great as 2.63 the world average (Internet Usage Statistics 2009). In Europe, the digital divide has been identified as one of the concerns to be addressed through in the “i2010” strategy. From July 2008 to July 2009, there was a 1.3% increase in the fixed broadband penetration<sup>9</sup>, with many of the newer member states falling below the EU average number of broadband connected households (EC COM 2009, 7-8).

## 2.1 Digital divide and its implications

The meaning of “digital divide” – coined by Lloyd Morrisett<sup>10</sup> - has evolved and has came to incorporate more and more elements throughout the last two decades. It was initially linked to the ownership of personal computers, but evolved into encompassing not only the patterns of internet access, but also the type of internet connection (Compaine 2001, xiii). Popularized with the 1998 publication of the report of the National Telecommunications and Information Agency (NTIA) having the term „digital divide” in the title, the concept acquired

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<sup>8</sup> Relative digital divide has been defined as the ratio of information technology stock in developed countries divided by the stock in developing countries.

<sup>9</sup> In this case, broadband is understood as any permanent fast internet connection.

<sup>10</sup> Consistent with Hoffman et al. (2001, 48)

media attention not only in the US, but also worldwide (Jurich 2000; Parker 2000). “Falling through the Net II: New Data on the Digital Divide”, a continuation of the “Falling through the Net” project from 1995, found that variation in the penetration levels is primarily due to income, education level and race (NTIA 1998, 1).

The dichotomous concept of ‘information haves’ and ‘information have-nots’ appeared as “lacking sufficient sociological sophistication” (Webster 1995, 97). “Digital divide” has thus evolved into a multi-dimensional concept (Ferro 2005), being categorized by Norris (2001) as comprising a global divide, a social divide and a democratic one. In regard with the second and third type, Servon and Nelson (2001, 279) concluded that “access to information technology and the ability to use it increasingly have become part of the toolkit necessary to participate and prosper in an information-based society”. Two years later, Mossberger et al. (2003) added two other types to this: the skills divide and the economic opportunity divide. Following Hines et al. (2001), the multi-perspective approach - a further refinement of the digital divide - claims that “it is the combination of histories and social locations that constitute the multiple perspectives on individual holds” (Helbig et al. 2005). Although the creation of a user-friendly version of World Wide Web dates back to 1991, it was only in the late 1990s that the stakes of the digitally networked world started to be thoroughly analyzed.

Since 2000s, access to information within EU borders has been considered fundamental in fighting against information imbalances, which reinforce the existent power structures and information flows. In the attempt to make use of less or no intermediaries in communication and feedback processes, internet was perceived as the “working paradigm of many-to-many communication” (Holly and Herman 2001, 36). This was coupled with the promotion of democratic values and the struggle to foster social change without leaving disadvantaged people behind (White Paper on European Governance, 2001). Nevertheless,

the levels of access and their availability may differ tremendously: a certain quantity of information may be put into use, but its quality could still remain questionable; technological infrastructure may be relatively developed, but its price might make it unaffordable; digital skills may become central to education, but older generations and those outside the educational system would still be deprived of acquiring these. *Table 1* below summarizes these aspects for the 27 EU member –states.

**Table 1. Computer use and Internet access in 27 EU member states in 2009**

	% of individuals who used a computer within last year	% of overall Internet access	% of individuals who used a PC at home in the last 3 months	% of households with Internet at home
European Union (27 countries)	71	65	60	65
European Union (25 countries)	72	67	62	67
European Union (15 countries)	74	68	64	68
Austria	76	70	N/A	70
Belgium	77	67	70	67
Bulgaria	47	30	38	30
Czech Republic	67	54	58	54
Cyprus	55	53	46	53
Denmark	88	83	84	83
Estonia	72	63	66	63
Finland	85	78	N/A	78
France	74	63	65	63
Germany (including ex-GDR from 1991)	83	79	76	79
Greece	49	38	N/A	38
Hungary	65	55	57	55
Ireland	70	67	59	67
Italy	51	53	43	53
Latvia	67	58	N/A	58
Lithuania	62	60	54	60
Luxembourg (Grand-Duché)	89	87	84	87
Malta	61	64	56	64
Netherlands	91	90	88	90
Poland	63	59	55	59
Portugal	54	48	46	48
Romania	44	38	35	38
Slovenia	67	64	59	64
Slovakia	78	62	65	62
Spain	66	54	56	54
Sweden	92	86	86	86
United Kingdom	86	77	N/A	77

*Source: Eurostat data (2009)*

## 2.2 Citizen interest in ICT usage

The phenomenon of digital exclusion, which is a systematic process by which certain people are left out of network positions that would enhance their lives (Castells 1997), constitutes the main concern in relation with the marked European disparities. The digitally excluded are precisely those who would need communication technologies to a large extent: the poor, the unemployed, the disabled, immigrants, ethnic minorities<sup>11</sup>, those living in remote areas, the less educated. However, they remain unconnected for two main reasons: either that they cannot afford it or cannot operate with it (Wilhelm 2003).

On the other hand, the willingness to become connected is related to seeking employment, improving education, and locating government documents (NTIA 1995). Profit from economic advantages (Bikson and Panis 1995) comes only later. As such, this seems like a vicious circle one cannot escape from. According to Willis and Trantner (2002), the original pattern of ICT adoption determines the formation of patterns of social advantage, but may lead to social marginalization (van Dijk 2000).

Not having access to information also impacts on the possibilities of personal development, as well as marking a gap in educational outcomes. Effective in transforming all aspects of individual and collective endeavors, the ICT development and the effective use of internet have become “critical to poverty reduction, increased social inclusion and the creation of a better life for all” (Ho and Tseng 2003, 2). These broad implications cannot be neglected in the EU context, as the European Commission is striving for ensuring equal opportunities across all member states. For unveiling the causal explanation for the extent to which quality services are offered through e-government in the EU 27, a multivariate regression model is employed, as described below.

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<sup>11</sup> A detailed account can be found in Dotterweich (2003).

## 2.3 Determinants of e-government availability – an explanatory model

Drawing the studies mentioned above, I hypothesize that basic infrastructure provision and the level of citizen interest in ICT usage both play a tremendous role in the delivery of governmental services online. The following section addresses the first research question of this study: what are the determinants of e-government availability in the 27 EU member states in 2009? For exploring the factors that impact on the availability of services provided online - from the supply-side perspective -, a multiple regression setup has been established. All the variables from the Eurostat 2009 dataset were measured at the aggregate level, emphasizing country differences based on national averages.

### 2.3.1. Methodology

The present analysis is based on the Eurostat “ICT Usage in Households and by Individuals” dataset from 2009, part of the Information Society Statistics module. This large-scale survey run in all the member states focused on six key areas, in line with the “i2010 benchmarking” strategy: developments of broadband, advanced services, skills and digital literacy, e-commerce and trust, security, inclusion, public services.

The survey was conducted at household and individual level, but for the purpose of this study, the emphasis will be on the aggregated data compiled from the individual level data. The survey was based on stratified random samples of individuals between 16 and 74 years old in each country, with the data collection<sup>12</sup> taking place in the first quarter of 2009. No correction for the missing data has been applied. The aggregation procedure was applied for subpopulations (e.g. Internet users out of the entire population frame) in accordance with the total number of registered population.

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<sup>12</sup> The data was collected by the National Statistical Institutes or the responsible ministries participating in the project. The automatic verification procedure was applied by Eurostat on the national data.



### *Response variable*

#### *E-government availability (supply side)*

This indicator measured the on-line availability of 20 basic public services. Measurement was based on a sample of URLs agreed with Member States as relevant for each service. Native speakers in each language then carried out a web survey to measure the degree of sophistication of online availability using a 4 stage classification: 1. Basic Information; 2. One-way Interaction; 3. Two-way Interaction; 4. Full electronic case handling. Around 8,000 URLs were tested in total.

### *Predictors*

#### *Broadband connection*

Percentage of households using a broadband connection at national level.

#### *Individuals who used internet for communication*

Percentage of individuals who used Internet, in the last 3 months, for communication (national level)

### *Regression equation*

$$Y = x_1b_1 + x_2b_2 + e,$$

where Y = response variable (e-government availability); x<sub>1</sub> = predictor 1 (percentage of broadband connection at national level); x<sub>2</sub> = predictor 2 (percentage of individuals using internet for communication in the past 3 months); and e = error

### 2.3.2 Findings

Table 2 below summarizes the findings for the regression model with e-government availability as the response variable for a sample size of 27 EU member states. After checking the validity<sup>13</sup> and the reliability<sup>14</sup> of the measurements, the assumptions of the multiple regression analysis<sup>15</sup> were scrutinized. 50% of the variation in the model was explained by the broadband penetration and percentage of individuals using internet for communication in the past 3 months. The adjusted R-square (0.50) corrects for the positive bias of the R-square initial estimate (0.54) and is indicative of the extent to which the model could be generalized. In all cases retained in the analysis, the ANOVA test was relevant with an F-ratio<sup>16</sup> highly significant ( $p = 0.000$ ), meaning that the probability of obtaining the F value (15.918) by chance was equal to 0. Standardized coefficients are employed for meaningful comparison of the relative contribution of each variable included in the model. The amount of variance not captured by this model may be due to structural elements, such as the socio-cultural context and the level of trust associated with new technologies and interaction with public authorities.

**Table 2. Regression model (response variable: e-government availability)**

Model	Unstandardized coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
<i>Constant</i>	28.698	9.811		2.925	.007
<i>Broadband connection at home</i>	1.749	.430	1.339	4.072	.000
<i>%individuals using internet for communication</i>	-.867	.396	-.720	-2.189	.037

<sup>13</sup> Discriminant validity procedures were used for assessing the degree to which measures that should not be related to each other in theory are found uncorrelated after observing the data – in this case, based on insignificant correlations with values below 0.2.

<sup>14</sup> Reliability was based on the Cronbach's Alpha measurement, with a value of 0.68.

<sup>15</sup> Assumptions: linear relationship, no influential outliers, mean independence, no specification error and no measurement error; additionally, the independent variables must not collineate; there need to be a normal distribution of the errors and constant error variance.

<sup>16</sup> F statistic is the ratio of the mean square for regression to the residual mean square.

By analysing the coefficients of the regression model, two different trends are accounted for. Firstly, there is a positive relationship between the percentage of connected households across EU 27 and the response variable; to put it simply, the more extensive the basic infrastructure is, the better the quality of the public services provided online. One unit increase in the percentage of broadband penetration brings about a 1.339 increase in the outcome at the maximum level of significance ( $p = 0.000$ ).

Secondly, the importance of e-government seems to go beyond the level at which people are interested in using the internet for communication: the fewer people engage in using ICT for communicating, the better the quality of e-government services. Although this may appear as counterintuitive, it points to the fact that the national governments invest more time and resources into what appears online as they acknowledge the necessity of it in the digital era. A unit decrease in the percentage of individuals who use internet for communication results into a 0.720 increase in the availability of public services. In spite of the fact that the value of the coefficient is small, it is statistically relevant ( $p < 0.05$ ).

### **2.3.3. Limitations**

A degree of caution is appropriate in considering the results of this analysis. This study is based on a large-scale cross-national survey in a field liable to undergo major changes from one year to the other. As it comparatively assesses the level of basic e-government services and explores the factors determining their efficiency in 27 EU member states, the attitudes generating such outcomes remain context-dependent. The regression model applied here captures the causal effect of the predictors on the response variable and indicates the relationship between the specific theoretically – grounded variables which entered the analysis. The effect pattern may change in the presence of different variables; therefore any generalizations from the current results should take into account these caveats.

## **CHAPTER 3**

### **A Comparative Framework for Government-led Initiatives of Online Engagement**

This chapter sets out to introduce a comparative framework for analysing e-government development and online participation opportunities provided in a top-down manner by focusing on the websites of the ministries of education across the 27 EU member states. The present analysis, carried out in 2009, represents an unprecedented effort of assessing the national performance by employing two indicators: interactivity and public outreach measurement. Previous attempts at creating civic engagement typologies are scrutinized throughout the first section; the second section covers the methodological aspects and the findings, as well as shedding light on the distinctions between each of the two-dimensional categories created.

#### **3.1. Top-down empowerment and how to assess it**

Information and communication technology supports three types of participation: information provision for passive users, consultation - a two-way relation between government and citizens and active participation, based on a civic partnership with the government (OECD 2008, 23). These types correspond to enabling, engaging and empowering citizens to get involved in policy formulation. Roza Tsagarousianou identifies obtaining information, engaging in deliberation and participating in decision making as dimensions of civic involvement. To her study, Jankowski and van Selm (2000, 162) offer a critical perspective, consisting in the limitations imposed by the control and procedural mechanisms in place in the virtual space.

In what concerns the components of civic empowerment in online government, Wilhelm (2000, 33-34) makes reference to four aspects: first, the importance of skills necessary for access, mainly consisting in computer literacy and broadband internet connection; second, inclusiveness, pointing to the need to ensure that those affected by certain policies can influence the outcome by expressing their preferences; third, deliberation, including extensive justification of the position adopted and the ability to act collectively and fourth, design, or the technological framework for interactivity being ensured in a secured, but at the same time uncensored space.

Different online platforms created for ground-up empowerment (such as webcasts, vlogs, blogs etc.), are however, hardly an integral part of e-government. Moreover, the political culture of the country is indicative of the type of engagement citizens are ready for and this may partially account for the discrepancies registered in making use of the opportunities provided through e-government. Top-down initiatives, on the other hand, are the necessary tools for assessing the extent to which opportunities for online engagement are present on specific websites of public interest with the decision-makers' willingness to have them present there; thus, they appear more likely to integrate them in policy formulation.

Macintosh (2004) analyses ten key criteria for assessing the government-led initiatives for citizen participation: (1) level of participation; (2) stage in decision-making; (3) actors; (4) technologies used; (5) rules of engagement; (6) duration and sustainability; (7) accessibility; (8) resources and promotion; (9) evaluation and outcomes and (10) critical factors for success. Apart from the framework and level of activity for the specific website, the main characteristics these dimensions revolve around pertain to accessibility and transparency, two of the features to be retained (under different labels) in the present analysis for the aim of creating a typology to explain the differences in the 27 EU member states.

By creating a typology<sup>17</sup> of the degree of online engagement opportunities in EU countries according to their position on the scale of education-related advancements in what concerns e-government implementation, the existent differences will be pictured clearly and a trend in the development of e-government can be identified. In accordance with Elman (2005), the function of the classificatory typology is to assign cases to specific categories with the purpose of mapping or comparing their attributes. The underlying dimensions that will constitute the foundations of the typology are interactivity and public outreach, in order to reach the outcome of placing national ministerial websites in categories following the score they obtain.

In operationalizing these measurements, I rely on Demchak et al. (2002) criteria for interactivity – ownership, reachability and responses –, all of these testing for the means to have access to public officers and to information on internal organization and citizen consequences. Transparency features are included in the second and third criteria of interactivity, by allowing for identifying the attributes and the responsibilities of different ministry officials and providing for means of integrating the opinions of the citizens. West (2008) adds a series of website attributes connected to transaction services (services fully executable online), facilitated interaction (foreign language translation and specific programs for disabled citizens), public outreach (via search engines, automatic updates and customized services) and the existence of privacy and security policies, as a reassuring mechanism for unrestrained communication. The last three of these are considered useful for the purpose of this research (though operationalized differently) as they contribute to assessing the degree of civic empowerment for the domain of interest for this study: education.

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<sup>17</sup> For the distinction between classification, typology and taxonomy, see Marradi (1990).

## **3.2. Creating a typology for online civic engagement opportunities**

### **3.2.1. Methodology**

#### **Case Selection**

The units of analysis for the present research are the 25 EU national governments (Austria, Bulgaria, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Spain, Sweden, Slovakia, Slovenia) and the two countries which provide regional-level ministerial websites based on language divisions: Belgium (French, Flemish and German-speaking communities) and United Kingdom (Northern Ireland, Scotland and England and Wales). According to the federal divisions existent in the two latter countries, there is no ministry of education at the national level. While choosing one specific regional ministry of education from these countries might have introduced the risk of selection bias, by studying separately each regional-level ministerial website, clear conclusions regarding similarities or differences in the online civic participation opportunities can be drawn at the national level for the United Kingdom and Belgium, respectively.

All the 27 countries included in the study have been selected based on their membership to the European Union, which provides the framework for the development of the information and communication technology advancement through structural funds. Thus, the problems typically associated with e-government implementation and the levels of economic development, such as funding shortages or lack of expert staff, are avoided. The choice for websites of the ministries of education is motivated by a number of reasons: (a) the high interest on the part of government in having the newest technologies introduced to the largest public through the works of the ministry of education; (b) the substantial importance of public consultations on issues which concern the education of future generations; (c) the

relevance of the will-driven engagement of the regular citizen for his personal benefit, as well as for the educational purposes of his community; (d) the need to get updated information on policies and regulations results into a frequent use of the webpages of the ministries of education, therefore encompassing an important part of the e-citizens.

The unit of observation is the national ministerial website for educational policies. This specialized field is the one that affects directly the segment of the population that is more likely to become interested in participating in policy-making. Moreover, for a considerable part of the internet users, it produces visible effects in daily interactions. Starting from the premise that online government should not only provide for access to information, but also stimulate civic participation, the educational field of action selected represents the ground for comparing government – to – citizen interaction in a primarily will-driven instance (learning purposes). The claim of targeted niche among internet users for education sector will not be considered an important limitation for this study, as the general policies should address citizens regardless of their age or educational background. It is not expected that the profile of users influences to a large extent the use of e-government services, therefore the unwillingness of internet users to engage in policy-making cannot be consistently accounted for by the characteristics of the communities they belong to.

The empirical research has been conducted in May 2009, therefore the year of reference allows for the available data sources to be complemented with alternative information coming from 2008 case studies, with comparable indicators for newer member states. At the moment the study is realized, more than 12 years have passed since national ministries started to adopt e-government across Europe and 8 years since the issuing of the White Paper on Governance at the EU level.



## Operationalization

For the present analysis of websites, I searched for material that would help an average citizen log onto a ministerial site dealing with national education programmes. This included: contact information for knowing exactly whom to address from a governmental agency in order to solve a problem, material on information, services, features that would facilitate e-government access by non-native language speakers and specifications about privacy and security over the Internet. The same type of criteria will be employed for every website for cross-country comparison purposes. The original language version of the website has been the starting point of the research<sup>18</sup>, complemented by the foreign translation.

Interactivity<sup>19</sup> measurement is formed of the following variables: (1) ownership, which tests whether the agency has provided clickable email addresses; (2) reachability, an assessment of the extent to which the agency allows citizens to reach deeply inside the agency to different staff members – can citizens click on links to a number of different staff members, or participate in chat rooms, forums or discussion lists?; (3) responses, which tests for the interactive means to access information on citizen consequences, such as the possibility of clicking on a hot-linked organization chart, of downloading instructions on complying with the law, downloading forms, completing forms online or connecting to appeal processes.

Public outreach, on the other hand, is a newly created measure<sup>20</sup> concentrating on the availability of information for different language groups and for diverse purposes. It comprises: (1) foreign language translation - whether the website is translated in at least one language; (2) the existence of search engines, focusing on whether citizens can search for the information of their interest or can only read what the officials want them to; (3) the

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<sup>18</sup> For websites that did not provide English/ French/ Romanian/ Italian translation (for most of the sections) I made use of foreign language translation software available online through [babelfish.altavista.com](http://babelfish.altavista.com).

<sup>19</sup> Consistent with Demchak et al. (2000).

<sup>20</sup> Combining different website features identified by West (2005, 25).

existence of privacy and security policies, so that citizens are reassured their personal data is protected while using these services; and (4) availability of e-petitioning, consisting in being provided with the format for sending an official request to a higher authority on behalf of one or more citizens.

Each of these variables is assigned either to group “0” (absence of a certain feature) or “1” (presence of a specific feature). After checking the reliability and the validity of these measures, 4 categories have been created (*see* Table 1): (a) high interactivity- low public outreach, (b) high interactivity- extended public outreach; (c) low interactivity- low public outreach, (d) low interactivity- extended public outreach.

The method of indexing is used for attributing cases to categories. The criterion for placement in a specific category is reached by adding up the score obtained for each of the above-mentioned feature for every dimension separately. Obtaining a score equal to or bigger than 2/3 of the highest possible score for each dimension places the specific website in the “high interactivity” or “extended public reach” category, respectively, while a score below 2/3 on each dimension is associated with “low interactivity” or “low public reach”.

**Table 3. Framework for the dimensions of online citizen participation**

Dimension		INTERACTIVITY	
PUBLIC OUTREACH	Level	Low	High
	Low	Low interactivity – Low public outreach	High interactivity- Low public outreach
	Extended	Low interactivity – Extended public outreach	High interactivity- Extended public outreach

### 3.2.2. Findings

After conducting the research, several general observations must be brought to the forefront. With the exception of Cyprus and Portugal, the remaining 29 cases included in the

study clustered in the categories pertaining to high interactivity, as shown in Table 3. By and large, the expectations concerning the availability of transparency in ministerial websites were confirmed: 96% of the websites analyzed contained information about the ownership, whereas 93% provided detailed materials on citizen consequences by primarily offering forms for download or the possibility to fill in online documents. The average score registered for the dimension of interactivity when all cases were considered reached 2,32 on a 3-point scale, whereas the average for the dimension of public outreach was 2,29 on a 4-point scale.

**Table 4. A classificatory typology of the national educational ministries according to the opportunities for online civic engagement**

		<b>Interactivity</b>	
		<b>Low</b>	<b>High</b>
<b>Public outreach</b>	<b>Low</b>	Cyprus	Austria, Bulgaria, Czech Republic, Denmark, Estonia, France, Greece, Hungary, Lithuania, Luxembourg, Italy, Latvia, Netherlands, Slovakia, Slovenia, Sweden, French Community (Belgium), Flemish Community (Belgium), German Community (Belgium)
	<b>Extended</b>	Portugal	Germany, Finland, Ireland, Malta, Poland, Romania, Spain, Scotland (UK), Wales (UK), Northern Ireland (UK)

In terms of features for direct contact and feedback, the percentages fall drastically: only 41% of the total number of websites displayed the characteristic of reachability, only 35% had a section dedicated to security and privacy policies and 38% offered a special format for e-petitioning. Progress has been registered especially in the e-government forerunning countries, such as Finland, Germany, United Kingdom, but the current typology places three of the newer EU member states - Malta, Poland and Romania - in the category with the most advanced opportunities for online civic engagement. The other eight post-

communist countries that became member-states in 2004 or afterwards clustered in the “High Interactivity – Low Public Outreach” quadrant of the typology.

Yet, compared to previous studies stressing the accessibility problems (West 2008, 8), more than 2/3 of all of the websites analyzed were translated in at least one foreign language<sup>21</sup>, which affected positively the score for public outreach. However, where a foreign language version of the website existed, no daily update of the content was provided. Most of the times, the last material translated dated back to as far as three months behind. On the other hand, it is worth mentioning that a high percentage of the ministerial websites included a search engine (90%), which points to understanding the need for providing access to information in a timely manner.

The placement of the countries in the mentioned categories illustrates the evolution of e-government implementation with less and less cases of low interactivity and increased concern for providing participation opportunities, which characterized 93% of the total cases analyzed. Thus, following the typology, most of the EU countries are still struggling to effectively engage more citizens through top-down initiatives 12 years after the introduction of e-government. This trend of providing for formal online consultation increased from the forerunning nine EU member states identified last year by the United Nations (2008, 51) - Belgium, Denmark, Estonia, France, Lithuania, Malta, UK, Italy, Sweden - to 25 national ministerial websites for education policies in the present study.

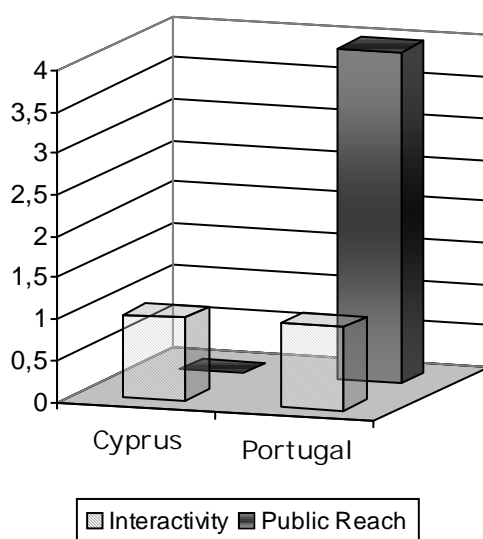
While the trend in the evolution of the two-way interactive government is confirmed by the clustering of countries in this typology, Cyprus and Portugal describe each an interesting case from the point of view of their placement in two different quadrants; by meeting the basic requirements of e-government, the website of the ministry of education from Cyprus lacks both interactivity and public outreach attributes. Although it shares the

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<sup>21</sup> This percentage excludes the 6 language-based regional ministries in Belgium and UK, out of which only 33% provided for a foreign language version of the website.

same characteristic of low interactivity, the ministerial website of education from Portugal provides for extended public outreach features, receiving the maximum score for the latter. *Figure 2* illustrates the extreme distance recorded on the second dimension by comparing the average scores obtained for the displayed features pertaining to interactivity and to public outreach in the case of Cyprus and Portugal.

**Figure 2. Comparison of average scores for interactivity and public outreach features for the websites of national ministries of education in Cyprus and Portugal**



### 3.2.3. Discussion

#### *Low Interactivity – Low Public Reach category*

The category labeled “Low Interactivity – Low Public Reach” represents the basis for the evolution of the interactivity and public outreach features and has been the attribute of initial ministerial websites after the movement from the traditional government to the electronic government has started. Its main characteristic is the extremely limited provision of public services through the means of ICT; in terms of citizenry participation in the online environment, it emphasizes the orientation towards improving access to information rather than interactive communication. While being a stage of development for the majority of

public administration websites at the beginning of 2000s, it points to a laggard position in 2009.

The case of Cyprus is, however, challenging, given the rapid progress it has achieved in the last years. In 2007, it scored lower than the EU average on most of the relevant aspects to the implementation of e-government: the percentage of households connected to broadband internet reached only 20%, whereas out of those using the internet for interacting with public authorities, 18.4% did it for obtaining information, 13% for downloading forms and 9.6% for returning filled forms<sup>22</sup>. As of 2009, several ongoing projects in different remote geographical areas provide technical assistance and support for internet accessibility. With most of the efforts concentrated on reducing the digital gap in schools, the Cypriot Ministry of Education and Culture developed a portal dealing with the specific needs of teachers, students and parents - the DIAS Project. Nevertheless, at the larger scale, most of the citizens are still unable to participate in public debates or obtain information in a different language at the present state of e-government initiatives.

### ***Low Interactivity – Extended Public Reach category***

In what concerns Portugal and its placement in the “Low Interactivity – Extended Public Reach” category, attention should be paid to the fast modernization and the burning of stages. The ministerial website of education scored highest on the second dimension analyzed, whereas the possibilities for interaction were quite reduced. The atypical situation of Portugal, compared to the other EU countries, illustrates the desire to communicate and receive feedback from those concerned by the decisions taken at the ministry level, with the caveat of less transparency and less accountability possibilities displayed. It is also indicative of the pressures governments face when attempting to perfect their work by allowing the

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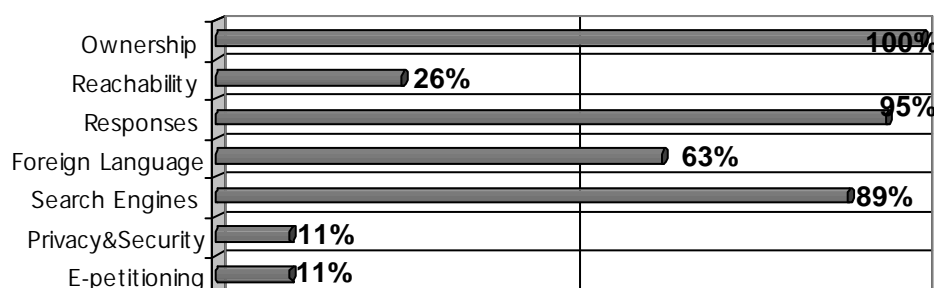
<sup>22</sup> Epractice. “Cyprus – country report” (2009), available at [www.epractice.eu/files/Cyprus\\_e-Inclusion%202008.pdf](http://www.epractice.eu/files/Cyprus_e-Inclusion%202008.pdf) on 27 May 2009.

input of e-citizens in policy-making and of the multiple interests affected by the e-government policies.

### ***High Interactivity – Low Public Outreach category***

This category concentrates the highest number of cases included in this study. It allows for features that further top-down communication rather than encouraging the bottom-up channels, all of the 19 cases displaying ownership information and 18 of them presenting interactive means to access information on citizen consequences, the exception being the French-speaking department for education in Belgium. Interestingly enough, the latter is one of the cases placed best in terms of reachability, together with the national ministerial websites for education in Denmark, France, Luxembourg and Lithuania.

**Figure 3. Percentages of average scores for interactivity and public outreach features in the “High interactivity – Low Public Outreach” category**



Allowing citizens to get in contact with different staff members with diverse functions inside the ministry by interactive means was uncommon for 74% of the cases in this category, whereas foreign language translation was not available for 37% of the websites, as shown in Figure 5. Although the percentages for the privacy and security policies displayed and the e-petitioning opportunities are equal in this category, the websites presenting these features were in each case different: on the one hand, France and the French Community (Belgium); on the other, Lithuania and Luxembourg. Search engines have been used in proportion of 89% in the creation of national ministerial websites for education.

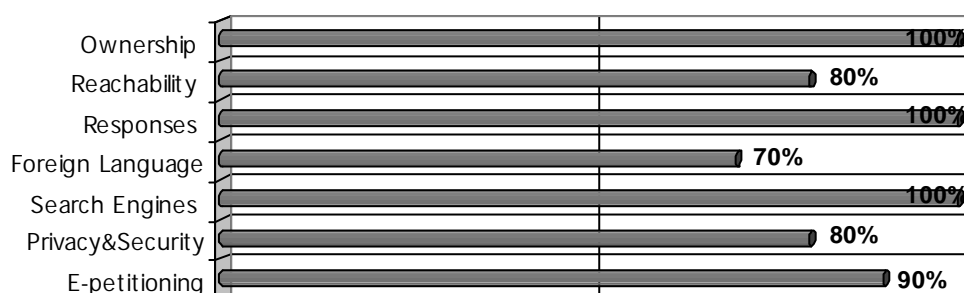
Generally, the former communist countries obtained medium scores in this quadrant by offering web-based applications concerning educational issues that allowed for increased transparency and open access to information; among these, Lithuania obtained the maximum score on the interactivity dimension. These facts can be perceived as a blurring of the boundaries between Western and Eastern Europe in the implementation of ICT in public administration, which is supported not only by a major redirection of the funds for this sector towards newer member states to meet the EU accession and membership requirements, but also as a sign of increased interest in the adoption of e-government in the national context, bearing the legacy of time-consuming bureaucratic procedures and corruption threats.

### ***High Interactivity – Extended Public Outreach category***

The forth category of the two-dimensional typology presented gives equal importance to voluntary exchanges of information between the main actors involved. Figure 6 offers a comprehensive picture of the move towards achieving the highest standards on each of the dimensions examined. Ten cases were included: Germany, Finland, Ireland, Malta, Poland, Romania, Spain, Scotland (UK), Wales (UK), and Northern Ireland (UK). Each of these websites made available information in terms of ownership and provided technical means for responses on citizen consequences and search engines. As the result of a gradual process of enhancing opportunities for online citizenry engagement in education-oriented policy-making, the average percentages for the features displayed did not fall below 80% (reachability) on the first dimension; on the second dimension, the lowest average score was obtained for foreign language translation (70%), mainly due to the presence of regional departments of education in the United Kingdom.



**Figure 4. Percentages of average scores for interactivity and public outreach features in the “High interactivity – Extended Public Outreach” category**



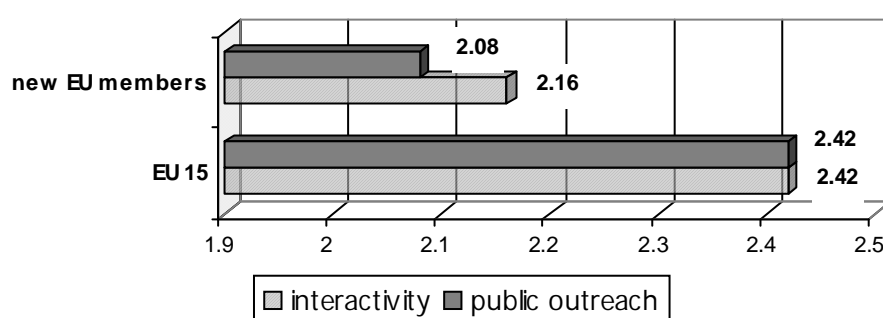
Despite the fact that it does not guarantee an equal participation in policy-making, the advanced opportunities for civic involvement in shaping education-related debates represent a sign of political awareness in directly engaging those concerned. By offering the possibility of e-petitioning, all national ministries in this category - with the exception of Ireland – acknowledge the importance of inputs and feedback for their decisions. Complemented by the display of privacy and security policies to a great extent, these opportunities act as a means of increasing trust not only in the use of new technology, but also in decision-makers themselves.

In this category, the ministerial websites of Germany, Malta, Spain and Wales obtained the maximum score. Considering the newer member states from Central and Eastern Europe, Romania and Poland moved towards extended public outreach after controversial educational packages have been heatedly debated during the transition and pre-accession periods. In the Romanian case, increased transparency has been demanded concerning the ministerial expenditures and the frequent changes in the educational system. Consequently, public consultation via online means has emerged rather as a solution to the pressures for constructive discussions in the benefit of those affected by the policies decided on.

### *Old EU, New EU*

When comparing the national ministries of education as providers of digital content and opportunities for engagement according to the older-newer member states division, slight differences occur. The cases making up the EU-15 group score higher than the newer member states group, formed of the twelve cases corresponding to the national ministries of education belonging to the 2004 and 2007 EU accession (Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia plus Bulgaria and Romania). Measured on a 3-point scale, the average difference between the two groups on the interactivity dimension is of 0.26, indicating that the older member states provide for extended opportunities for access to information and transparency. Though scoring the same on both dimensions, given that they were measured on different scales, the EU-15 group is placed lower on the public outreach dimension, with an average of 2,42 out of 4. The difference of 0.34 when compared to the newer member states average on this dimension can be explained by the clustering of the majority of cases in the “High Interactivity- Low Public Reach” quadrant, while the Cypriot ministerial website acted as an outlier.

**Figure 5. Comparison of average scores of interactivity and public outreach features for EU-15 and newer member states**



In spite of these slight differences, the larger picture does not indicate a tremendous gap between Western and Eastern Europe. West found a 37% difference between Eastern and Western Europe, when he included non-EU countries (West 2008, 5) in his analysis of government websites offering online services (from online registration and booking services

to library access and possibility of ordering publications). For the EU member states, such a division does not seem to reflect accurately the empirical situation, with most of the newer and older member states clustering in the same cell. Multiple reasons account for this situation, especially as governments started concentrating efforts towards issuing new legislation and strengthening “market liberalization, in order to catch-up with technology trends and provide up-to-date opportunities to their citizens and enterprises” (Gourova and Antonova 2008, 2). Cumulated with the pre-accession and membership pressures for developing the sector of ICT, the drive towards moving online appeared as a necessity in newer member states at the time when older member states were just beginning to efficiently implement e-government themselves. In these conditions, it may have been a “fast catch-up” process for learning and exchanging of information, as well as good practices, mainly with the Central and Eastern European countries.

### **3.2.4. Limitations**

In analysing the results, it is important to keep in mind the limitations of this research. Firstly, this initial effort to focus on ministerial websites dealing with educational issues offers some preliminary insights to the development of this sector. However, more research is needed for measuring the consistency of the findings in this sector with the rest of the e-government initiatives across Europe. Besides, it corresponds to a specific point in time and it is liable to undergo major changes in the years to come, therefore opportunities for comparative research both over time and cross regional are envisioned.

Secondly, in assessing civic engagement in top-down online opportunities throughout the European Union, it is important not to disregard the shortcomings usually associated with the online environment: expert teams, security and privacy obstacles, real-time service delivery and lack of support from elected officials. Jan van Dijk (2000) adds to these four

other important hurdles resulting in access inequalities: computer literacy, unequal access to computers and networks, insufficient user-friendliness and insufficient and unevenly distributed usage opportunities. These are all elements to be considered when any generalization from the expected findings is attempted, as this research only concerns the opportunities of civic empowerment by means of top-down e-government policies; it does not assess the impact of user experience and satisfaction with online services on the process of policy-making.

## Conclusions

In meeting the participative demand of modern democracies, current governments transferred to the online environment a large part of the opportunities for civic engagement in policy-making. The implementation of e-government via web-based applications has therefore brought to the surface the need for substantial assessment of the top-down initiatives of citizen participation. After scrutinizing the interplay between the extent to which basic infrastructure provision impacts on the interest citizens have to use online services, the present study explored the determinants of e-government availability by employing a regression model on the 2009 Eurostat dataset on information society and assessed the broader social implications of the digital divide and e-skills development. It concluded that half of the variance in the quality of the online governmental services across EU 27 is accounted for by the broadband penetration and the level of interest citizens have in ICT usage, especially for communication purposes.

The second part of the thesis was dedicated to creating an analytical framework based on two dimensions – interactivity and public outreach – on which to classify the government-led initiatives displayed on the websites of the national ministries of education across the 27 EU member states. The findings underlined a clustering of countries by the level of citizen participation they enable, pointing towards an evolution in the e-government implementation sensitive to public engagement from “Low Interactivity – Low Public Reach” towards “High Interactivity – Extended Public Reach”. Moreover, interactivity appears as the prevailing feature across national ministerial websites in the EU in the first half of 2009, whereas many of the websites examined are presenting at least one of the public outreach features.

By assigning cases to the categories of the typology, the differences between older and newer member states lessened as all countries from the latter group – with the exception

of Cyprus – scored high on the interactivity dimension. The bulk of the cases analysed clustered in the “High Interactivity – Low Public Reach” quadrant and the Portuguese ministerial website provided an example for the burning of stages, displaying reduced access to information and transparency features, but extended two-way interaction means. At another extreme, the Cypriot Ministry of Education illustrated one of the initial stages in the e-government implementation. The opposite conditions of development were found in Germany, Finland, Ireland, Malta, Poland, Romania, Spain and the United Kingdom, which approached the highest standards in available opportunities for civic consultation and participation within the EU.

As a growing field, e-government literature can benefit more from studies that combine theoretical and empirical approaches. This extended study contributes to understanding the implications of creating opportunities for participation by the use of ICT in the shift from traditional to electronic government and digital era governance. Based on the analytical framework developed above, monitoring outcomes and learning processes might represent a potentially fruitful avenue for further research. An assessment of the way in which decision-making mechanisms change in the online environment would represent an interesting direction for study, as it would shed more light on the impact of e-government for the present society.

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