

# How E-Inclusion and Innovation Policy Affect Digital Access and Use for Senior Citizens in Europe

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**Abstract.** Research on e-inclusion and innovation policy on a national and supra-national (European Union) level not always shows to what extent successful e-inclusion and innovation policy have been pursued. Therewithal the aims of national e-inclusion and innovation strategies do not always coincide with the aims of the European Commission. Policies with regard to active aging and senior citizens' participation in the information society on the one hand and local, regional or national initiatives and policy on the other hand might hence be different from the European level. We discuss how e-inclusion and digital access of and use by senior citizens became an important topic in Europe and European policy. We propose not only to focus on a top-down (policy) approach but also a bottom-up approach, where local, regional or national initiatives alongside policy are included in the assessment. We will discuss this on the basis of a literature research together with case studies of The Netherlands and Estonia.

**Keywords:** Digital access, e-inclusion, innovation policy, senior citizens.

## 1 Introduction

In 2012, designated as the "European Year for Active Ageing," the European Commission created aims to help the growing number of older people in Europe to take an active role in society, and – focusing on e-inclusion – to promote participation of all individuals and communities in all aspects of the information society. This paper focuses on e-inclusion [1] and innovation policy on a national and supra-national (EU) level. It argues that both national aims of e-inclusion and innovation, and local, regional or national initiatives and policy do not always coincide with the aims of the European Commission with regard to active aging and senior citizens' participation in the information society.

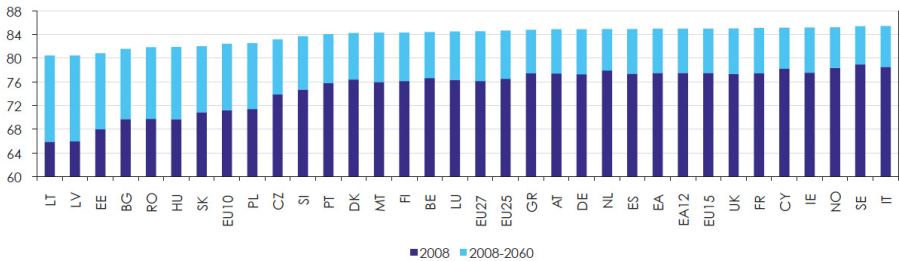
In this paper we report results of the Third Age Online (TAO) project, which runs in Germany, the Netherlands and Switzerland. The TAO project aimed at facilitating senior citizens' access to the Internet and to social networks via software development, support, e-learning, training and business support for senior citizens' non-profit communities. A central research question of this project is whether or not

participating online and make use of the Web 2.0 possibilities of the World Wide Web could enhance the wellbeing and social inclusion of senior citizens.

First, we discuss how e-inclusion and digital access of and use by the aging population has become an important topic in Europe and European policy. Second, we elaborate on other studies that assess the directions and the degree of successful e-inclusion and innovation policy in Europe that has been pursued. We will not only focus on a top-down (policy) approach, but also a bottom-up approach, where local, regional or national initiatives are included beside policy in the assessment. We will discuss these topics on the basis of a literature research and present two cases that underline this holistic approach.

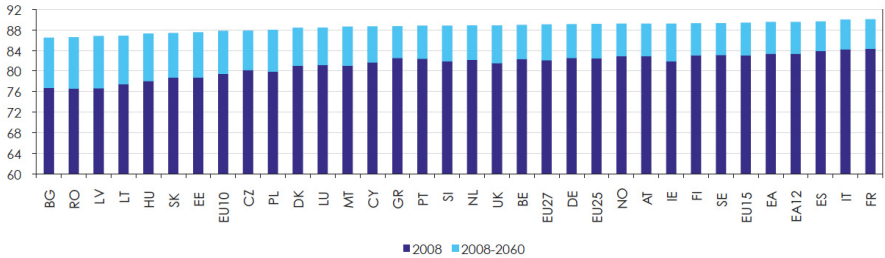
## 2 Aging Europe

Our contemporary society has been given many names in the past few decades, including terms such as ‘information society’ [2], ‘knowledge society’ [3], and ‘network society’ [4]. An increasingly important issue that faces our society is the “ageing challenge” [3], leading to the introduction of the term ‘ageing society’. The ageing of the populations of the EU Member States is evidently one of the most seminal trends determining the living and working conditions of Europeans in the future. As demographic projections [5, 6] indicate, the life expectancy of both women and men within the 27 member states of the European Union (EU-27) will grow considerably over the coming five decades (Figure 1 and Figure 2). For EU-27 and the period between 2008 and 2060, the European Commission expects life expectancy at birth for men to increase from 76 years to 84.5 years and for women from 82 years to 89 years. For both genders, largest increases of life expectancy are forecasted for the new Member States, such as Poland, the Baltic countries, Czech Republic, Cyprus, and other Eastern European countries.



**Fig. 1.** Projection of life expectancy (in years) at birth, men [5]

The consequences of these processes for the demographic structure, as forecasted by the European Commission, are dramatic:



**Fig. 2.** Projection of life expectancy (in years) at birth, women [5]

“Half of the population today is 40 years-old or more. In 2060, half of the population will be aged 48 years or above. The number of elderly persons aged 65 or above already surpasses the number of children (below 15) in 2008, but their numbers are relatively close. In 2060, there would be more than twice as many elderly than children. In 2008, there are about three and a half times as many children as very old people (above 80). In 2060, children would still outnumber very old persons, but by a small margin: the number of very old people would amount to 80% of the number of children.” [5]

On the one hand, this demographic trend implies considerable challenges and strains for the European economies and social models, as it is associated with challenges for existing business models [7] and a considerable increase of societal costs. The European Commission [5] projects a growth of expenditures (as share of GDP) for pensions by 2.4 percent points, for health care by 1.5 percent points and for long-term care by 1.1 percent points. Altogether, the European Commission expects that between 2007 and 2060 the GDP share of age-related government expenditures within EU-27 will grow by 4.7 percent points.

On the other hand, the trend towards older populations is also associated with a number of new opportunities. Terms like ‘silver market’ [8, 9] or ‘silver economy’ indicate that senior citizens provide a huge potential for new products and services and are becoming an important target group for market research and marketing campaigns. If estimates are correct, Europeans aged 65 years or more possess wealth and revenues of over € 3,000 billion, and the market for smart home applications alone will triple from 13 million people in 2005 to 37 million people in 2020 [10]. In other words: older people are increasingly becoming a factor of economic growth.

Research on the ‘silver market phenomenon’ has revealed that the generation aged 50+ is very different from younger consumer groups and is heterogeneous with regard to its demands as well as its capacities and preferences (e.g., [11]). As a group, older persons are characterized by specific physical and cognitive abilities and shrinking social networks, which often induce a demand for strong personal ties to staff, e.g. care personnel [12]. In addition, the preferences of older consumers for certain

types of businesses are very distinct from the average, especially when the use of the Internet is considered [13].

As differences between generations are acknowledged, features of the upcoming aging population – the so-called WWII baby boomers – should be taken into account. This generation has grown up during a number of important technological developments [14], such as the introduction of live television, the first computer systems, and evidently, the Internet and its enormous impact on both social and economic levels.

“These changes have both positive and negative impacts on the ability to remain active and independent in older age, on the nature of participation and contribution, and on family support networks” [14].

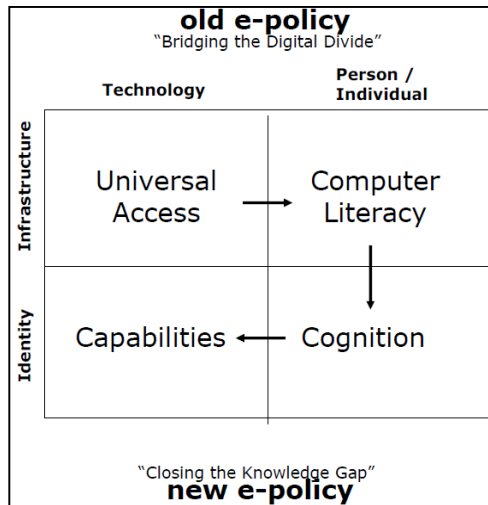
Hence, according to social gerontologists Martinson & Minkler [15], the meaning of later life should be viewed from the perspective of older people, since they are the ones who live it. Martinson & Minkler believe, however, also in the option of allowing older people to choose whether they wish to actively contribute to society by means of online participation [15], for example, as the increased opportunities offered by the Internet do not necessarily have to lead to an increased participation of older persons. The European Commission strongly underlines the significance of older persons participating in online applications, believing in the beneficial aspects of active aging through online contribution.

### **3 e-Inclusion and Innovation Policy in Europe**

In May 2010, the European Commission adopted e-Inclusion as one of the main topics of the ‘Digital Agenda for Europe’ and consequently, the concept entered the debate on aging populations in full force [1]. E-inclusion is, according to the EC, a possible strategy to achieve active aging. The concept is strongly related to other European policies on social inclusion, for example, and is conceptualized as a “focus...on participation of all individuals and communities in all aspects of the information society” [1]. According to the EC, e-inclusion is the solution to the gaps in Information and Communications Technology (ICT) usage, and moreover, will improve quality of life and social participation and thus will reduce social exclusion [1]. The EC furthermore claims that e-inclusion methods are an effective way of reaching vulnerable social groups such as older people [16]. A multitude of programs specifically designed for older people therefore focus on creating opportunities to make them increasingly active online. It is also stated that these programs decrease dependency and increase responsibility, thus leading to living more active lives as people age [16].

However, most critical e-inclusion and innovation policy studies argue that the concepts 'access' and 'usage' are on the one hand too techno-deterministic and on the other hand insufficient as policy terms to get people involved online and informed about e-inclusion [17, 18, 19, 20, 21, 22]. Besides our focus on the EC, there are plenty of national initiatives of this – too techno-deterministic – kind, too. In this chapter, we will present an analysis framework for e-inclusion and innovation policy in Europe, applied to several case studies to highlight national policies and explain how similar or different they are from the EC’s e-inclusion policy.

The link between e-inclusion and innovation policy was best described by Maier-Rabler [17], when she coined the concept of e-policy as “the strategy for the introduction of ICT in a certain social environment.” With her model of new e-policy (see Figure 3), she proceeds from infrastructure-oriented measures, linked to bridging the digital divide, to identity-oriented measures to close the knowledge gap between different generations [15]. This model should “make people understand how they are affected by the new media and which individual choices they have” and “eventually lead to the acquisition of the desired capabilities in order to develop a self-determined style of utilization of the new information and communication technologies” [17]. Describing the new e-policy model, Maier-Rabler sees a shift between policies on the technological/infrastructural level of (technical) access and (technical) skills, to policies about more individual-based aims focusing on capabilities and understanding of new media and digital technologies [17].



**Fig. 3.** Model of a new e-policy. The predominating information-culture constitutes current e-policy practice. The shift suggested by Maier-Rabler is from infrastructure-oriented to identity-oriented measures [17].

These e-inclusion and innovation policies, both focusing on access, literacy, and cognition as capabilities are top-down, since the policy makers decide on which strategies to aimed at and to what extent a country focuses on e-policy on a infrastructural, technological, capacity or ability level. Besides these top-down approaches, e-inclusion and innovation policy can also be emulated by smaller or other national initiatives or organisations that choose to pursue e-policy and to close the knowledge gap bottom-up. To assess the directions and degree of successful e-inclusion and innovation policy in Europe that has been pursued, we apply both the bottom-up initiatives as the top-down approaches to the e-policy model.

To see overlaps between e-inclusion and aging policies in Europe we follow the approach of Sapir [23], clustering Europe according to socio-economic situation and care model zones:

- The continental welfare state (Belgium, France, Germany, Luxembourg, Netherlands, Austria)
- The Scandinavian welfare state (Sweden, Denmark, Finland)
- The Anglo-Saxon welfare model (UK, Ireland)
- The Mediterranean welfare state (Italy, Spain, Portugal, Greece)

And, as added by Ivan [24], with the accession of the new 12 EU member states (in 2004 and 2007):

- The Eastern European welfare state (Eastern European countries, such as Romania, Bulgaria, former Yugoslavia and the Baltic countries).

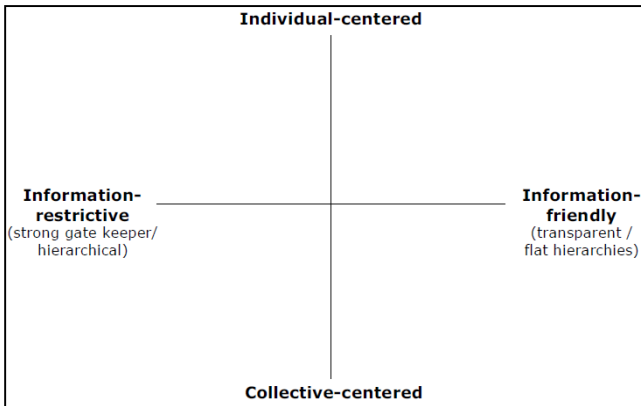
However, together with describing the e-policy-model of several European countries, Maier-Rabler also clustered European countries and labelled them, differentiating “between e-strategies and e-actions” and categorising “strategies and actions into access, skills/literacy, cognition/awareness, and capability driven policies” [25]. This led her to create the following clustering with labels “drawn on the main characterizing element of the cluster” [25],:

- Nordic Openness: Denmark, Finland and Norway
- Anglo-Nordic: United Kingdom, Ireland, the Netherlands and Sweden
- Stuck-in-the-Middle: Austria, Germany, Slovakia, Slovenia, Italy, Spain, and Malta
- Traditional National Individualists: France, Belgium, Portugal, Poland and Hungary
- New Achievers: Estonia, Latvia, Lithuania, the Czech Republic
- New Uncertain Conservatives: Greece, Cyprus, Bulgaria and Romania
- Little Princesses: Luxembourg and Switzerland

With several overlapping countries, many similarities can be seen between both Sapir and Ivan’s [23, 24] and Maier-Rabler’s [25] approach, but “even when the goals of policies are the same for a number of countries or regions, or sectors, the difference in specific contexts may call for different policy solutions” [26].

For our research, we not only elaborate on political, economic, technological and demographic trends in Europe, but also on social and innovative trends, and we attempt to label and cluster the bottom-up initiatives and approaches in Europe. Maier-Rabler created a matrix in which information cultures are assigned to two axes (see Figure 4). On the one hand the axis of either individual-centered or collective-centered societies and on the other hand the axis of information-friendly (open, transparent) or information-restrictive (gate-keepers) cultures [17].

Where top-down national policies are considered as information-restrictive and most of the times collective-centered, opening up these policies for more social innovation is considered as information-friendly. These bottom-up initiatives and approaches are an example that e-policy does not “lead automatically to the well-known either or not, connected or not-connected, haves or have-nots, but to a variety of patterns of involvement” [17]. To illustrate that this bottom-up involvement might give a different character to a country’s e-policy, we present two cases: The Netherlands and Estonia.



**Fig. 4.** Information cultures and e-policy [17]

### 3.1 Case: The Netherlands

On a policy level, the Netherlands wants to create more awareness for e-inclusion and participation, with better services and less regulation [1]. This is in line with what Maier-Rabler analysed when clustering the Netherlands in the ‘Anglo-Nordic’ cluster [25]. Focusing on cognition and capabilities (see Figure 3), the Netherlands can be seen as an information-friendly society with a liberal societal structure of governance.

Despite much attention since 2000 to the digital divide and promoting e-inclusion, these matters disappeared from the national agendas after a few years and were transferred to the provinces and municipalities [27]. From 2005, a decentralisation of e-inclusion initiatives became rather a local, municipal or provincial matter [27]. Within this situation SeniorWeb sprang, though initiated by the Dutch government.

SeniorWeb is a non-profit association, which runs the most popular community platform for senior citizens in the Netherlands. Since 1997, its mission is to familiarise those generations with computers and the Internet who have not had the chance to grow up with them. An important premise is that this should be done for and by senior citizens. SeniorWeb has developed a well-functioning network of highly motivated and enthusiastic volunteers and has a rich experience with elderly people, enabling SeniorWeb to develop new products and services for this target group. With over 3200 senior volunteers and over 125000 senior members and services such as ICT assistance, online classes, offline courses and other support, it is clear that SeniorWeb plays a very important role in the Netherlands with regard to e-inclusion and online participation of older adults.

In short, the Dutch ‘Anglo-Nordic’ approach works out: the country decided to regulate less, and in this liberal and information-friendly society, SeniorWeb was initiated, but bottom-up grew to be one of the most important e-inclusion factors in the Netherlands. The results of the TAO Survey Among Elderly Beginners with insights in Internet usage patterns and motivations and their effects on social inclusion and well-being, confirm the importance of SeniorWeb, since almost 90% of the respondents are SeniorWeb members [28]. The respondents are socially well-included and have on average a good mental health. In general, the respondents have on

average made very positive experiences with using the Internet and regarding the use of Facebook, the respondents indicate they to engage in the Web 2.0 possibilities of online creation, collaboration and participation, since over 65% of the respondents use Facebook and even over 30% indicate an active use of this social networking site.

### 3.2 Case II: Estonia

In Estonia, the Estonian Information Society Strategy 2013 (EISS2013) was presented in 2006. This policy presents the e-inclusion aims for 2013 and it targets a broad deployment of ICT for all residents of Estonia from 2007 to 2013. Despite that the strategy also aims to strengthen local self-initiatives, the action plan was a national e-inclusion and broadband strategy mostly focusing on (universal) Internet access and usage in Estonia [29]. Properly, Estonia is labelled as ‘New Achiever’, since the country is consequently “more eager to demonstrate their readiness for the European Union and more dedicated to overcome traditional cultural barriers on their way to modern societies, than other former Eastern-European countries” [25].

Despite this focus on access and usage in a – compared to the Netherlands – less liberal and more information-restricted society, some local bottom-up initiatives tend more towards capabilities and a liberal information-friendly approach. The aim of the Estonian Tiger Leap Foundation, is “to foster pupils’ interest towards science and help them acquire the skills for using modern technology wisely in the course of their studies” [30]. However, as can be found in a first evaluation of EISS2013 [31], despite a continuous growth in innovation and R&D funding, the current policies place too much emphasis on infrastructure-related investments. Moreover, the e-inclusion concept of the new programmes remains fuzzy and administrative capacities seem to be weak.

## 4 Conclusion and Discussion

In this paper we discussed how Europe as an aging society, is targeting its policies towards e-inclusion and innovation with regard to digital access of and use by senior citizens. As senior citizens are very different from younger consumer groups and heterogeneous with regard to its demands as well as regarding its capacities and preferences, a comprehensive e-inclusion strategy has been set out in Europe. The European Commission and national entities strongly underline the significance of older persons participating in online applications, believing in the beneficial aspects of active aging through online contribution. National and European approaches and policies are not always the same and next to these (supra-) national policies, local, regional or national projects may be initiated. We elaborated on e-policy as the strategy for the introduction of ICT in a certain social environment, which was also assessed throughout European cultures, leading to a clustering and labelling of countries. Here, we expanded the clustering from political, economic, technological and demographic trends in Europe to other social and innovative trends, also trying to label and cluster the bottom-up initiatives and approaches in Europe.

Working out the Netherlands and Estonia as short case studies, we see that more research is needed to develop a complete model and holistic approach. All European countries need to be assessed thoroughly and their bottom-up initiatives and approaches should



be described, leading to a new clustering of Europe with different zones and labels. It will be meaningful to also include factors that capture the impact of the strategies, e.g. actual participation (quantitative) and forms of participation (qualitative) of senior citizens, plus societal, policy and economic consequences of the way how older adults respond to these activities and strategies, as was shown in the two case studies.

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