Putting the User at the Centre – What It Means for the Provision of Online Public Services in the EU

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Abstract: The development of eGovernment has until now been primarily guided by supply-side factors, in spite of governments' claims that they will use the Internet to improve service provision and to better meet citizens' requirements. There is, however, a consensus emerging that from now on the "user, the individual has to be placed at the centre of future developments for an inclusive knowledge-based society for all". This paper presents first findings from eUSER, a major research and dissemination project which will seek robust evidence for users' real needs regarding eGovernment offers, as well as providing data about attitudes and take-up levels of public online services. The authors suggest that before online public services will be taken up by large parts of the population, access to ICTs, the level of eSkills and, arguably most important, user motivation must improve considerably.

1. Introduction

Arguably, the development of front-office eGovernment in the EU area has until now been primarily guided by supply-side factors, in spite of governments' claims that they will use the Internet to improve service provision and to better meet their citizens' requirements. In practice, technological possibilities rather than user needs have determined all too often the design of public online services. This contrasts sharply with the European Commission's request that – in the light of its vision of "ambient intelligence" – the "user, the individual has to be placed at the centre of future developments for an inclusive knowledge-based society for all". At the root of this contradiction lies what social researchers call technological determinism, which is the wide-spread tendency to assume that certain social outcomes are in some way inherent in a technology. A determinist view implies that all that has to be done is to develop and "unleash" a certain technology in order to make its potentials for improving human life come true. It can, however, easily be shown that technological determinism is a myth and that technology, while enabling certain beneficial developments, is in no way a sufficient condition for these (see e.g. [13]). Rather, society has to devise policies which effectively strive to use technology to the largest possible benefit of all.

There is, thus, no reason to be complacent about the high degree of satisfaction which users show with eGovernment services (see [5]). Other research has confirmed that users tend to be satisfied with online public services: BISER [2] found that over 90% of citizen and over 80% of business users indicate that they would use the online channel for e-government service provision again. At the same time, however, a large percentage of potential users of e-government still prefer to access government services through traditional channels (mostly face-to-face). There is evidence that a positive attitude towards

online government services exists only among current users, while most non-users at the same time are totally dismissing their usefulness. Such polarisation between users who are enthusiastic about the advantages of e-government and non-users who refuse to even try e-government services (what the study calls "e-government refusers") can only be seen as a call for action.

Such findings are of special relevance because the main services of public interest (which, of course, need to be defined) must be accessible to every citizen. Additionally, for many services there exists a public interest in a high degree of usage (e.g. education), which goes much beyond mere accessibility but involves questions of motivation. What, then, must be done to better address the diversity of user needs and preferences in the development of online public services?

This paper is based on research undertaken as part of the eUSER project. Funded by the European Commission's IST programme, eUSER is a major research and dissemination project which seeks to provide solid evidence about users' real needs regarding eGovernment offers, as well as providing data about attitudes and take-up levels of current public online services. In addition to a review of existing knowledge, the project will collect novel data by means of representative population surveys (demand side) to be carried out in a selection of old and new Member States, and through comparative analyses of readiness to address user aspects of public eServices in each Member State (supply side). This paper presents first findings from initial steps undertaken in the project, i.e. the analysis of the state-of-the-art in research on user needs and methods.

2. Online Public Services

For the purpose of eUSER, public services are defined as front-office services of public interest spanning three main areas: public administration, health, and learning. Furthermore, the focus is on the delivering these services using online computer connections, either entirely or at least in a significant part, while observing the relevant fact that these services maintain their inherent link to their traditional off line sphere. The relevant issues relate to the improvements that can be achieved in relation to the 'traditional' delivery of these services. These improvements can be twofold – in the first instance they can relate to the efficiency of service provision. Thus, eGovernment can provide a new impetus to address the ongoing challenge of revamping public administration in order to improve the quality of public services. In the second instance, improvements can aim to widen the reach and reach-ability of these services by actively incorporating all relevant user needs as integrative part of the whole delivery process.

In the following, the discussion is limited to services provided by public administration. For the purpose of identifying the public services which should be the focus of in-depth analysis in eUSER, the most important point of reference is the list of online public services which has been established for implementation of the eEurope 2005 Action Plan (see [4]). The list is a central component of the Commission's e-government strategy; its success is being benchmarked annually using supply-side data about online availability [3]. It is, however, problematic from the viewpoint of user-centred service provision for two interrelated reasons: Firstly, it can be shown that none of the 12 services is of major relevance for the majority of citizens. Data from BISER suggests that even those services from the list which are most frequently used concern only a minor share of the population: Much less than half of the EU population (37%) file an income tax declaration per year (of which 3 percentage points did so online in 2003); only 19% request personal documents such as a passport, driver's licence, birth certificate, etc. (1% online); and 14% register a car or other vehicle per year (1% online) [2].

Secondly, the focus on the supply side (while rightly reminding governments to get active) bears the danger that it is taken for granted that once “100 percent electronic service delivery” is reached, citizens will automatically switch to the online channel for the acquisition of these services. This would ignore the fact that the ability of citizens to engage with computer technology, and/or the willingness to do so for such purposes, varies greatly, as is discussed in the following chapter of this paper.

Recent evidence, from the U.K. [7] especially, suggests that online availability of the basic public services defined by eEurope alone is unlikely to lead to strong increases in demand for eGovernment. The UK government has set a target of getting all public services online by 2005, but this contrasts with low usage rates, according to a study by think-tank The Work Foundation [8]: “While [the government] has already achieved about 70%, many of these services are not being used. [...] Some of the services government has to put online to meet its 100% target - from burial at sea to potato seed classification - begin to look a little peculiar when barely 3% of those eligible are filing their tax returns online” [18]. The study suggests that encouraging more citizens to use online services should be made the "unequivocal top priority" by the government in its e-government strategy, “even if this means downgrading the 2005 target for getting all services online” (ibid.).

For the analysis in eUSER, two observations follow from this: First, it will be essential to select public services (or groups of services) for the analysis which are of high relevance for citizens, which means that they to some extent determine their satisfaction with public services in general. In short, eUSER needs to focus on services which really make a difference. And second, rather than focussing exclusively on individual services, eUSER needs look more generally at factors which influence demand for online services in general, and for public online services in particular.

3. Mapping Users

Starting point for the eUSER project is the observation that users of online public services are a highly differentiated group. This is often ignored as governments are planning the “roll-out” of public online services according to penetration rates as if they were trying to sell a soft drink. In reality the notion of an “average user” (as it has recently been applied by the UN for a recent study on e-readiness of public administrations, see [19]) can be misleading because the main services of public interest must be accessible to everybody, not only the majority (or minority?) of users whose capabilities and preferences are well represented by the statistical “average”. For this reason, an analysis of barriers to uptake needs to shed more light on types of users and their specific requirements.

For the purpose of our study the analysis carried out by Viherä [17] is of special value. Viherä has introduced the concept of communication capabilities which comprises not only *access* to ICTs and *competence* in using them, but also the *motivation* for using them for certain purposes. In order to apply her notion of communication capabilities to usage of online public services, we need to understand what access, competence and motivation mean in the context of eGovernment applications. The following sections will also have a look at existing data in order to show to what extent demand for online public services in the EU population is likely to meet expectations in the near future.

3.1 Differences in access

Using public online services requires access to the Internet for private usage. When looking at Internet access at home, and additionally taking into account awareness and usage of public Internet access points (such as in educational institutions, libraries, Internet cafés

etc.), the SIBIS data quite clearly points out that access is currently far from ubiquitous (see Table 1). This applies in particular when considering that many advanced online services require a broadband access to the Internet.

Table 1: Home access to the Internet and use of public Internet access points in the EU15 and 10 (then) Newly Associated States (bottom); percentages of total population 15+; data source: SIBIS 2002/2003

	EU15	**SI**	**EE**	**CZ**	**PL**	**HU**	**LT**	**BG**	**SK**	**LV**	**RO**	**NAS10**
Broadband	8	2	7	0	0	1	1	1	0	0	0	0
Narrow/ midband	24	27	15	14	11	9	7	8	8	5	4	9
Unknown access	13	5	4	4	2	1	2	1	1	2	1	2
No Internet access	56	66	73	81	87	89	90	91	91	93	96	89
Thereof: PIAP users	*6*	*4*	*12*	*7*	*5*	*4*	*13*	*9*	*10*	*12*	*8*	*7*
Total	100	100	100	100	100	100	100	100	100	100	100	100

Differences in access can also be the result of special requirements of users [14]. This is because the ability to use online applications through the usual end devices (mainly personal computer) can be limited by functional restrictions. These are much more widespread in the EU than commonly assumed. A recent study [15] found that 17% of the EU population in the age group 50-59 have severe functional restrictions with regard to either seeing, hearing or dexterity (see Table 2); the share is, of course, much higher in the older age groups (data for younger age classes is not available yet). Persons with functional restrictions may need special equipment to be able to access mainstream Internet-based services, such as enlarged keyboards and monitors, voice input/output, and so forth.

Table 2: Prevalence of functional restrictions as % of older population (source: [15])

	Age class				
	50 - 59	60 - 69	70 - 79	80+	total 50+
Any functional problem (seeing, hearing and/or dexterity)					
severe problems	16.7	19.3	25.1	38.6	21.4
some problems	41.1	43.9	44.6	39.7	42.7
total: problems	57.7	63.2	69.7	78.3	64.1

The same applies to some extent to ethnic minorities which do not feel confident in understanding the language in which public websites are penned. This is where access is interrelated with the second condition for communication capability, namely competence.

3.2 Differences in competence (skills)

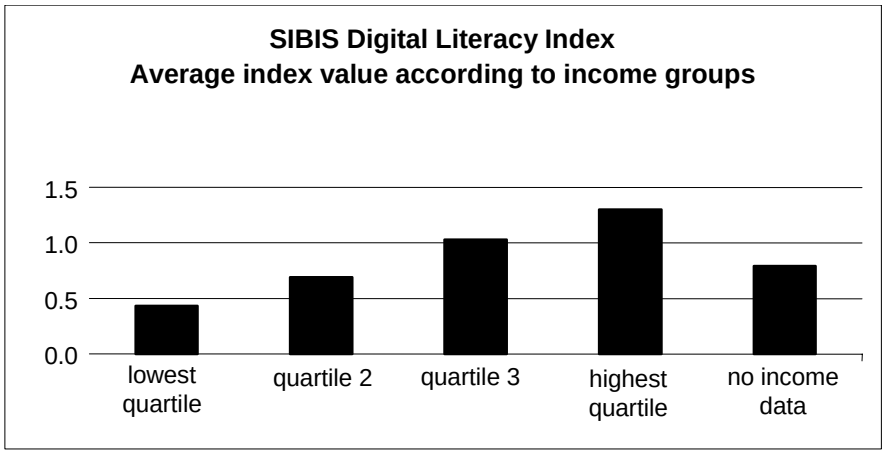
To properly use online public services, citizens still need to have considerable computer and Internet skills. Endowment with these skills is highly correlated with usage experience, which means that skills are obtained mainly by doing rather than by upfront methods of learning [1]. The share of citizens who are able to use online services can therefore be estimated by consulting usage statistics such as the ones compiled by SIBIS [16].

Closer analysis reveals that the willingness to use the Internet for formal transactions of the kind involved in many public online services does depend less on actual skill endowment than on the degree of confidence persons feel to have in using computer applications. The SIBIS digital literacy index measures confidence using 8 items related to online usage, including confidence in using a search engine to find information, in

identifying the source of information provided on the Internet, in using e-mail and Internet chat-rooms, in creating a personal web page, in downloading and installing software onto a computer, and in understanding the content of websites written in English.

The SIBIS compound digital literacy index aggregates replies to all of these items into a single measure with the maximum value of 3. Digital literacy is strongly correlated with household income (see Figure 1), social grade, educational attainment and age.

Figure 1: SIBIS digital literacy index according to household income (data source: SIBIS 2002)



In addition to computer skills and ability, the notion of competence related to the use of online public services also includes competence in handling public services, irrespective of the channel through which they are received. A factor in this is literacy in the wider sense of term, meaning the ability to grasp and process informational content. Data on literacy has been systematically collected be the OECD under the leadership of Statistics Canada through the International Adult Literacy Survey (IALS, see [11][12]) and table below.

Table 3: Adults performing below an adequate threshold of literacy: percentage of population in various age-groups at literacy levels 1 or 2 on document scale ([12]: 100)

	Age group		
	16-65	*16-25*	*46-55*
Belgium (Flanders)	39.6	23.6	48.3
Germany	41.7	34.2	42.4
Ireland	57.0	49.9	65.9
Netherlands	35.9	22.9	48.3
Poland	76.1	65.3	82.6
Sweden	25.1	19.7	26.6
United Kingdom	50.4	44.4	52.7
1994-95 data			

The authors conclude from their analysis that “low literacy is a much larger problem than previously assumed in every [OECD] country surveyed: from one-quarter to over one-half of the adult population fail to reach the threshold level of performance considered as a suitable minimum skill level for coping with the demands of modern life and work” ([11]:5, see table below). It must, therefore, be assumed that low literacy levels will also act as a barrier to the take-up of online public services, as long as these require more advanced literacy skills than traditional methods of provision, such as face-to-face interaction.

3.3 Differences in motivation

For our study, lack of motivation can be understood in two ways:

- lack of willingness to interact with providers of public services in general: This means a passive attitude towards public services as opposed to a more customer-like behaviour. It can be rooted in general attitudes towards society, which are notoriously difficult to measure – especially in cross-cultural survey studies. It can, of course, also result from a low perceived utility of the service on offer.
- lack of willingness to use online services (rather than other channels) for the purpose of interacting with providers of public services. As Viherä & Nurmela [17] point out, it is often the telephone rather than the Internet which is citizen's preferred tool for societal communication. They conclude from this that "when services and commerce are being launched to an ever-increasing degree in the network, special care must be taken to guarantee the availability of services also by telephone" ([17]:13). Findings from SIBIS (see Table 4) showed that even among regular Internet users, the majority would prefer to use traditional channels such as the telephone, postal mail or face-to-face exchange rather than the Internet to interact with public administration for service provision.

Table 4: Preferred ways of receiving services by public administration; percentages of regular Internet users (Data source: SIBIS 2002)

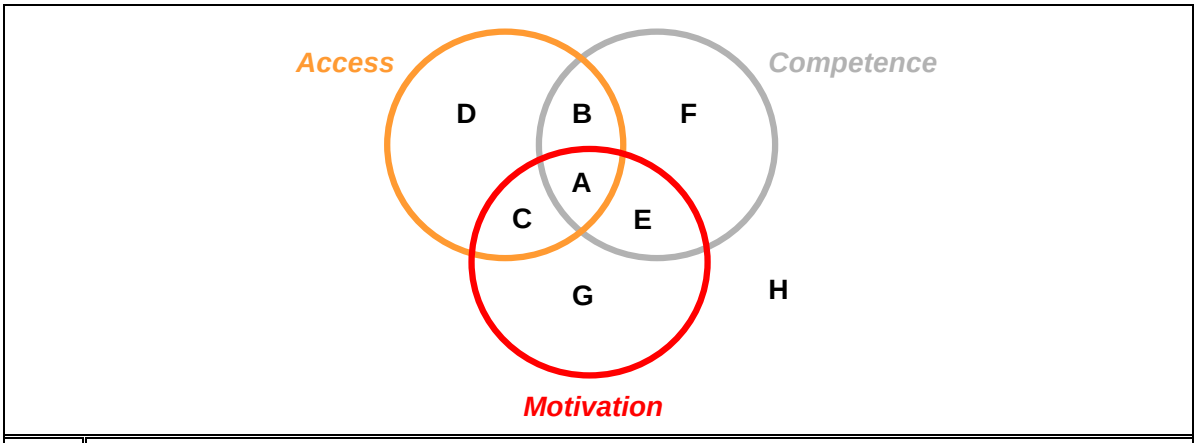
Would you prefer to use the Internet or use traditional channels for these purposes?							
	Library search	Job search	Change of address	Car registration	Personal documents	Income tax declaration	Declaration to police
Internet	73	58	42	38	35	28	17
Other channels	24	29	53	55	61	66	79
Don't know/ not applicable	4	14	4	7	3	6	4
EU-15 weighted averages							

In so far as the public has an interest (or even obligation) to provide public services to everybody, both groups needs special attention. The SeniorWatch study [15] has estimated that as many as 18% of EU citizens aged 50-59 can be classified as "digitally challenged", i.e. as non-computer users who are not interested in learning about technology and who do not wish to improve their computer skills. BISER has specifically explored attitudes towards the provision of public service through online channels. The study describes between 30% and 60% of Internet users (!) in EU regions as eGovernment refusers, because they state that they are not at all interested in public services on the Internet.

3.4 A first typology

Based on the model of Viherä [17] and on the discussion in the preceding sections, we can now distinguish between a number of types of users and non-users of online public services. The circles in Figure 2 below shall describe here the sum of all persons having certain characteristics. In the following work steps in the project, this first typology will be refined and afterwards operationalised in order to make it measurable.

Figure 2: Types of citizens according to online communication capabilities



Type	Description
A	User of online public services
B	Lack of motivation but access and competence given, most likely from user experience at work or from basic education. Large share of "self-excluded".
C	Access and motivation given, but lack of competence. Traditional target for training measures, high probability of success of such measures.
D	Only access given, but neither competence nor motivation. Severe barriers exist before online public services will be used. Likely to apply for many older persons who live in households together with their children who provide the access.
E	Only access is missing. The bottleneck here is infrastructural equipment, which may need to be provided by the state as in the case of free public Internet access points. Also applies to many disabled who need special devices and services to access mainstream computer applications.
F	Only competence given, most likely from basic education. Motivation is likely to be the bottleneck.
G	Only motivation exists. Applies for parts of the poor population who show a strong commitment to society, but lack the means to gain competence and access to the Net.
H	None of the three conditions exist. Likely to apply to significant parts of low qualified, low-income population in the EU, including poorly integrated ethnic communities.

5 CONCLUDING REMARKS AND NEXT STEPS

This paper has tried to present arguments for a strategy towards public online service provision which is guided much more by the needs, capabilities and preferences of potential users than it is the case in eGovernment at the present stage of development. The following observations form the background against which eUSER intends to improve know-how about demand-side issues:

- The current focus in eGovernment development on supply-side measures seems to be misguided. We cannot any longer assume that a high quality online service will automatically lead to take-up by all or even the majority of the target audience.
- Users have a variety of reasons for not using online public services. Without a better grip on the diversity of user groups and their specific attitudes and capabilities with regard to using the Internet and public services in general, eGovernment projects will fail to reach their targets. More and better structured information on user characteristics, perceived needs, preferences and attitudes are badly needed.
- The diversity of user-side issues needs to be captured in a well structured way in order to better advise eGovernment decision-makers. While we must abandon the belief that services should be tailored to an "average user profile", it will nevertheless be necessary

to identify, based on robust empirical evidence, groups of users with more or less homogenous features and behaviour vis-à-vis online public services. This requires empirical research using data from existing sources, but also primary data collection.

The eUSER project will collect fresh data about demand for online public services, which has tended to be neglected by recent studies (e.g. [3],[19]). One exception is the "Top of the Web" study [6] which suffers, however, from an exclusive focus on users of online eGovernment services. More research is necessary on the entirety of potential users, which include the big majority of EU citizens who are not as yet users of online public services. This paper has tried to show that evidence-based information on access, competence and motivation as they have been defined above is needed to better understand potential demand for eGovernment.

Data collection in eUSER will take place in the form of a representative multi-national population survey made up of more than 10,000 interviews across old and new Member States of the EU.

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