

BENCHMARKING USER ORIENTATION OF ONLINE TAX DECLARATION IN EUROPE: ACCESS, COMPETENCE AND MOTIVATION FOR UPTAKE

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Abstract: In order to explore to what extent existing online taxation services are likely to meet interest on the part of end users, this chapter uses data from a representative population survey carried out in 2005 in nine EU Member States. By applying a so-called Access-Competence-Motivation model, the entire adult population in these countries is classified according to their “propensity” to become a user of online tax declaration. The model allows us to estimate how the population is distributed across the eight possible combinations of access, competence and motivation. Such a distinction is of high relevance for policy-making since each category of potential users requires very specific policy measures if members are to support the full switch to online provision of tax declaration services.

1. Introduction

1.1 Putting the Focus on Users

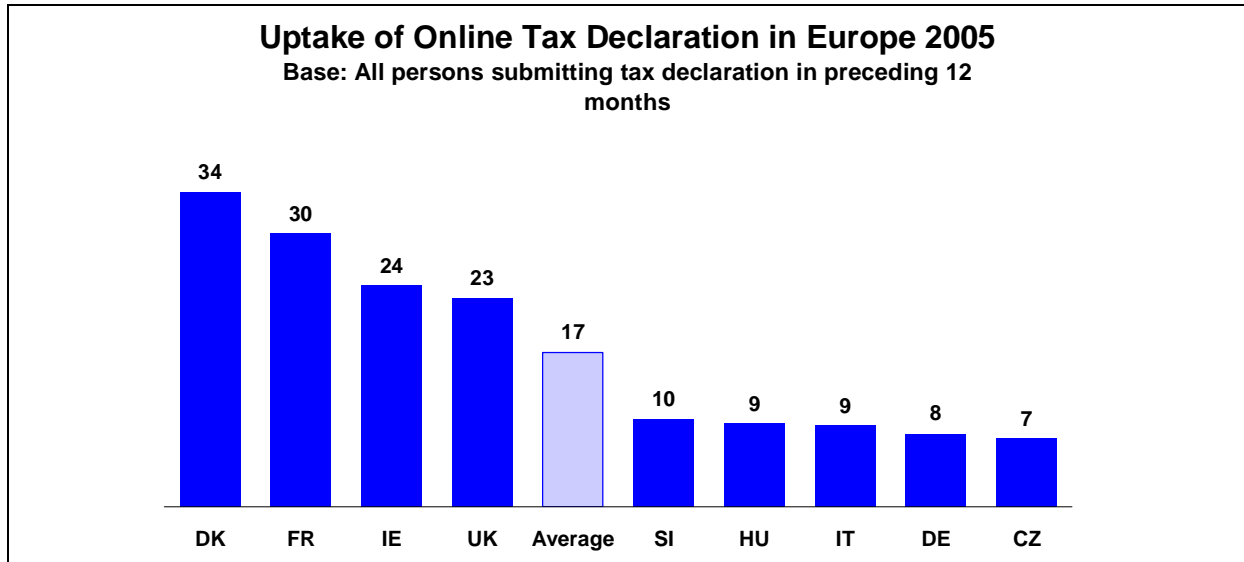
As recent experience has shown very clearly, much of the initial discussion about eGovernment has failed to explore whether the advantages of online administrative services are sufficient to convince the majority of citizens to take up online provision. This applies to online tax services as much as to other administrative public services. Data from a recent representative population survey found that on average, only 17% of all persons who submit a tax declaration in a sample of nine EU Member States use the Internet for the purpose (see Figure 1).

Too often it has been assumed that functionally superior services alone will automatically draw in users. The focus on the supply side – often made worse by being openly technologically determinist – has meant that demand-side issues have not been given enough attention. It is our firm belief that only a holistic view of the user orientation of online services will lead to the intended outcomes, i.e. widespread acceptance and uptake of online service provision by citizens. User orientation means taking full account not only of usability of the online tax service offer (which can be explored in laboratory tests [7]), but also of access, competence and motivation of potential users to take up online channels for tax declaration.

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This contribution reports from research into these issues which was carried out by the authors in the context of eUSER², a research study (2004-2006) in the Sixth Framework Programme of European Commission supported research.

Figure 1: Use of online tax declaration by citizens in Europe in 2005 (percentages)



Data source: eUSER Population Survey 2005; Base: all persons submitting a tax declaration (n=2,922)

In order to explore the factors underpinning willingness, or lack thereof, for using the Internet for tax declaration, the entire adult population (in each of the countries covered by the survey) is classified according to their “propensity” to become a user of online tax declaration. The Access-Competence-Motivation (ACM) model, which is used for this purpose, allows us to estimate how the population is distributed across the eight possible combinations of access, competence and motivation. Such a distinction is of high relevance for policy-making since each group requires very specific policy measures if these are to support the full switch to online provision of tax declaration services.

Moreover, the model – when backed up by data – can be used to estimate the effects of policy measures on estimated overall rates of take-up. These effects depend, to a large extent, on how specific target groups are composed in terms of combinations of access, competence and motivation-wise “preparedness” for eGovernment. For example, if the objective of a policy measure is to provide a certain share of the non-user population with eSkills, it can be calculated how much this initiative is likely to increase take-up of online tax declaration, as this depends on the composition of the soon-to-be online group in terms of digital skills, motivation and home access to the Internet. Another example would concern the provision of public access points to eGovernment services.

The paper presents some examples of findings using the survey data collected in the context of eUSER, including country comparisons. The latter also help to highlight the relative effect of national peculiarities in tax systems and online provision systems.

² See www.euser-eu.org

1.2 Methodology

The findings presented in this contribution result from empirical research which was carried out by the authors in the context of eUSER, a research study which was concerned with user orientation of online services of public interest, including eGovernment services such as online tax declaration. As part of the study, a population survey across ten EU countries was conducted to collect data about adult people's preferences, perceived barriers and facilitators with regard to the use of the Internet for tax-related contact with public administration. The survey was carried out in the Czech Republic, Denmark, France, Germany, Hungary, Ireland, Italy, Poland, Slovenia, and the UK. These countries together account for three out of four EU citizens³. This means that, while the sample does not allow extrapolation to the whole of the EU, it can be assumed to give a reasonably accurate picture of the situation in Europe. Survey samples were 1000 per country (Ireland: 800) and drawn to be representative for the total adult population living in private households (and connected to the terrestrial phone service⁴) in the country. Data was collected using structured questionnaires and computer-aided telephone interviewing (CATI).

1.3 Structure of the Chapter

The chapter is structured as follows. Section 2 presents some findings from the eUSER survey on media use for tax declaration, and on related attitudes and preferences. The section also includes a brief discussion on country differences. Section 3 introduces the ACM model, which was developed for structuring the key factors determining people's propensity to take up online public services. By differentiating between access, competence and motivation related factors, the model draws attention to interrelations between these three dimensions, and how these can determine take-up of online tax declaration among the citizens of Europe. Section 4 contains some conclusions and discussion of further research needs.

2. Uptake of Online Tax Services and Interest in Future Usage

In order to compare countries according to citizens' use of online communication for tax declaration, it is necessary first to gather knowledge about the share of the population who are submitting a tax declaration in the reference period. The target group for online tax declaration are only those household members who are taking responsibility for the task. Unfortunately, many sources for statistics on online use of public services fail to take this into account, which means that comparisons across countries become meaningless. As Table 1 shows, on average only one adult in three adults is involved in tax declaration related contacts with public administration. This share varies between 20% in France and 47% in Germany.

Not all of those who do not fall into this category are exempted from the need to submit a tax declaration. Reasons for non-use include spouses or other household members taking care of this task. In addition, other intermediaries may play a role, such as professional tax advisors.

³ Results for Poland are not reported in this chapter because of a high number of missing values.

⁴ Note that this conditions implies that some of the poorer households in countries with low telephone penetration (Czech Republic, Hungary, Poland) are not represented by the sample. Figures for these countries, therefore, may slightly overestimate phenomena which are associated with household income, such as uptake of ICTs and participation in lifelong learning.

Table 1: Share of total adult population contacting government for issues related to tax declaration, per year (column percentages, 2005)

	DE	FR	IT	DK	UK	IE	HU	CZ	SI	Total
Yes	46.6	20.5	21.3	44.2	24.8	37.5	26.6	36.3	39.0	32.8
No	53.4	79.5	78.7	55.8	75.2	62.5	73.4	63.7	61.0	67.2
Total	100	100	100	100	100	100	100	100	100	100

Data source: eUSER Population Survey 2005; Base: Total sample, excluding DK (n=8,767)

Table 2, which uses as a base all adults who have contacted public administration for issues surrounding their tax declaration in the 12 months prior to the survey, shows which media channels are used for the purpose. Multiple responses were possible. The survey found that face-to-face contact to public administration is still the way used by most Europeans for submitting their tax declaration, with the exception of the U.K. and Ireland, as well as Germany, in which the use of postal mail is more common. The majority of respondents from the two English-speaking countries also state that they make use of phone calls for the purpose, as opposed to much lower shares in the other countries covered by the survey.

Table 2: Media use for tax declaration in Europe (column percentages, 2005)

	DE	FR	IT	DK	UK	IE	HU	CZ	SI	Total
Personal visits	56.2	52.2	78.2	55.9	18.0	28.8	75.1	94.5	67.0	59.3
Postal mail	62.9	35.4	18.7	25.6	64.4	65.3	27.1	21.7	23.9	38.8
Phone	35.5	32.1	24.6	38.8	62.3	61.2	32.1	33.8	5.7	35.5
Fax	6.2	2.0	4.4	1.9	4.0	5.9	6.4	5.9	0.6	4.1
Internet / email	8.0	29.8	8.9	29.8	22.8	22.8	8.7	7.5	9.2	15.9
Text messaging	0.0	0.0	0.1	6.5	0.5	2.4	1.0	0.6	0.6	1.6
<i>Internet, email or text messaging</i>	8.0	29.8	8.9	34.3	22.8	24.1	9.1	7.5	9.5	16.8

Data source: eUSER Population Survey 2005; Base: all persons submitting a tax declaration (n=2,922)

Denmark, France, Ireland and the U.K. are the only countries in which Internet and email are playing a major role already for tax declaration purposes, with about one in four respondents stating they have used this media channel. In addition, people in Denmark and, to a lesser extent, Ireland, have taken up text messaging for communicating with their tax authorities. In the case of Denmark, this is due to the simplicity of the tax declaration process which for most citizens means simply to confirm the income-related data which has been compiled by the tax authorities from official registers. Confirmation is possible via text messaging, as well as through other channels.

This example demonstrates that clearly, take-up of the Internet, email or even text messaging for tax declaration is strongly influenced by issues of supply side availability. The findings from the supply-side benchmarking carried out on behalf of the European Commission, however, indicate that tax declaration is among those services which have been made available online quite early in nearly all EU Member States. By end of 2004, the service was “fully available online” in all countries covered in Table 3, with the exception of Hungary. Fully online availability is defined by the study authors as meaning that full electronic case handling, with no part of the process requiring non-electronic communication [1].

Table 3: Online availability of income tax declaration in EU countries (percent of services fully available online, end 2004)

	DE	FR	IT	DK	UK	IE	HU	CZ	SI	EU25
October 2004	100	100	100	100	100	100	75	100	100	89
October 2003	100	100	100	100	100	100	-	-	-	-

Data source: [1]

How do current rates of take-up compare to people's attitudes to and interest in using the Internet for tax declaration? The eUSER survey explored this issue by asking respondents – current users as well as non-users – whether they intend to use the Internet or email for this purpose (i.e. income tax declaration) in the future, under the assumption that such services are readily available. Results are presented in Table 4 and Figure 2. Over the whole sample, 46% intend to use online channels for tax declaration in the future, compared to the current take-up level of 17%. This indicates a strong potential demand for high-quality tax-related online services. On the other hand, though, 54% of people who are involved in submitting tax declarations state that they do not intend to use online channels for the purpose, now or in future. It appears that much convincing is left to be done before the majority of European taxpayers will switch to online interaction.

Table 4: Media use for tax declaration and intentions for future use (column percentages, 2005)

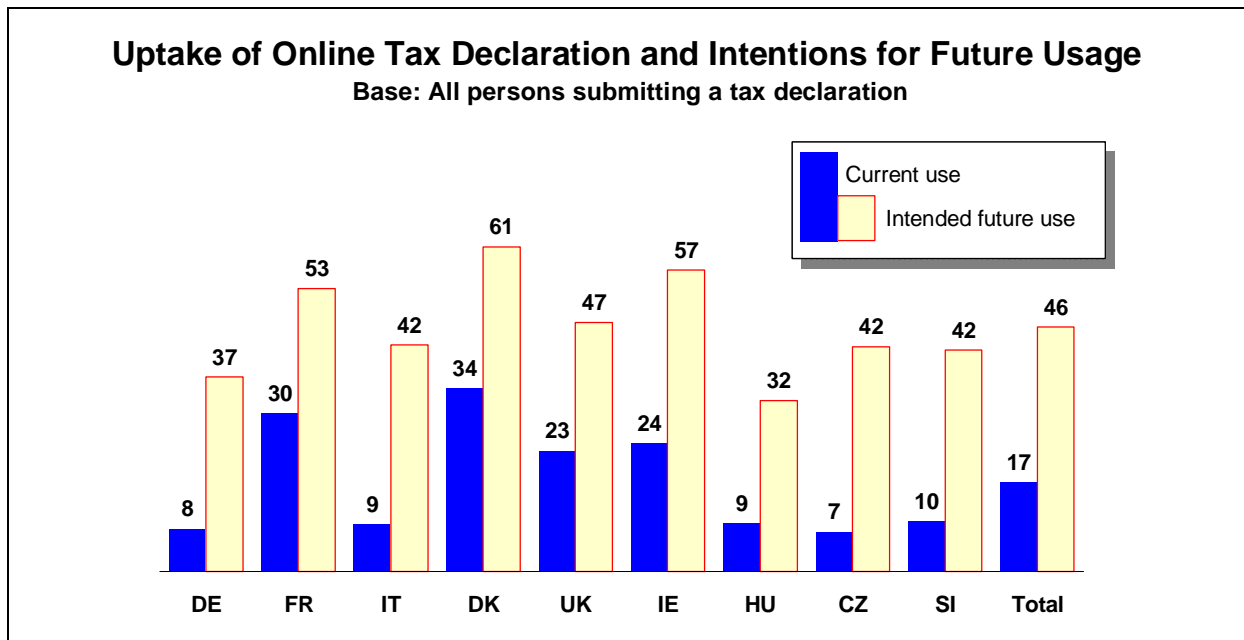
	DE	FR	IT	DK	UK	IE	HU	CZ	SI	Total
Used, and intends to do again	7.3	27.3	7.6	31.8	21.6	21.8	9.1	5.8	7.5	15.2
Used, will not do again	0.7	1.0	1.3	1.8	1.2	0.7	0.0	0.7	0.9	0.9
Used, unsure whether again	0.0	1.5	0.0	0.7	0.0	1.6	0.0	1.1	1.1	0.7
<i>Used Internet, email, text messaging</i>	<i>8.0</i>	<i>29.8</i>	<i>8.9</i>	<i>34.3</i>	<i>22.8</i>	<i>24.1</i>	<i>9.1</i>	<i>7.5</i>	<i>9.5</i>	<i>16.8</i>
Not used, intends to do so in future	29.3	25.8	34.9	29.1	25.2	34.8	23.0	36.5	34.1	30.6
Not used, will not use in future	45.5	27.1	28.2	26.5	37.3	32.0	33.4	20.1	25.2	30.9
Not used, unsure whether in future	17.2	17.2	28.1	10.0	14.8	9.0	34.5	36.0	31.2	21.6
<i>Not used</i>	<i>92.0</i>	<i>70.2</i>	<i>91.1</i>	<i>65.7</i>	<i>77.2</i>	<i>75.9</i>	<i>90.9</i>	<i>92.5</i>	<i>90.5</i>	<i>83.2</i>
Total	100	100	100	100	100	100	100	100	100	100

Data source: eUSER Population Survey 2005; Base: all persons submitting a tax declaration (n=2, 922)

Figure 2 also highlights the extent to which country differences are likely to persist in the near future. Assuming that intentions will be translated into actual practice, Denmark, Ireland and France will be the first countries in which the majority of people dealing with tax declarations will make use of online interaction with the tax authorities. In contrast, German's citizens remain largely unconvinced of the advantages of online tax declaration, with only little more than one in three stating that they intend to use it in the future.

We should be careful, however, to base projections simply on people's current intentions. The fact that there is a basic willingness or motivation to use the Internet, email or mobile data transfer for the task does not preclude the possibility that other critical factors are missing such as ready access to the tools and services required, and the necessary skills to use these tools for interacting online with tax authorities. This is an issue to be addressed in the following section.

Figure 2: Use of online tax declaration and intentions for future usage (percentages)



Data source: eUSER Population Survey 2005; Base: all persons submitting a tax declaration (n=2,922)

3. Making Sense of Citizens' Behaviour and Attitudes on Online Tax Declaration

3.1 The ACM Model

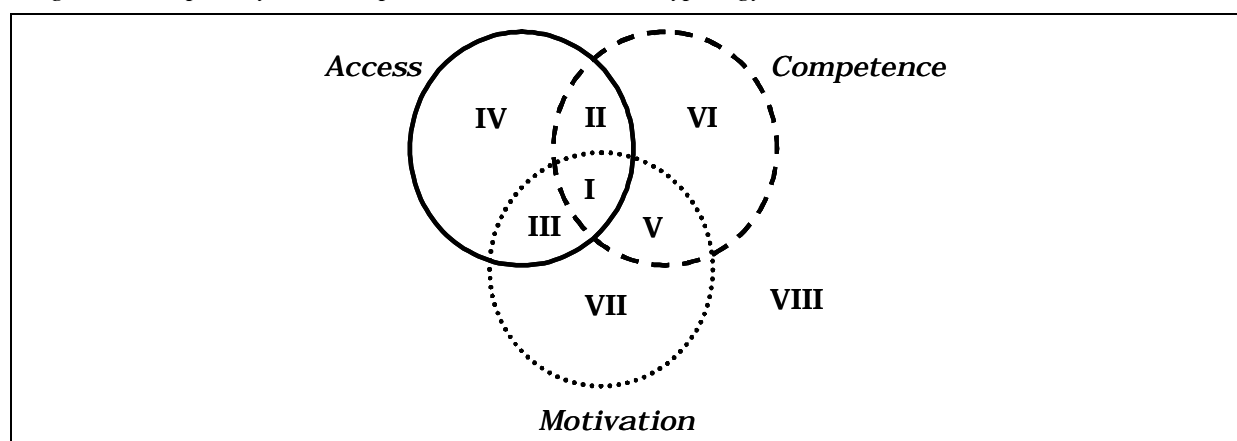
The factors which explain people's likelihood of taking up the Internet for tax declaration can be subsumed into three main categories [6][9]. These are access (to the Internet as distribution channel, to end devices suitable for the task), competence (in using the Internet), and motivation (for using the Internet for communicating with tax authorities). Any attempt to group the adult population according to their propensity to becoming a user of online tax declaration needs to take account, more than anything, of these three dimensions.

Access is defined by home access to the Internet (or alternatively: sufficiently good access elsewhere), and not being severely affected by functional restrictions regarding dexterity and vision, since these tend to be associated with limited usability of online applications. In a variation of the analysis, broadband access is considered as necessary. Competence is defined as at least moderate eSkills – i.e. the extent to which a person knows how to use the Internet; and a minimum of usage experience with transactional services. Optionally, access to help from friends or family can be included in the model. Motivation is defined in terms of explicit willingness to use online channels to engage with government in general; and in terms of relative preference of delivery channels for tax-related matters (online, face-to-face, postal, phone, mobile). Note that the model does not take account of the factors that cause different levels of motivation. As the well-established Technology Acceptance Model by Davis [2][10] shows, what he calls "behavioural intention to use" is generally found to be a function of attitude towards use, perceived usefulness and perceived ease of use, which themselves are interrelated in complex ways.

In the ACM model, maximum propensity is assumed to apply for persons who are endowed with all three: full access to eGovernment end user devices (the Internet), the necessary digital

skills and experience to use the Internet for transactional services, and the motivation to use the online channel as opposed to more traditional ways. The typology derived from these factors allows us to estimate how the population is distributed across the eight possible combinations of access, competence and motivation (see Figure 3).

Figure 3: Propensity to take up online tax services– a typology



Source: based on [4]

Moreover, the model can be used to estimate the effects of policy measures on estimated overall rates of take-up. These effects depend, to a large extent, on how specific target groups are composed in terms of combinations of access, competence and motivation-wise “preparedness” for online tax services. For example, if the objective of a policy measure is to provide a certain share of the non-user population with eSkills, how much the initiative is likely to increase take-up of online tax declaration depends on the composition of the targeted group in terms of motivation for online usage and home access to the Internet.

3.2 The Empirical Picture

Defined as outlined above, the survey found that 26% of all respondents suffer from lack of access to online tax declaration, 36% from a lack of competence and 54% from a lack of motivation (see Table 5). In contrast, 37% are already “online tax-ready”.

Table 5: Lack of access, competence and motivation for online tax declaration

	DE	FR	IT	DK	UK	IE	HU	CZ	SI	Total
Lack of access	21.1	22.2	23.0	16.5	21.0	17.7	52.2	30.0	37.1	26.4
Lack of competence	29.8	33.8	44.3	18.4	27.7	23.6	53.8	46.9	51.4	35.9
Lack of motivation	63.1	46.9	57.5	35.2	53.3	43.6	67.2	58.2	58.7	53.8
Lack of neither access, competence or motivation	30.5	42.2	33.8	56.2	41.3	46.3	16.5	31.5	29.4	36.6

Data source: eUSER Population Survey 2005; Base: all persons submitting a tax declaration (n=2,922)

Table 6 presents mean values for the size of each of the eight possible combinations of (lack of) access, competence and motivation to use online tax services. The table also lists some of the main policy challenges for each of these groups (compare [3]).

37% of the overall sample are of type I, i.e. they are closest to becoming a user of online tax declaration; in fact, many of this group have already used the online channel for the purpose. Supply-side improvements can be expected to lead to direct increases in take-up among members of this group. Existing research suggests that improvements in the quality of online

tax services, together with increasing visibility and perceived utility, are of particular importance in this regard [5].

The group of type II, citizens who have the necessary degree of access and competence but lack motivation, is the second biggest (21% on average).

The group of type III is rather small (4%). These persons have full access to the Internet and also the basic motivation for lifelong learning, but they lack competence – a basic level of eSkills and at least some experience in using applications which go beyond mere surfing and emailing.

Type IV (13%) is likely to comprise high percentages of non- and low-intensity Internet users who live in households in which another person is the main Internet user (e.g. spouse).

Table 6: Propensity to take up online tax declaration, and key policy issues

	Share in total sample	Description
I	36.6%	Has all three factors – access, motivation and competence. The fact that this group is considerably larger than the number of citizens using online tax declaration already indicates that insufficiencies exist on the supply side. Improvements in supply would be highly likely to make all this group take up online tax declaration in the near future.
II	20.8%	Lacks motivation but has access and competence. Efforts to increase motivation may be beneficial. A supply of high-value online tax services, coupled with promotional activities, which put emphasis on the immediate gains to be had, appears critical.
III	3.7%	Has access and motivation, but lacks computer and Internet skills. If mainly technical skills are missing, training in necessary skills is likely to be very beneficial. For people in an employment relationship, employer-provided (compulsory) training should be extended.
IV	12.6%	Only has access, but not competence nor motivation; both motivational and training interventions will be needed. Intermediaries can be expected to play a particularly important role for this group, i.e. household members or friends who are able and willing to provide the required technical help in accessing online services and applications.
V	3.5%	Only access is missing; depending on the circumstances different interventions may be needed, such as financial supports, public access points or assistive technology.
VI	3.3%	Only has competence. Little numbers in this category, as most relevant eSkills are acquired via day-to-day use of the Internet, i.e. rely on access.
VII	2.5%	Only has motivation; will require both infrastructural and training interventions. It should be explored if traditional channels are not more appropriate to provide this group with services. This may be the case for older citizens who have never used the Internet.
VIII	17.1%	None of the three conditions exist; multi-dimensional interventions will be needed.

Data source: eUSER Population Survey 2005; Base: all persons submitting a tax declaration (n=2,922)

Types V, VI and VII again, are of low importance as far as numbers are concerned (3-4%). Persons of type VII are motivated to use online communication, but they neither have unrestricted access to the Internet, nor do they have the necessary eSkills and/or experience. This group comprises many older and low-income citizens who have not yet taken up the Internet.

Finally, type VIII persons have the smallest propensity to take up online tax declaration, since neither access, nor competence, nor motivation are in place. 17% of all respondents fall in this category – a sizeable share.

The data can be used to highlight the likely effect of potential policy measures for fostering take-up of online use. For example, supplying the population (including those with functional impairments) with full and universal access to the Internet will not necessarily have much positive impact on uptake of online tax declaration, since people also need to acquire the necessary skills and confidence for using the Internet for the purpose. Using the numbers quoted here, a strategy which would merely provide access to everybody would only increase the share of people in group I (= “online tax ready”) by 3.5 percentage points – in spite of the fact that a total of 26% are suffering from lack of access!

As opposed to strategies which prioritise material access, the evidence collected suggests that policy-making would be better advised to focus on the motivation factor (compare [8]). By fostering digital literacy among those Europeans who have access to the Internet already, and who are also sufficiently equipped with motivation for using the Internet for communicating with public administration, policy could make a potentially much bigger positive impact.

Table 6 and Table 7 also show the extent to which countries differ with regard to the relative importance of access, competence and motivation related barriers. For example, citizens in Germany are affected by very low levels of motivation, while levels of access and skills are both above average. The share of persons with neither access, competence nor motivation is particularly large in Hungary, but this group is also large in Italy. For these people, other channels of communication will remain the only possibility for interacting with tax authorities in the foreseeable future.

Table 7: Propensity to take up online tax declaration (percentages of total adult population)– by country

	DE	FR	IT	DK	UK	IE	HU	CZ	SI	Total
I access, competence, motivation	30.5	42.2	33.8	56.2	41.3	46.3	16.5	31.5	29.4	36.6
II access, competence, motivation	33.2	17.2	19.8	18.0	23.4	24.7	16.4	16.1	13.1	20.8
III access, competence , motivation	1.5	4.8	6.3	3.1	1.9	3.8	2.8	5.9	4.6	3.7
IV access, competence , motivation	13.7	13.6	17.3	6.2	12.3	7.6	12.2	16.5	15.8	12.6
V access , competence, motivation	2.5	4.5	1.2	3.5	2.6	4.4	8.3	2.9	2.7	3.5
VI access , competence, motivation	4.1	2.3	1.0	3.9	5.0	1.1	5.0	2.7	3.3	3.3
VII access , competence , motivation	2.4	1.6	1.2	2.0	1.0	2.0	5.2	1.5	4.6	2.5
VIII access , competence , motivation	12.1	13.8	19.6	7.2	12.5	10.2	33.6	23.0	26.5	17.1
Total	100	100	100	100	100	100	100	100	100	100

Data source: eUSER Population Survey 2005; Base: all persons submitting a tax declaration (n=2,922)

In a subsequent step, this typology can now be given a dynamic component by integrating additional assumptions and variables. For example, it appears plausible that many online tax services depend on broadband access to the Internet. To assume so means that the share of people who have access to the necessary infrastructure would be noticeably smaller. On the other hand, if we assume that tax related services will soon also be available via mobile phones or even home television sets, the share of the population that is affected by access

barriers would decrease. The same would be true if policy succeeded in providing full online access to all people with functional restrictions, such as the disabled.

4. Some Conclusions

The data presented in this chapter have provided evidence about the main factors which restrain take-up of the Internet (and mobile data transfer) for the purpose of contacting public administration for tax-related issues. A key factor is motivation, or lack thereof. Public providers of online services have not succeeded yet in convincing the majority of their target audience about the advantages of doing things online. Whereas online availability of tax declaration has reached 100% in nearly all EU Member States – partly due to the importance online provision has been given on the EU policy-making agenda – large shares of potential users remain uninterested.

The ACM model was applied in this chapter to point out interrelations which exist between the main dimensions behind take-up – material access, digital competence and personal motivation. The results show that non-users of online tax services differ strongly with regard to the main underlying barriers to take-up. Specific policy action, tailored to the needs and preferences of each of these groups, will be required to boost use of the online channel.

This is not to suggest that the three dimensions are independent from each other. For example, people who acquire skills in Internet usage are likely to become more interested in online interaction with public administration. Rather, the model should help to direct attention to the need for integrated policy initiatives which improve the situation with regard to access, competence and motivation at the same time. Previous experience suggests that, until now, eGovernment strategies in most countries have failed to do so.

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