

3. INTERNET USE AND SKILLS

3.1. Introduction

This chapter looks at recent developments in internet usage and skills in the EU27, Iceland, Norway, Croatia and (for data on enterprises) the Former Yugoslav Republic of Macedonia. It first looks at progress in achieving the Digital Agenda key performance targets for regular internet use of the average population and of disadvantaged individuals and well as toward the overall Digital Agenda goal of making "Every European Digital". In doing so it also analyses the barriers to achieving these goals and the differences across countries. The chapter then looks at developments digital skills (user skills and ICT professional skills) and patterns in the use of various activities online, as well as the relationship between the two. It also looks in some more detail at developments in the use of eGovernment and eCommerce, both by citizens as well as by enterprises. The final section summarises the main results of the analysis contained in the chapter and makes some conclusions for policy in this area.

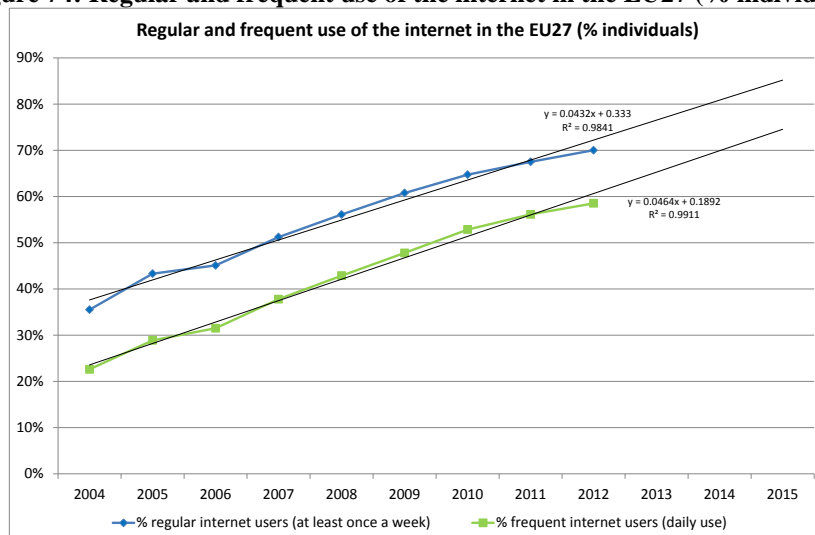
3.2. Regular and frequent use of the internet in the EU27+¹

3.2.1. Developments at EU level

"Regular" (at least once a week) use of the internet increased by 2 p.p., from 68% in 2011 to 70% in 2012, in the EU27; showing continued steady progress towards the Digital Agenda key performance target for regular use of 75% by 2015. Indeed, forward projection of the linear trend in regular internet user in the EU indicates that the key performance target for regular internet use will be met before 2015.

Frequent (daily) use of the internet grew by 3 p.p. between 2011 and 2012 in the EU27, from 56% to 59%; showing that not only is the proportion of the population going regularly online increasing, but that it is increasingly becoming a daily activity.

Figure 74: Regular and frequent use of the internet in the EU27 (% individuals)



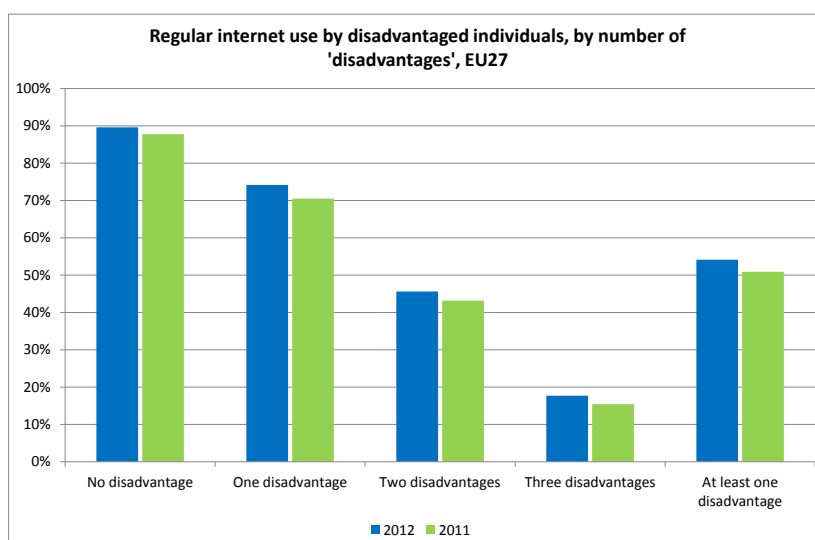
Source: Eurostat

¹ EU27+ refers to the 27 member countries of the EU plus Iceland, Norway and Croatia (Turkey and Macedonia are not included due to lack of available data). The use of EU aggregated data from Eurostat refers to the 27 Member States.

Over the past few years, convergence between regular and frequent use has been rather slow: since 2005 the proportion of the population using the internet weekly, but not daily, has fallen only by around 3 p.p. from around 14% to 11%. It can be expected however that as rates of regular internet use approach saturation, convergence is likely to pick up, as once new users become more experienced they tend to increase their frequency, and variety, of use – using the internet more and for more activities.

While the internet can do much to mitigate the effects on people's lives of certain economic and social disadvantages, it is true that rates of regular internet use of individuals with such disadvantages (in particular older individuals, the low educated and economically inactive) are often lower than for the average population. Furthermore, this effect is compounded by multiple disadvantages: as the number of disadvantages increases, rates of regular use fall. That is why the Digital Agenda also has a key performance target for the **regular internet use of disadvantaged people** of 60% by 2015. Good progress has been made in the last year towards this target: regular internet use of disadvantaged people rose by 3 p.p. between 2011 and 2012, from 51% to 54%; this trend in the regular use of disadvantaged people indicates that the target for disadvantaged people will also be met by 2015.²

Figure 75: Regular internet use by disadvantaged individuals, by number of 'disadvantages', EU27



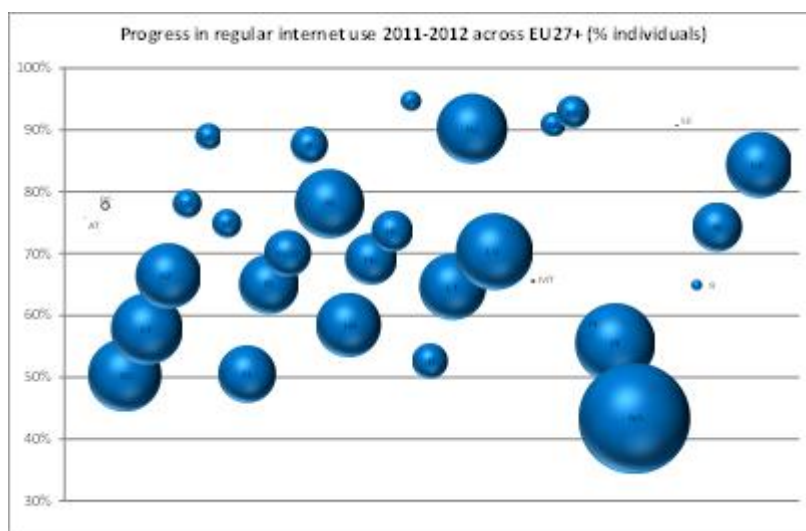
Source: Eurostat

3.2.2. Developments across EU27+ countries

Across Europe rates of regular internet use are still rather dispersed and the rankings of countries with the highest and lowest rates have changed very little over time. The highest rates of regular internet use are found in the Nordic countries (Iceland (95%), Norway (93%), Sweden (91%), Denmark (89%) and Finland (88%), as well as the Netherlands (91%) and Luxemburg (90%), where rates are approaching saturation. At the other end of the scale, countries with the lowest rates of regular internet use (Romania (43%), Bulgaria and Greece (50%), and Italy (53%)) have around half of their populations, or more, not using the internet on a regular basis.

² 'Disadvantaged people' are individuals with at least one of the following disadvantages: aged 55-74; low education; unemployed or inactive or retired.

Figure 76: Progress in regular internet use 2011-2012 across EU27+ (% individuals)

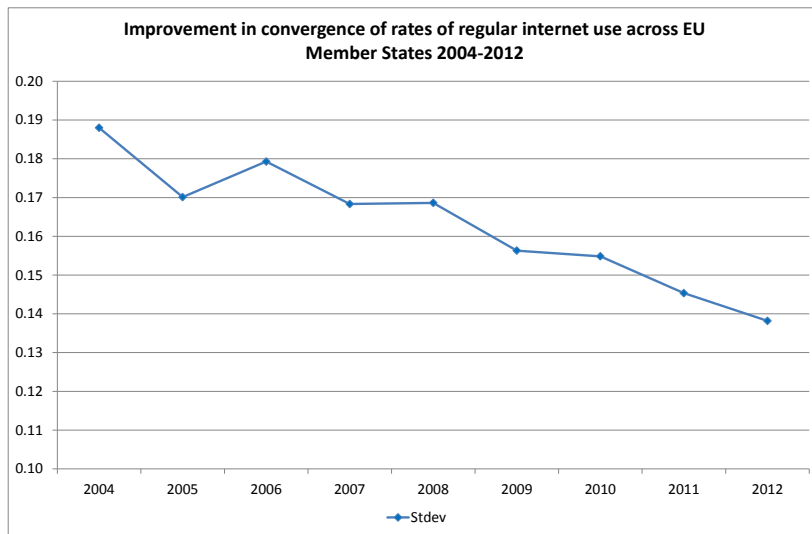


Note: Bubble size represents the size of the increase in the rate of regular internet use between 2011 and 2012; Countries are in alphabetical order from left to right. Source: Eurostat

Never-the-less, progress in rates of regular internet use over the last year shows that catch-up is taking place: on average countries with below (EU) average rates of regular internet use have made more progress than those with above average rates. The countries with the some of the largest percentage point increases in regular use between 2011 and 2012, were those with the lowest rates (e.g. Romania (+6 p.p.); Portugal, Bulgaria, Cyprus, the Czech Republic, Croatia, Lithuania and Latvia (+4 p.p.); Greece, Spain, Hungary and Croatia (+3 p.p.)). The major exception here is Italy: while Italy made some progress (+2 p.p.) in increasing its rate of regular internet use over the last year, this was less than the average in the EU, and resulting in Italy falling to one of the countries with the lowest rates of regular internet use in the EU27+. However, some countries with above average rates of regular use have also made substantial increases in the last year (e.g. Luxemburg, the UK and France (+4 p.p.)). Little or no progress in regular internet use was achieved in the last year in Austria, Belgium, Slovenia, Poland, Malta and Sweden. While in the case of Sweden it is perhaps to be expected given the countries near saturation, in the other five countries this is not the case.

The development in measures of dispersion over time shows that convergence in regular internet use is a continuing trend: the difference between the maximum and minimum rates of regular internet use in the EU has fallen from 65 p.p. in 2004 to 48 p.p. in 2012, the standard deviation has fallen from 0.19 to 0.14.

Figure 77: Improvement in convergence of rates of regular internet use across EU Member States 2004-2012



Source: Commission Services based on Eurostat data

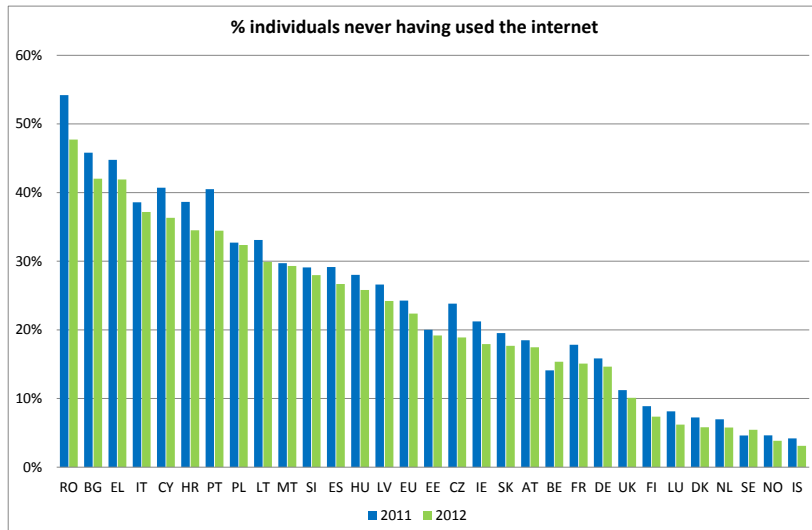
3.3. Making "Every European Digital" and the main barriers to getting there

3.3.1. Progress in getting people online

Non-use of the internet is a major policy concern in Europe, indeed the overarching mantra of the Digital Agenda for Europe is "Every European Digital". This is why the Digital Agenda for Europe has a key performance target to halve the number of non-users from 30% (in 2009) to 15% by 2015. While the rate of non-users continued to fall in 2012 (by 2 p.p. over 2011) bringing it closer to this target, 22% of the EU population has still never used the internet. Furthermore, across the EU27+, rates of non-use vary substantially, from under 5% in the best performing countries (Iceland, Norway and Sweden) to above 40% in Bulgaria, Greece, and Romania.

As with regular internet use, however, good progress in reducing rates of non-use has been made in the last year by the countries with the largest rates of non-users: Portugal (-7 p.p., to 34%), Romania (-6 p.p., to 48%), Cyprus (-5 p.p., to 36%), Bulgaria (-4 p.p., to 42%), Croatia (-4 p.p., to 35%), Greece (-3 p.p., to 42%), Lithuania (-3 p.p., to 30%). The major exceptions here are Italy (-2 p.p., to 37%) and Poland (-1 p.p. to 32%), which made more moderate reductions. The Czech Republic, which is an average performer in terms on non-use, also made a substantial reduction in its rate of non-users over the last year (-5 p.p, to 19%). Finally, no reduction in rates of non-users were observed for Sweden and Belgium over this period; mirroring the lack of progress in increasing rates of regular users in these countries.

Figure 78: Non-use of the internet (% individuals never having used the internet)

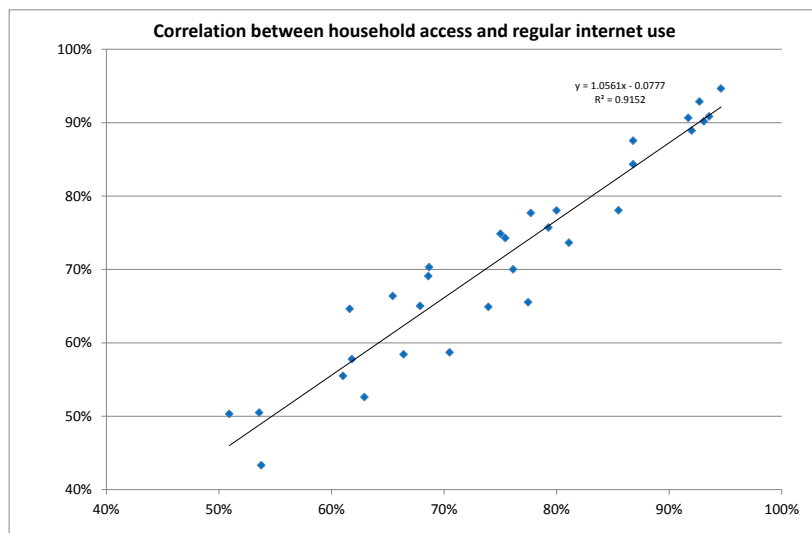


Source: Eurostat

3.3.2. Barriers to internet use

A prerequisite to being able to use the internet is having access to it. Across the EU27+ household access is highly correlated with regular use of the internet (with a correlation coefficient of 0.96), confirming the importance of household access for regular use. However, not all households in the EU27 have access to the internet. In 2012, 76% of households had access to the internet, up from 73% in 2011, as such almost a quarter of households were without access.

Figure 79: Correlation between household access to the internet and regular use of the internet in 2012 (% individuals)

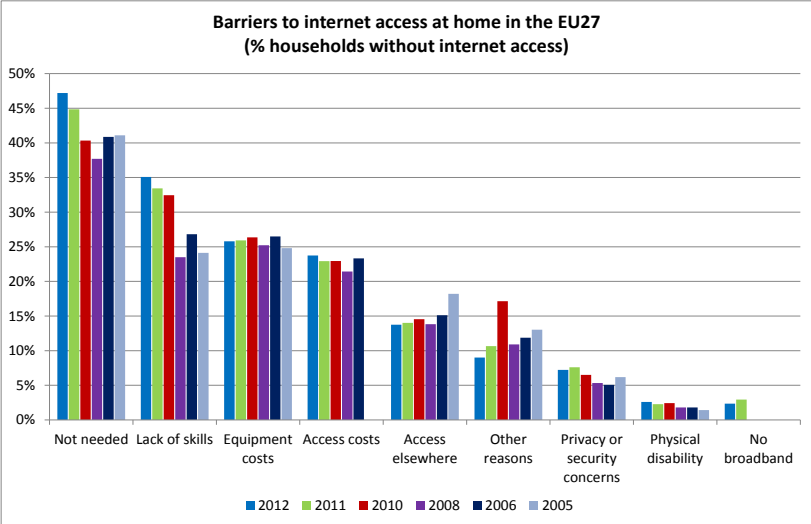


Source: Commission services based on Eurostat data

Understanding the barriers to household access to the internet is therefore important for policy towards the Digital Agenda goals on internet use. Evidence on barriers shows that as internet use increases, an increasing proportion of those who remain as non-users say that they don't need it (47% in 2012), and/or do not have the necessary skills (35% in 2012). Access (24% in 2012) and equipment (26% in 2006) costs are the next most important factors and their importance has changed little over time. Access elsewhere has been declining in importance

and other factors such as privacy and security concerns and no broadband availability are less mentioned. Physical disability remains a less mentioned barrier in the overall population; however, the share of the disabled in the population is also low. A declared lack of interest in the internet by non-users could relate to a number of things: lack of knowledge and skills, a genuine lack of interest, lack of an appropriate offer or not wanting to report financial reasons or lacking skills. The catch-all nature of this choice could help explain the importance of this reason.

Figure 80: Barriers to internet access at home in the EU (% households without internet access)

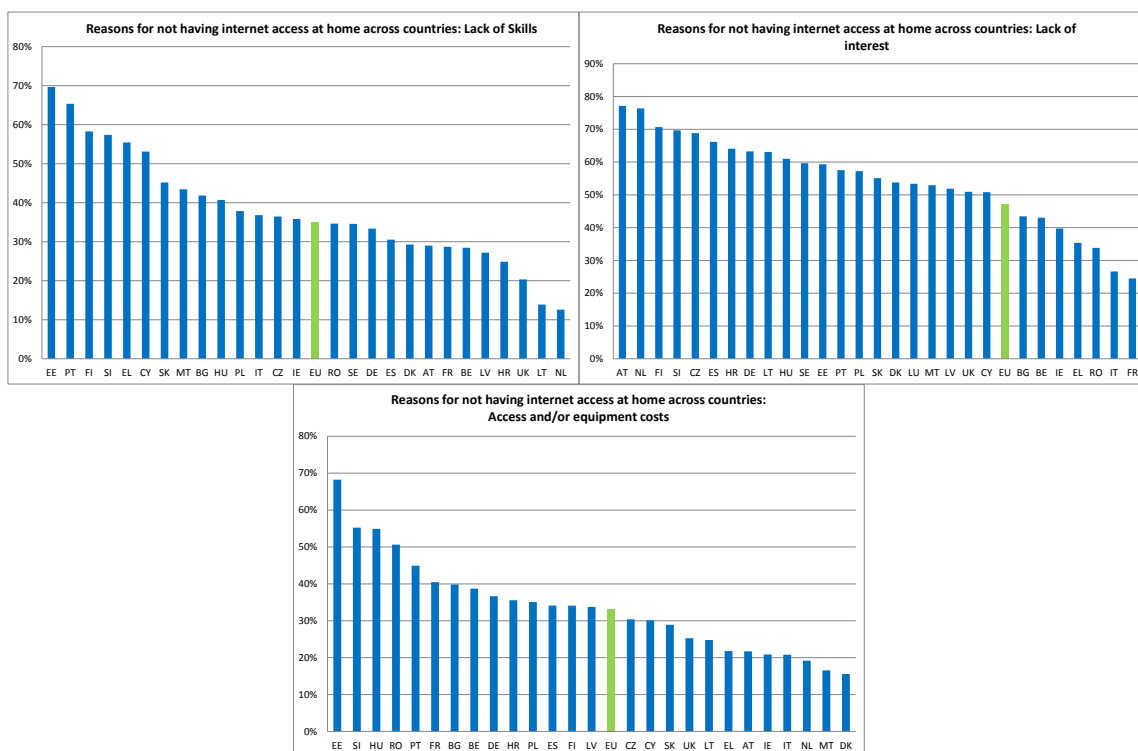


Source: Eurostat

Across the EU 27+ countries the three main factors remain lack of interest, lack of skills and cost. However, there is some variation in the importance of these three reasons. In the majority of countries, lack of interest is an important factor. However, lack of skills is also very important in Bulgaria, Cyprus, Estonia, Greece, Finland, Hungary, Malta, Portugal, Slovenia and Slovakia. Costs are particularly important as a reason in Belgium, Bulgaria, Germany, Estonia, France, Hungary, Portugal, Romania and Slovenia.

Generally speaking, it can be said that for countries with relatively higher rates of non-users all three reasons are important, while for countries with less non-users the overriding factor becomes lack of interest.

Figure 81: Main barriers to internet access at home in EU27+ countries (% households without internet access)



Source: Eurostat

Evidence on barriers suggests that getting the remaining part of the population that is offline to become regular internet users, policy increasingly needs to focus on two main issues: on the one hand, tackling the increasing importance of lack of skills and awareness among non-users by for example implementing awareness raising and skills development initiatives, and, on the other, enabling the persistent proportion of non-users for which financial constraints are an issue to overcome them, such as by providing vouchers or tax incentives to low income non-user households for their first computer and/or internet connection. Furthermore, in countries where costs for access are still relatively high, policy should be implemented to provide affordable access to all: this seems of particular importance in Hungary, Slovenia and Portugal where not only are average prices of popular telecoms bundles high but also countries were non-users complain the most about high costs.

3.4. Digital skills in the EU

3.4.1. ICT user skills

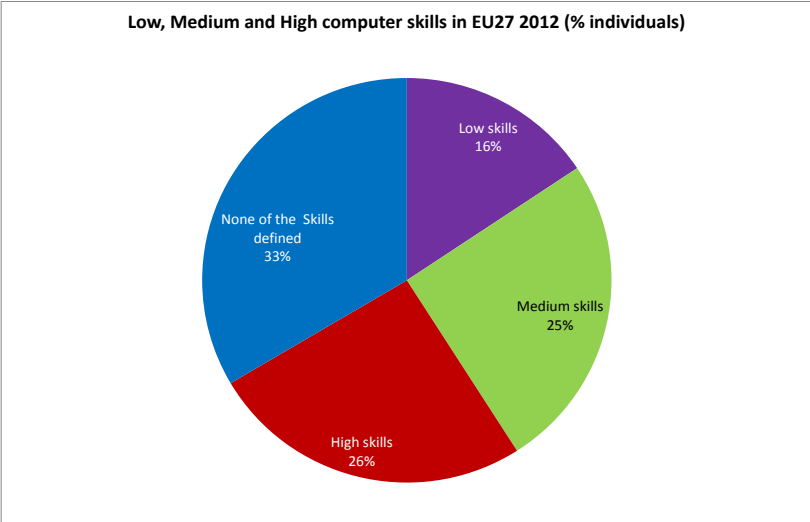
Digital skills are fundamental to an effective use of ICT. As such every year the Commission collects data on the digital skills of the EU population through its survey of ICT use by individuals and households. Digital skills are measured by asking individuals if they have ever performed certain computer and/or internet related activities. Low, medium and high skills are then calculated by whether individuals have performed 1 or 2, 3 or 4, or 5 or 6 of the listed internet or computer activities. In 2012, data were collected on computer skills only.

In the EU, 67% of individuals had some level of **computer skills**, unchanged from 2011: 26% of individuals had high skills (-1 p.p. over 2011), 25% medium skills (unchanged) and 16%

low skills (+2 p.p.). 33% had none of the defined skills. As such almost 50% of the EU population still has little or no computer skills (low skills + none of the defined skills³). While no data on internet skills is available for 2012, data from 2011 show that similar to computer skills around 70% of the population (73%) have internet skills. However, the distribution of skills is more shifted towards low (30%) and medium (32%): only 11% had high level skills.

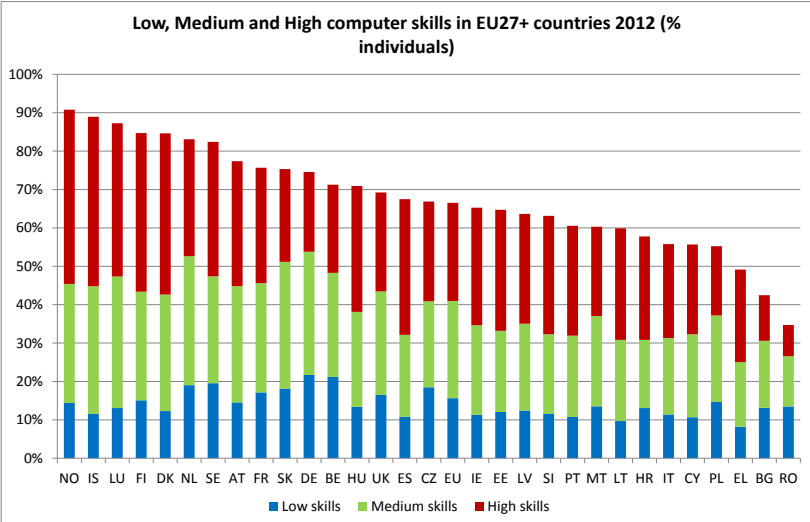
Given the growing necessity for digital skills in Europe – in particular, the projected 90% of jobs that will soon require some digital skills - it seems much needs to be done to improve the digital skills levels of EU citizens, and the perception of more than half of the labour force that their current digital skills are not sufficient were they to look for another job.

Figure 82: Low, Medium and High computer skills in EU27 2012 (% individuals)



Source: Eurostat

Figure 83: Low, Medium and High computer skills in EU27+ countries 2012 (% individuals)

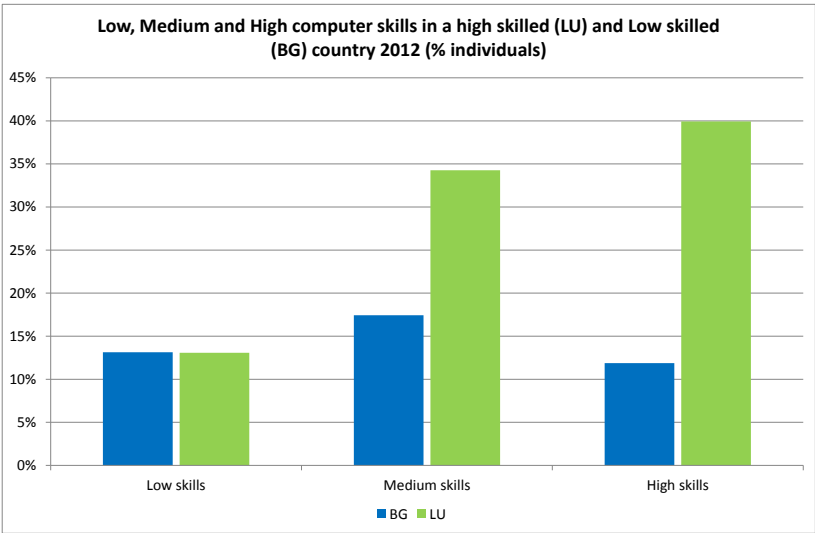


Source: Eurostat

³ "None of the defined skills" refers to the proportion of individuals questioned that do not report having carried out any of the six computer related activities asked about or that answered having never used a computer.

Across the EU 27+ countries rates of skills vary from 35% in Romania to around 90% in Norway and Iceland. Furthermore, as rates of skills among the population increase so the skills distribution shifts towards higher skills. This can be seen most clearly by taking the example of a high skilled country like Luxemburg and comparing the skills distribution to that of a lower skilled country like Bulgaria. Data for these two countries show that while both countries have similar rates of low skilled individuals, Luxemburg has around twice as many medium skilled and three times as many high skilled individuals as Bulgaria. A similar pattern can be seen for other countries.

Figure 84: Low, Medium and High computer skills in a high skilled (LU) and Low skilled (BG) country 2012 (% individuals)



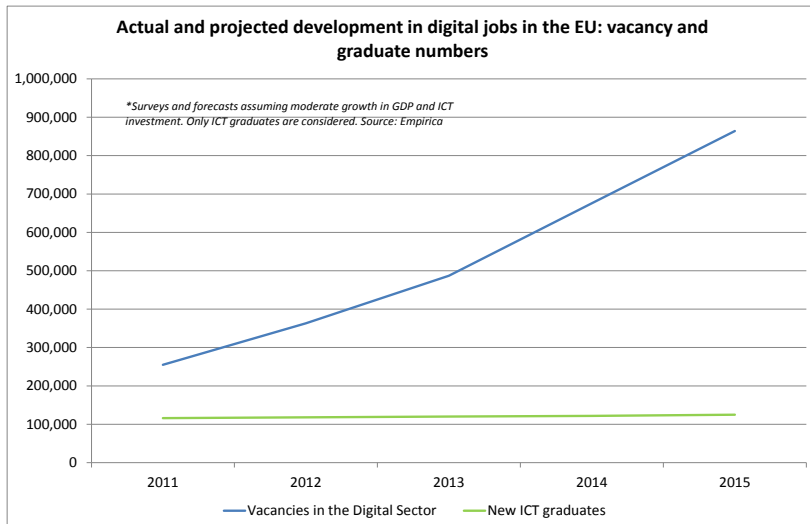
Source: Eurostat

3.4.2. Skills of ICT professionals⁴

The EU is also in need of highly skilled ICT professionals. Evidence shows that there is a growing gap emerging in the supply and demand of ICT professionals in the EU. While ICT professional employment has grown by an average 3% over the last 10 years, graduate numbers have fallen. As a result, it has been projected that by 2015 there may be as many as 900,000 unfilled vacancies for ICT professionals in the EU. This growing gap is of major concern to European competitiveness, not only of the ICT sector itself, but for the economy as a whole given the growing integration of ICT across the economy.

⁴ ICT specialists are those who have ICT as their main job and hence are capable of dealing with a wide range of tasks concerning ICT systems.

Figure 85: Actual and projected development in digital jobs in the EU: vacancy and graduate numbers

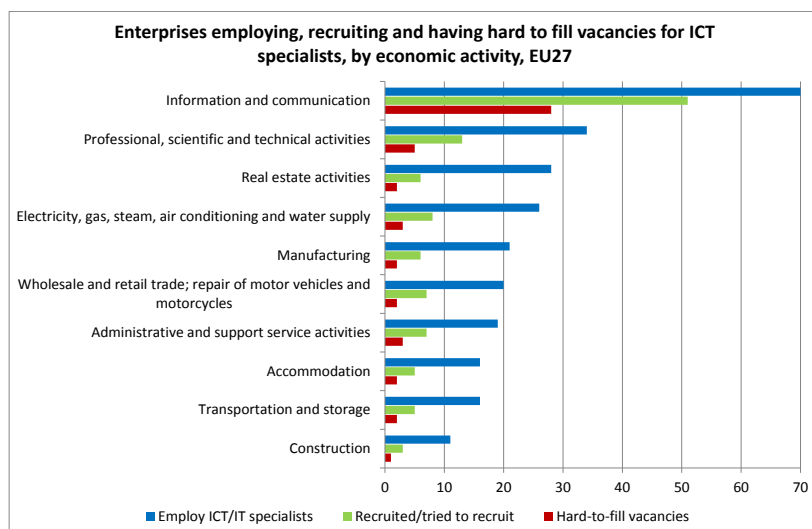


**Surveys and forecasts assuming moderate growth in GDP and ICT investment. Only ICT graduates are considered. Source: Empirica*

These trends are supported by recent Eurostat evidence on the employment and recruitment of ICT specialist in the EU. This evidence shows that, in 2012, one in five EU enterprises employed ICT specialists (21%). While 70% of enterprises in the information and communication sector employed ICT specialists, in other sectors the figure ranges from 12% (in construction) to 34% (for professional, scientific and technical activities).

As well as employing ICT specialists, the information and communication sectors (51% in 2011) dominated the proportion of EU enterprises recruiting them. However, demand for ICT specialists at lower levels was spread across enterprises in the rest of the economy. The percentage of EU enterprises other than in information and communication recruiting ICT specialists in 2011 ranged from 3% of enterprises in construction, to 13% in professional, scientific and technical activities.

Figure 86: Enterprises employing, recruiting and having hard to fill vacancies for ICT specialists, by economic activity, EU27



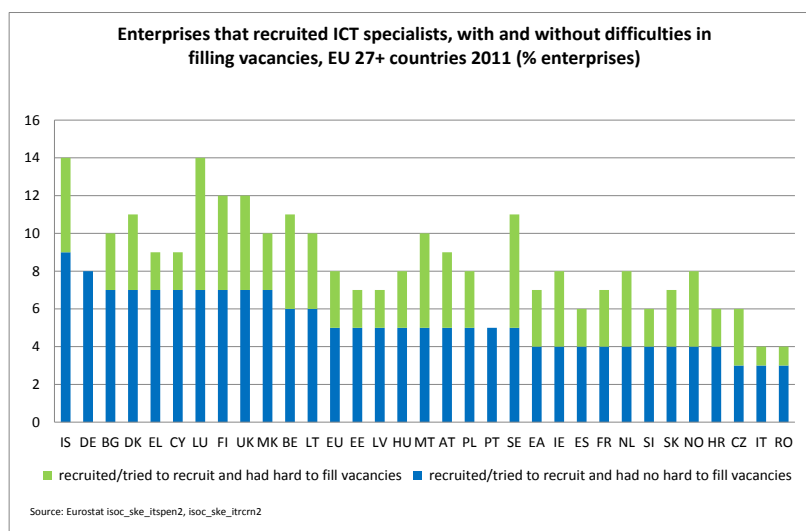
Source: Eurostat

On average, 8% of EU enterprises recruited or tried to recruit ICT specialists in 2011, while 3% reported having hard-to-fill vacancies for jobs requiring persons with relevant ICT skills. As such, around 40% of enterprises that recruited or tried to recruit ICT specialists in 2011,

reported difficulties in filling vacancies. Enterprises in all countries reported difficulties in recruiting ICT specialists. For those that did recruit specialists in 2011, the ratio of enterprises that reported hard-to-fill vacancies over those that did not report difficulties in recruitment was highest for Ireland, Luxembourg, Austria and Sweden.

To a certain extent internal training can replace the need to hire in external staff with certain ICT skills. Some 9% of EU enterprises provided their ICT specialists with training to upgrade their ICT skills in 2011. 17% provided training for other staff to develop their ICT skills.

Figure 87: Enterprises that recruited ICT specialists, with and without difficulties in filling vacancies, EU 27+ countries 2011 (% enterprises)



Source: Eurostat

To tackle the issue of lacking ICT professional skills in Europe, the European Commission has launched a "Grand Coalition for Digital Jobs"⁵ an EU-wide multi-stakeholder partnership, with the goal of starting to increase the number of ICT professionals by 2015, so that by 2020 there is a sufficient number of them.

3.5. Activities online⁶

Looking at **what people do online** provides useful insights into the development of online life. Looking at the types of activities undertaken, *email* remains the most popular activity on the internet with 66% of individuals reporting using it in the last three months. This is an increase over 2010 (last available data) of 5 p.p. This is closely followed by *looking for information about goods and services* (62%, +5 p.p. over 2011) and then by reading online news or newspapers (45%, +5 p.p. over 2011).

The next most popular activities are *internet banking* (40%, +3 p.p. over 2011), *posting messages to social media sites or instant messaging* (40%, +8 p.p. over 2010 – last available data), using *travel and accommodation services* (36%, -3 p.p. over 2011), buying/ordering goods or services (35%, +1 p.p. over 2011), *playing /downloading games, images, films or music* (35%, +7p.p. over 2010) and *listening to web radio and/or watching web TV* (33%, +7p.p. over 2010 – last available data). The majority of these activities have also witnessed

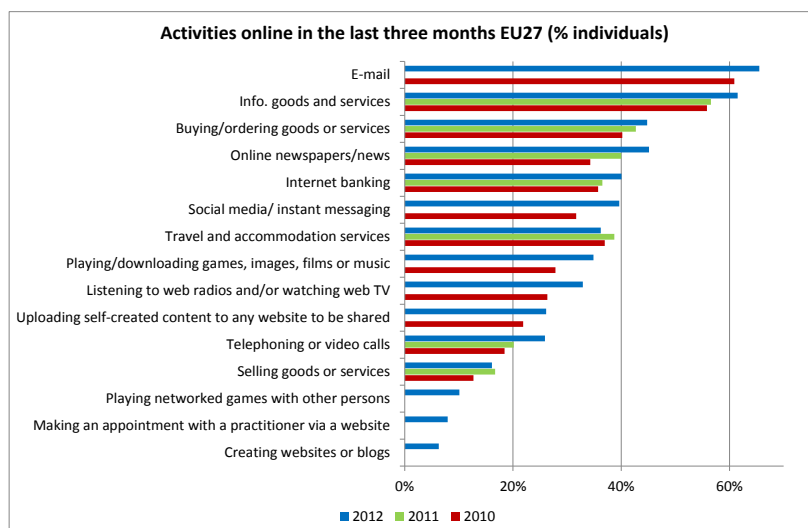
⁵ <https://ec.europa.eu/digital-agenda/en/grand-coalition-digital-jobs-0>

⁶ eGovernment and eCommerce are treated separately below.

strong growth over the last year or two, with the exception of *travel and accommodation services*.

Less popular activities include: *uploading self-created content* (26%, +4 p.p. over 2010), *telephoning or video calls* (26%, +6 p.p. over 2011), *selling goods or services* (16%, -1 p.p. over 2011), *playing networked games with other persons* (10%), *making a doctor's appointment* (8%) and *creating websites or blogs* (6%).⁷ Never-the-less, many of these activities too have seen strong growth over the last couple of years, indicating that activity online is becoming more diverse as it develops.

Figure 88: Activities online in the last three months EU27 (% individuals)



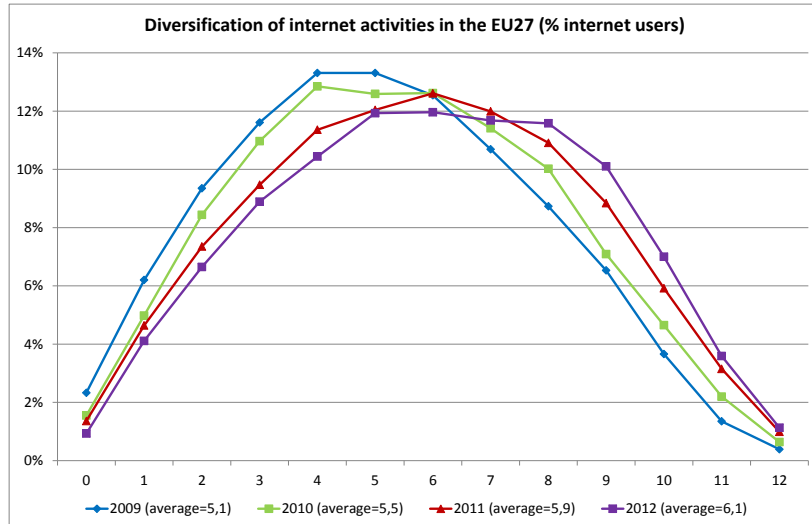
Source: Eurostat

Increased diversification of internet use is supported by the analysis of the number of activities carried out by individuals online. Data for the period 2009 to 2012, on the number of activities carried out online by internet users, shows that the mean number of activities undertaken – out of a selected group of 12 activities⁸ - has grown continuously, from 5.1 in 2009 to 6.1 in 2012. This confirms the intuition that as people become more experienced and confident with internet use, and life online develops; users not only increase their frequency of use but also become increasingly diversified in their activities.

⁷ No comparison data are available for the last three activities.

⁸ The diversification index is based on 12 activities for which data are available every year since 2009. The index is calculated individuals having used the internet during last 3 months, and is computed simply as the number of activities realised out of the 12 selected. The list include: sending/receiving e-mails, browsing for information about goods and services, reading online newspapers/news, looking for information on travel/accommodation services, posting messages to social media, interaction with public authorities, internet banking, telephoning or video calls, selling goods or services, purchases of content (films, music, software), purchase of goods, purchase of services.

Figure 89: Diversification of internet activities in the EU27 (% internet users)



Source: Eurostat

Looking across the EU27+ countries shows that diversification of activities varies substantially from country to country. While in 2012 internet users from Italy, Greece, Bulgaria, Romania and Croatia were performing on average only 4-5 activities, those from Scandinavia and the Netherlands were performing almost double the number: 7-8 activities on average, out of the selected twelve. There appears to be no relationship between a country's progression in the number of internet users and progression in diversification of activities.

Across the EU27+ there has been little variation in the progression of diversification of activities over time. Most countries have increased by around 1.0 between 2009 and 2012. Exceptions are Sweden, Slovakia and Bulgaria (1.5) which have moved a bit faster and Finland, France, Italy, Luxemburg, Estonia, Portugal, Spain, Lithuania, Austria and Belgium (0.5) which have moved slower. For some countries it is harder to say because micro-data are available only for the last two years: Croatia, Germany and the UK; although the latter looks like it has fast progression, at least since 2011. As such we can estimate that while the leading countries such as Denmark, Sweden, Norway and Iceland are around four and half years ahead of the EU average, the internet users of countries such as Romania, Bulgaria, Italy, Greece and Croatia are four and a half or more years behind the average in terms of diversification of their online behaviour.

Table 4: Time matrix for the average of the diversification index – evolution 2009-2012

	3,0	3,5	4,0	4,5	5,0	5,5	6,0	6,5	7,0	7,5
DK									...	2010-12
SE							2009	2010	2011	2012
NO								2009	2010-11	2012
IS								2009-10	2011	2012
FI								2009	2010-12	
NL							2009	2010-11	2012	
LU							2009-10	2011-12		
UK					...	2011		2012		
DE							...	2011-12		
EE						2010	2012			
SK				2009		2010-11	2012			
EU27					2009-10	2011	2012			
IE					2009-10	2011	2012			
FR						2009	2010-12			
MT					2009-10		2011-12			
SI					2009-10	2011	2012			
BE				2011	2009-10	2012				
AT					2009-10	2011-12				
LT					2009-10	2011-12				
ES					2009-11	2012				
LV					2010	2012				
HU				2009	2010-11	2012				
CZ				2009-10	2012	2011				
PT				2009-11	2012					
CY			2009	2010	2011-12					
PL			2009	2010-11	2012					
HR			...	2011-12						
EL		2009	2010	2011-12						
IT			2009-10	2011-12						
BG	2009		2010-11	2012						
RO	2009	2010	2011-12							

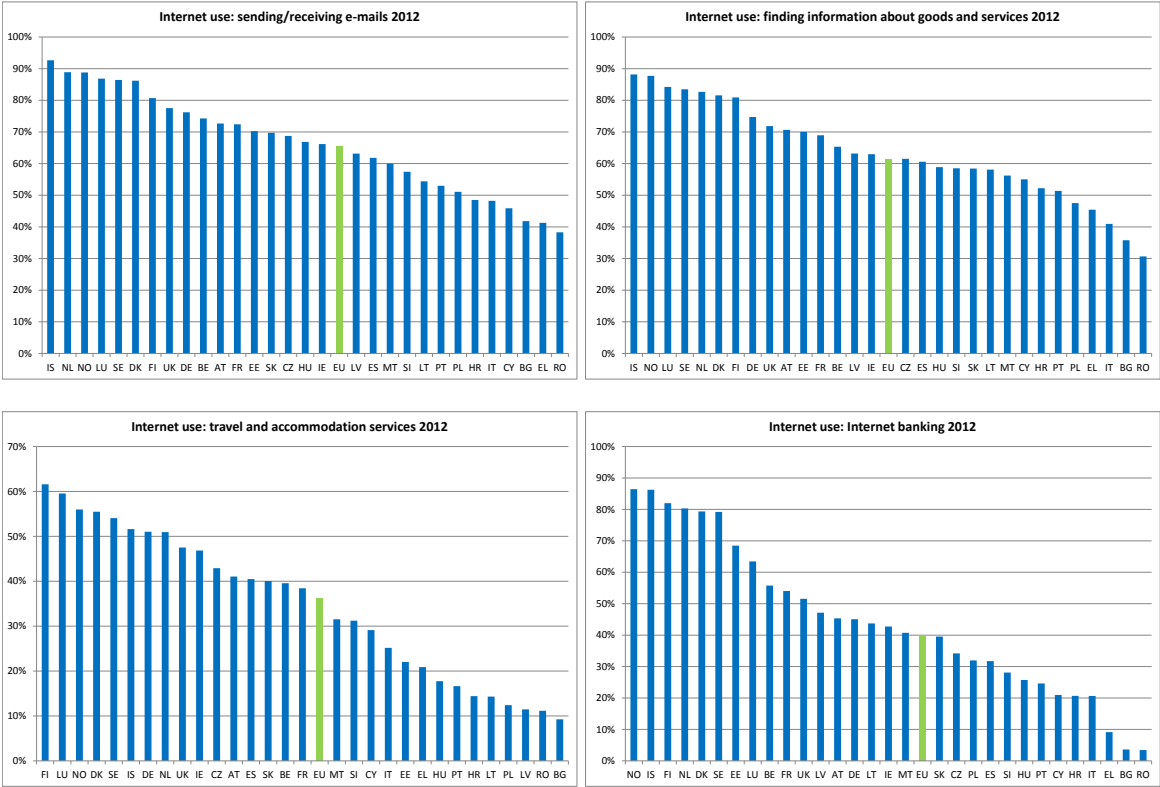
Source: EC services based on Eurostat data

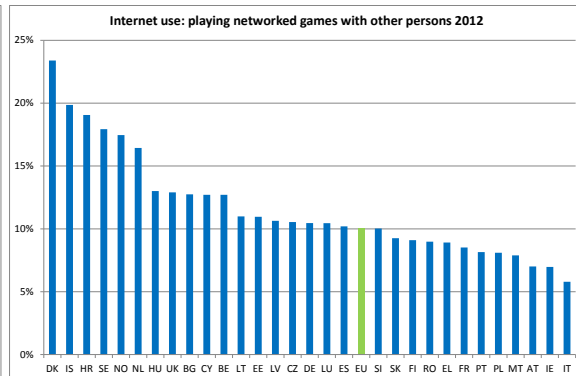
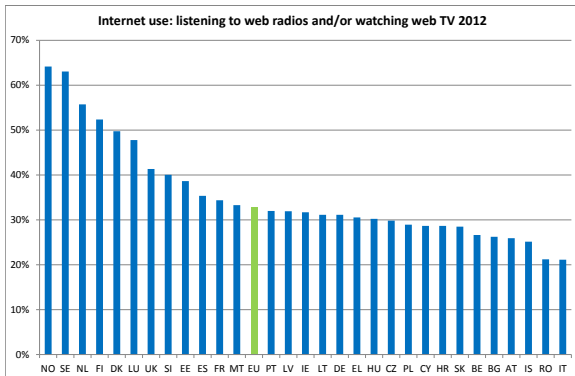
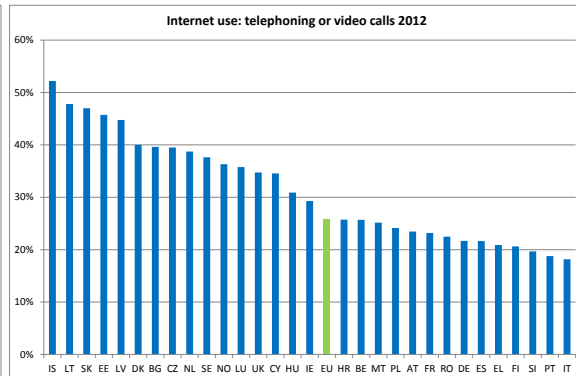
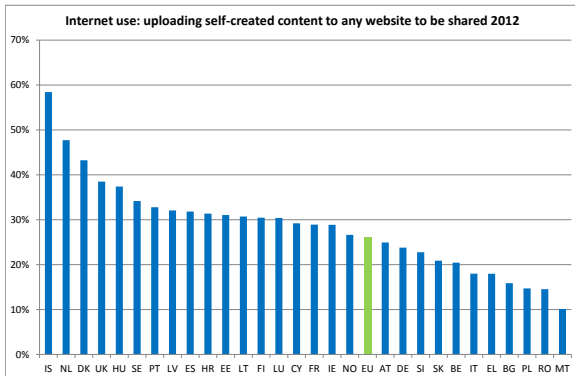
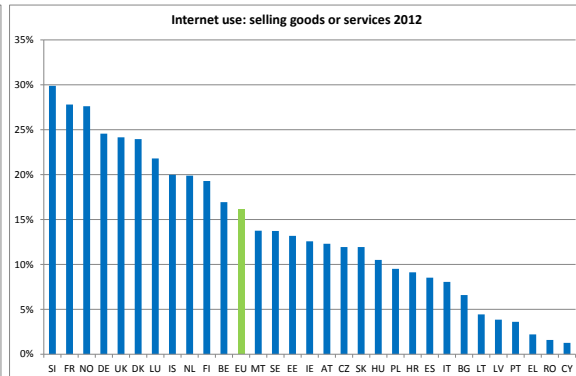
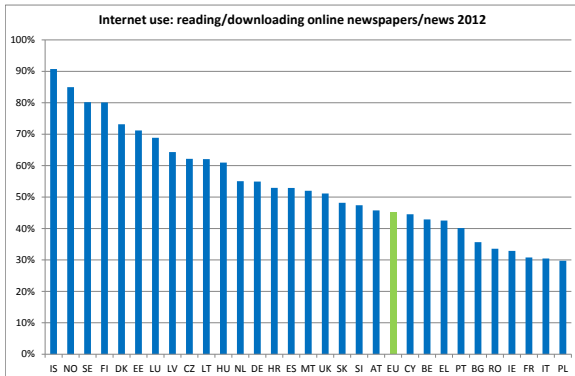
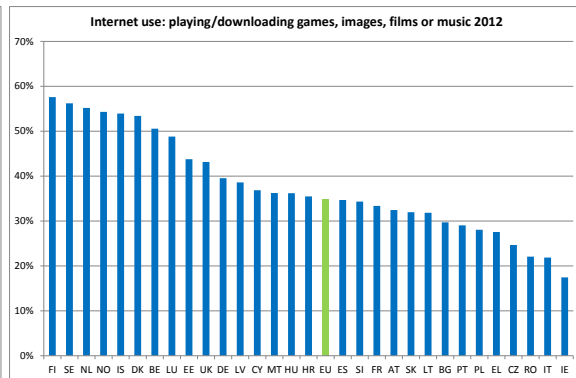
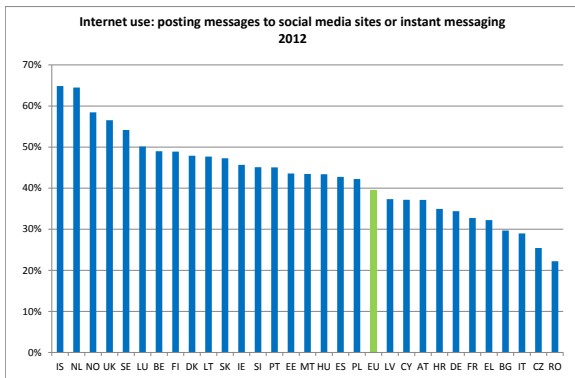
Across the EU27+ use of different internet activities by the population varies substantially by country. Looking first at the *most popular activities* across Europe; while *email* is used by above 80% of the population in Iceland, the Netherlands, Norway, Luxemburg, Sweden, Denmark and Finland, it is used by less than half the population in Romania, Greece, Bulgaria, Cyprus, Italy and Croatia. *Finding information about goods and services* is also above 80% in Iceland, Norway, Luxemburg, Sweden, the Netherlands, Denmark and Finland; while it is below 50% in Romania, Bulgaria, Italy, Greece and Poland.

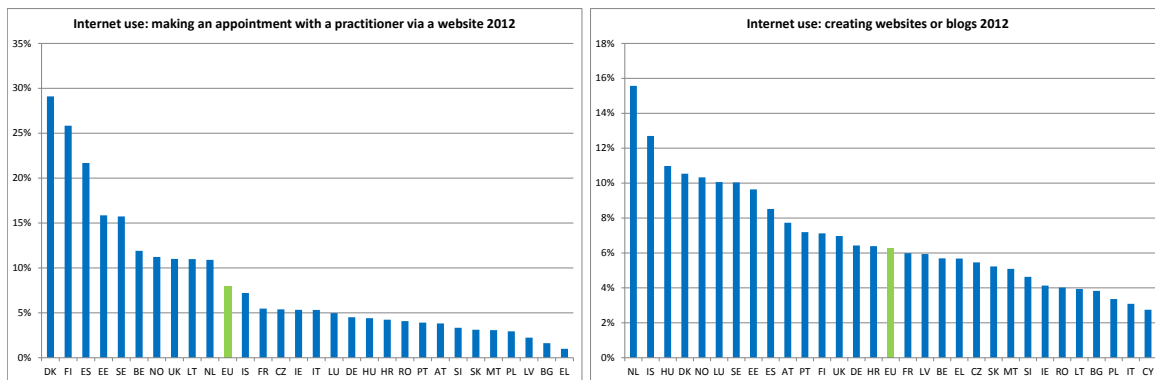
Of other relatively popular activities, *Internet banking* is carried out by around 80% of the population or more in Norway, Iceland, Finland, the Netherlands, Denmark and Sweden; however, rates of below 10% are found in Romania, Bulgaria and Greece; in Italy, Croatia and Cyprus rates are just above 20%. 80% of the population or above in Iceland, Norway, Sweden and Finland also *read online news*, whereas it is only around a third of the population in six countries (Poland, Italy, France, Ireland, Romania and Bulgaria). Use of *social media and/or instant messaging* is most popular in Iceland, the Netherlands, Norway, the UK and Sweden, where it is above 50%; while it is at or below 30% in Romania, the Czech Republic, Italy and Bulgaria. Use of *travel and accommodation services* is over 50% in Finland, Luxemburg, Norway, Denmark, Sweden, Iceland, Germany and the Netherlands; however it is around 10% in Bulgaria, Romania, Latvia and Poland. *Playing/downloading games, images, films or music* is most popular in Finland, Sweden, the Netherlands, Norway, Iceland, Denmark and Belgium (above 50%); while it is less popular in Ireland, Italy and Romania (around 20%). Finally, *web radio and web TV* are popular in Norway, Sweden, the Netherlands and Finland (around and above 50%), but are significantly less so in Italy and Romania (about 20%).

Of the less popular activities, *uploading self-created content* is most popular in Iceland, the Netherlands and Denmark (above 40%); whereas it is at or below 20% in a number of countries (Belgium, Italy, Greece, Bulgaria, Poland, Romania and Malta). Use of the internet for *telephoning and video calls* is popular a number of countries (Iceland, Lithuania, Slovakia, Estonia, Latvia, Denmark, Bulgaria and the Czech Republic) where 40% or more of individuals engage in these activities. However, lowest rates of use are just under 20% of the populations in Italy Portugal and Slovenia. *Selling goods and services* over the internet by individuals is most popular in Slovenia, France and Norway; where a quarter to a third of the population participates in such activities; less than 5% of the populations of Cyprus, Romania, Greece, Portugal, Latvia and Lithuania do so. *Playing networked games with other persons* is as high as 20% and more in Denmark and Iceland and between 15 and 20% for in Croatia, Sweden, Norway and the Netherlands. In a majority of countries, however, it is around 10% or less. While *making an appointment with a practitioner* is an internet activity carried out by almost 30% of people in Denmark, 26% in Finland and 22% in Spain, for the majority of the countries the rate is at or below 5%. Finally, *creating websites or blogs* is most popular in the Netherlands, Iceland, Hungary, Denmark, Norway, Luxemburg and Sweden (10-15%), however the lowest rates are only around 2-4% (Cyprus, Italy, Poland, Bulgaria, Lithuania, Romania and Ireland).

Figure 90: selected activities online in the last three months across EU27+ countries (% individuals)







Source: Eurostat

Across the EU27+ countries, rates of use of the more popular activities such as email and searching for information about goods and services, as well as internet banking, follow a similar pattern to that of rates of regular internet use – having correlation coefficients of 0.98, 0.98 and 0.95, respectively, with regular internet use. Quite high correlations are also found between regular use of the internet and use of travel and accommodation services (0.85), playing/downloading games, images, films or music (0.82), posting messages to social media sites or instant messaging (0.78), selling goods and services (0.74), reading/downloading online newspapers/news (0.71) and listening to web radios and/or watching web TV (0.69).

However, the level of regular internet use is not the only factor determining use of activities across countries, as shown by a number of outlier countries for certain activities. The main outliers are Estonia and Latvia, which both have higher rates of use of internet banking than would be expected given their rates of regular internet use. Also Slovenia and France have relatively high rates of selling online; while Latvia, Lithuania and Cyprus in particular have relatively low rates of selling online.

Uploading self-created content (0.63), Playing networked games with others (0.50), making an appointment with a practitioner (0.50) and telephoning and video calls (0.41) are less correlated with regular internet use, showing that in some countries these activities are undertaken by relatively large numbers of individuals, despite them not having the highest rates of internet users and vice versa. Good examples here are the popularity of making appointments with practitioners in Spain, of uploading and sharing self-created content in Hungary, of playing networked games with others in Croatia and of using the internet for telephoning and video calls in Bulgaria.

3.6. Activities and skills levels

Data on activities by skills level (computer skills)⁹ shows that engagement in most activities is strongly skills dependent. Only highly popular activities such as email and finding information about goods and services, where most users are active and the least popular activities, like playing networked games, creating websites or blogs, making an appointment with a practitioner and selling goods or services, where few individuals engage in the activities, show lower variation in rates of use by skills level.

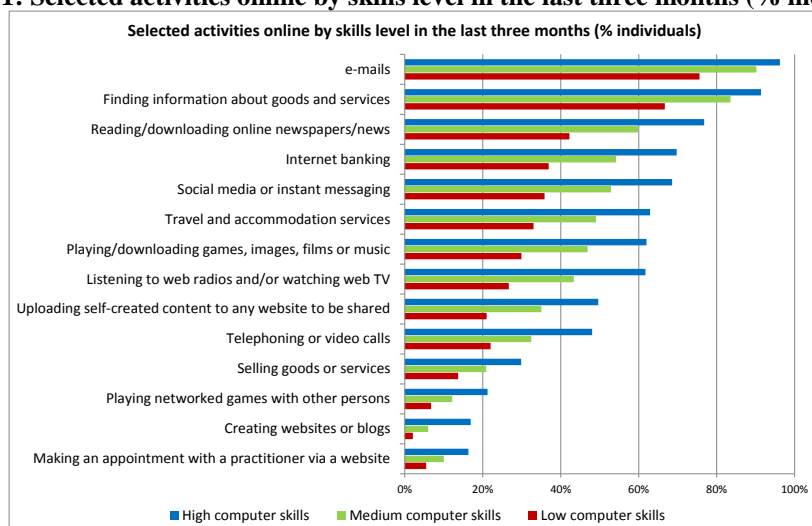
For email, the most popular activity online, for example the rate of use of highly skilled individuals is 96%, compared to 76% for low skilled individuals, a 20 p.p. difference. For

⁹ For the definition of levels of skills, see part 3.4.1.

creating websites or blogs, one of the least popular activities, for example the rate of use of highly skilled individuals is 17%, compared to 2% for low skilled individuals, a 15 p.p. difference.

Most other activities are more skills dependent. For most activities there is around a 30 p.p. gap between the rate of use of highly skilled and low skilled individuals; ranging from 29 p.p. for uploading self-created content to 35 p.p. for reading/down loading newspapers/news and listening to web radios and/or watching web TV.

Figure 91: Selected activities online by skills level in the last three months (% individuals)



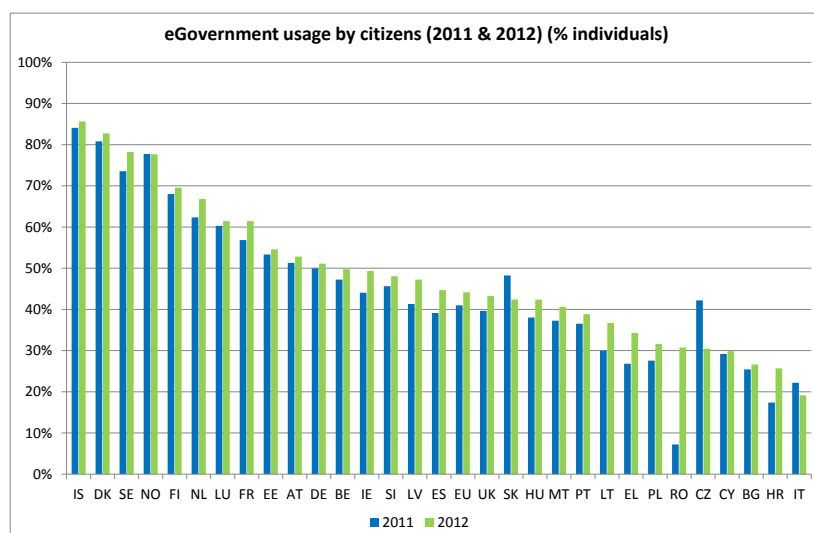
Source: Eurostat

3.7. eGovernment

Use of eGovernment services by citizens saw moderate growth between 2011 and 2012 in the EU27 increasing from 41% to 44%. Usage increased in all countries, except the Czech Republic (-12 p.p.)¹⁰, Slovakia (-6 p.p.) and Italy (-3 p.p.). Large increases in the use of eGovernment services by citizens were recorded for Romania (+24 p.p.), Croatia (+8 p.p.) and Greece (+7 p.p.). Strong performance over the last year in these countries shows that catch-up of lagging countries is taking place. However, some of the top users have also seen substantial increases in the last year; like Sweden (+ 5 p.p. to 78%), France (+5 p.p. to 61%) and the Netherlands (+5 p.p. to 67%) for example.

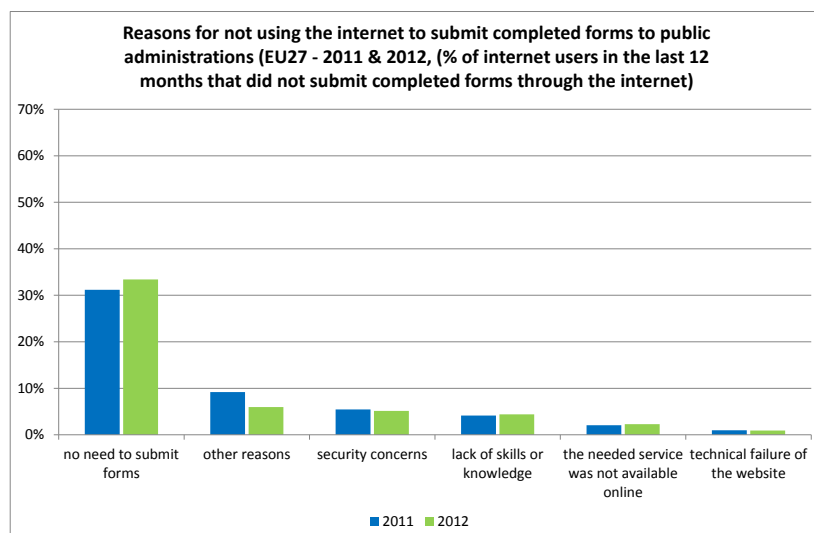
¹⁰ The Czech Republic experienced a sudden doubling in the share of citizens using eGovernment services in 2011, from 23% in 2010 to 42% in 2011. This relates to the fact that in 2011 there was a census in the Czech Republic and it was (for the first time) possible to fill in the census form on-line.

Figure 92: eGovernment usage by citizens (2011 & 2012) (% individuals)



Source: Eurostat

Figure 93: Reasons for not using the internet to submit completed forms to public administrations, EU27 - 2011 & 2012, (% of internet users in the last 12 months that did not submit completed forms through the internet)



Source: Eurostat

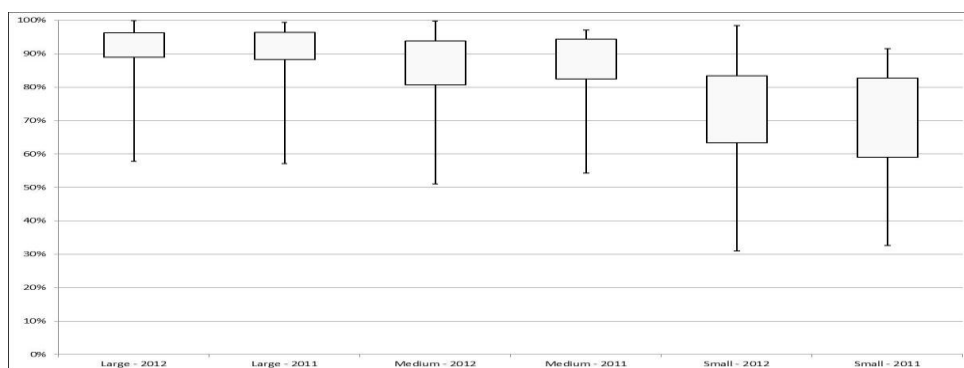
Looking at the **reasons why citizens don't use interactive eGovernment services** (i.e. sending completed forms through the internet), a lack of need increased in importance (+4 p.p.) and "other reasons" fell (-6 p.p.). The importance of other named reasons, such as security concerns (10%), lack of skills (8%), lack of supply (4%), and quality of supply (2%), remained largely unchanged. Interestingly, lack of need has increased in importance despite an unchanged reference population¹¹. If we take into consideration only citizens that actually needed to contact the public administrations (and who were also internet users), then the proportion of eGovernment users raises to 53% of potential users¹² for the EU27 in 2012. The

¹¹ The percentage of internet users in the last 12 months that did not submit forms through the internet, which was equal to 53% of the population in both 2011 & 2012.

¹² This percentage is defined as the % of population that sent completed forms divided by that percentage plus percentage of internet users in the last 12 months that didn't have to submit completed forms

ranking also changes dramatically as countries like BE, DE and LU shift down by many positions and countries like RO, BG and EL move forward significantly.

Figure 94: Percentage of enterprises using the internet for sending filled in forms electronically – by firms' size¹³ (boxplot* - variation across EU 27 countries in 2011 & 2012)



EU 27	91.1%	90.0%	86.0%	84.7%	68.6%	66.1%
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* *Boxplot: The length of the bar represents the range of variation between countries in the first and fourth quartiles (25% highest and lowest values) for the selected variable (interactive use of online public services by businesses), while the box represents the range of variation of the second and third quartiles.*

For what concerns **eGovernment usage by Enterprises**, the comparison between 2011 and 2012 suggests that, for advanced eGovernment usage, there has been a pronounced improvement of 2.5 p.p. for small enterprises coupled with a small reduction in dispersion in the central part of the distribution (the boxes in Figure 94). For the rest the situation is quite stable, with modest improvements of 1.0 p.p. and 1.4 p.p. for large and medium enterprises respectively; and with almost unchanged dispersion from last year. This may signal some saturation of usage, with the still existing non-users which could well have outsourced the discharge of obligations toward the public administrations to external service providers. Unfortunately, the amplitude of the phenomenon of outsourcing is not measurable with existing methodologies.

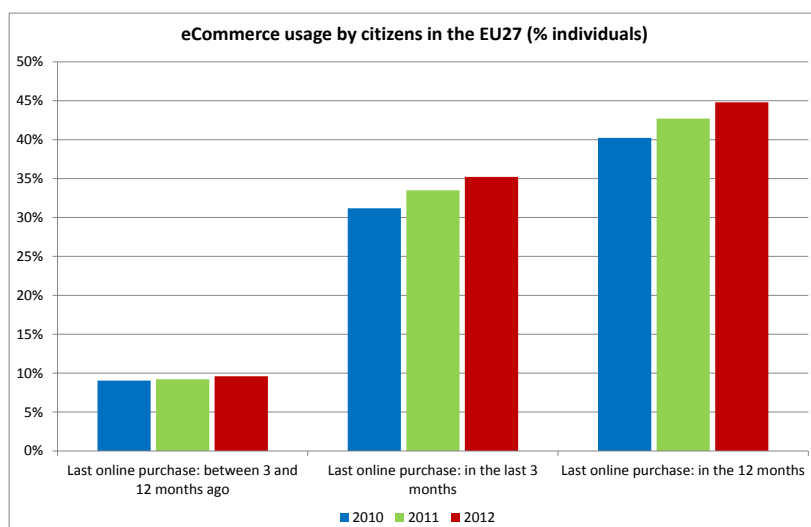
3.8. eCommerce

3.8.1. eCommerce by Citizens

Citizens' engagement in eCommerce showed continued moderate growth in the last year. The percentage of individuals ordering or buying goods or services for private use over the internet in the last 12 months prior to the survey rose to 45% in 2012, up from 43% in 2011 and 40% on 2010; suggesting that the Digital Agenda target of 50% of the population buying online by 2015 is well on its way to being met. Most of this increase was due to more individuals having bought items within the last 3 months (+2 p.p. over 2011). The percentage of the population having made purchases between 3 to 12 months ago hardly changed.

¹³ The size class of a firm is determined with reference to the firm's number of employed persons with the following thresholds: 10-49 for small firms, 50-249 for medium firms and 250+ for large firms

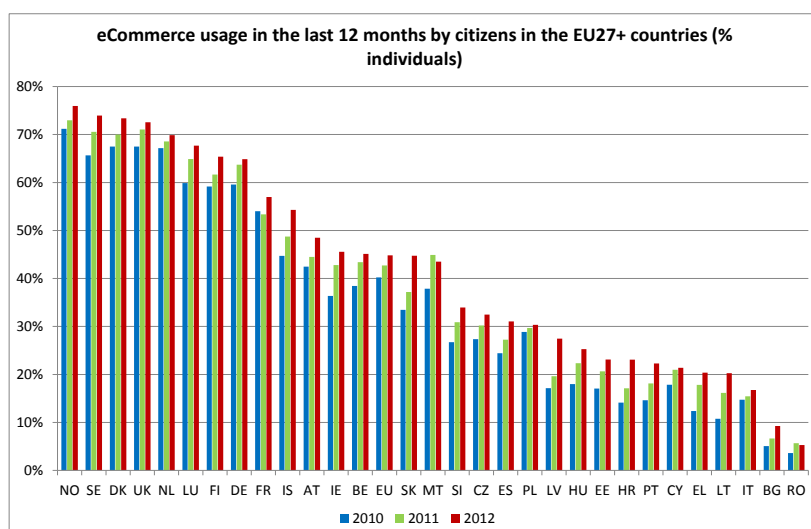
Figure 95: eCommerce usage by citizens in the EU27 (% individuals)



Source: Eurostat

Across the EU27+ countries, the **top performers in terms of online purchasing in the last 12 months** by citizens are the Nordic countries (Norway, Sweden Denmark and Finland), the UK (73%, +2 p.p. over 2011), the Netherlands (70%, +1 p.p.), Luxemburg (68%, +3 p.p.) and Germany (65%, +1 p.p.). In these countries around two thirds, or more, of citizens make purchases online. Countries with particularly low rates of eCommerce use in the last 12 months include Romania (5%), Bulgaria (9%), Italy (17%), Lithuania (20%), Greece (20%), Cyprus (21%), Portugal (22%), Croatia and Estonia (2%); with less than a third of their populations engaging in eCommerce.

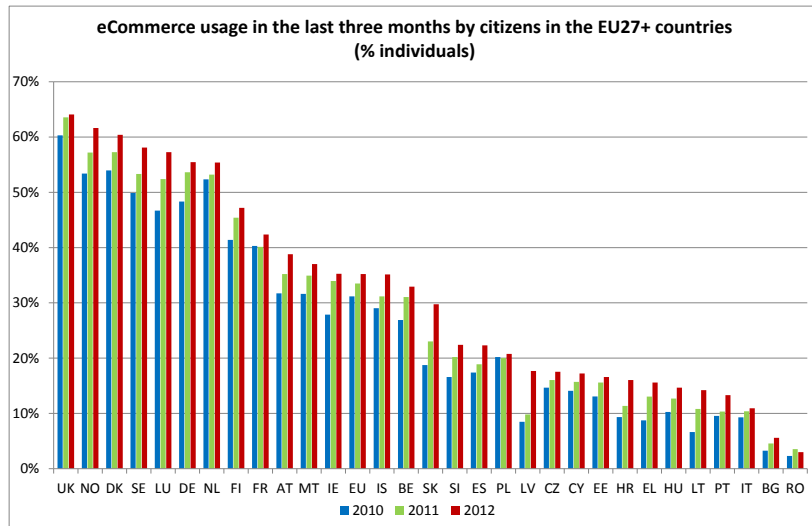
Figure 96: eCommerce usage in the last 12 months by citizens in the EU27+ countries (% individuals)



Source: Eurostat

Looking at a **higher frequency of eCommerce use** (within the last three months), the rank order of countries changes somewhat. In particular, the UK (64%) performs significantly better, jumping from rank four to the top position, and Germany (55%) climbs two positions to rank 6, showing that significant proportions of eCommerce users in these countries are higher frequency users. Iceland (35%) drops significantly in the ranking to position 13, below the EU average (35%). Portugal (13%) also drops significantly from rank 24 to rank 27. The Czech Republic (17%) falls three positions to rank 20. This shows that large proportions of the eCommerce users in these countries engage in less frequent eCommerce use.

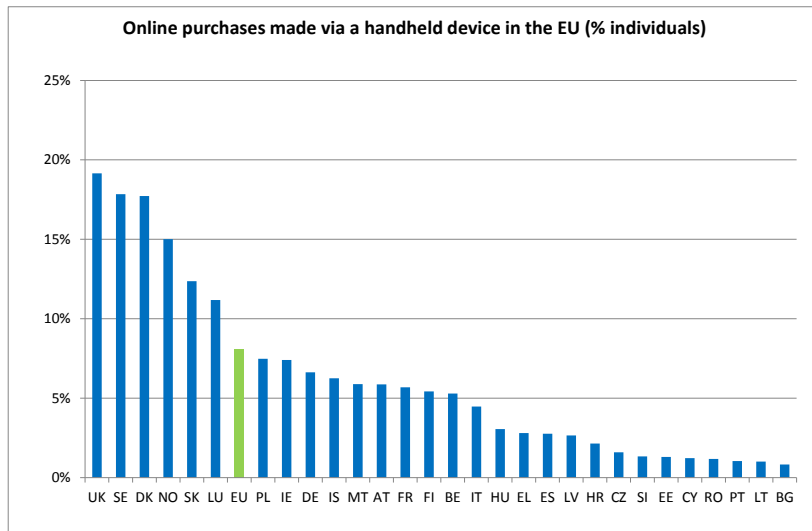
Figure 97: eCommerce usage in the last three months by citizens in the EU27+ countries (% individuals)



Source: Eurostat

On average, most eCommerce takes place over a computer (laptop/desktop or tablet computer). Very little is done over handheld devices (e.g. mobile phones). Only 7% of individuals in the EU ordered goods or services from a hand held device in the previous 12 months in 2012. However, in a few countries it is more prevalent. The countries with the highest figures are: UK (19%), Sweden and Denmark (18%). Particularly low rates of use by individuals (below 5%) are found in an array of countries (Bulgaria, Lithuania, Portugal, Romania, Cyprus, Estonia, Slovenia, Czech Republic, Croatia, Latvia, Spain, Greece, Hungary, and Italy).

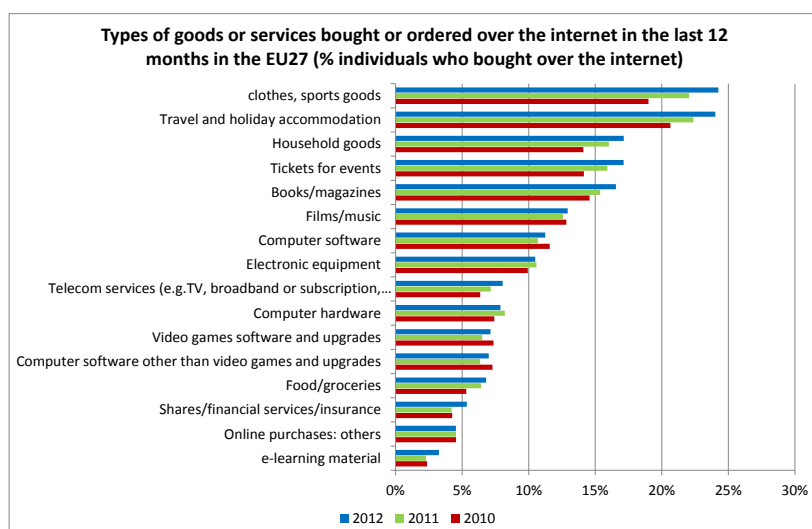
Figure 98: Online purchases made via a handheld device in the EU (% individuals)



Source: Eurostat

In terms of **what people buy online**, by far the most popular purchases are for clothes and sports goods and travel and accommodation services (both 24%). In particular, clothes and sports goods have risen in popularity in recent years (+2 p.p. over 2011; + 5 p.p. over 2010), to become the most popular activity. The next most popular purchases are for household goods, tickets for events and books and magazines (all 17%; up 1 p.p., 1 p.p. and 2 p.p. over 2011 respectively). Thereafter follow film/music, computer software, and electronic equipment. Purchases of other goods and services are less represented and have seen slower progression in recent years.

Figure 99: Types of goods or services bought or ordered over the internet in the last 12 months in the EU27 (% individuals who bought over the internet)



Source: Eurostat

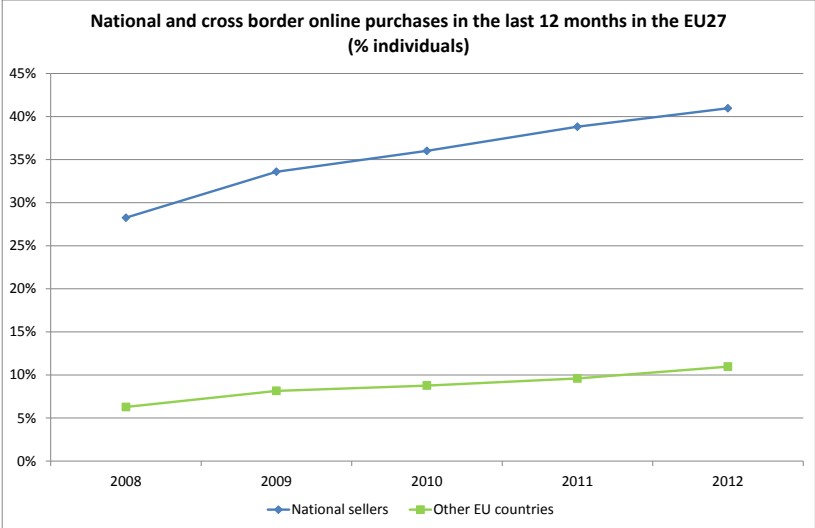
Looking at data on purchases by individuals who had made online purchases in the previous 12 months, we can examine **purchasing patterns across the EU27+**. Looking first at the most popular activities in 2012, it can be seen that the percentage of such individuals purchasing *clothes and sports goods* was highest in Bulgaria (64%), Germany (63%) and the UK (62%); significantly above the EU average of 54%. While purchases of *travel and accommodation services* were made by 54% of individuals buying online across the EU, they were as high as 76% in Sweden, 75% in Ireland and 72% in Norway. The percentage of individuals buying online who bought *tickets for events* was well above average in Iceland (73%), Sweden (66%) and Denmark (65%). With regard to purchasing *household goods*, the percentage of individuals buying online that bought these types of goods was highest in the UK (55%), Germany (50%) and Poland (45%); the EU average was 38%. Finally, buying *books and magazines* was particularly popular in Luxemburg (63%), Germany (51%), and Austria (47%); significantly above the EU average of 37%.

Of the less popular activities, it is noteworthy that purchasing medicines is rather popular in Germany (27%) and Romania (15%) - the EU average is 10% of online purchasers. It should be noted, however, that national differences and the general lack of popularity might reflect the fact that such sales for pharmaceutical products are often banned in Member States, and, even where they are allowed (such as in the two countries mentioned), they are extremely regulated. Finally, purchasing telecom services is very popular in Iceland (62%), Denmark (37%), Portugal and Sweden (34%) – well above the EU average of 18%.

In the EU, **the majority of eCommerce continues to take place at national level**. In 2012, 41% of individuals made purchases from national sellers, up from 39% in 2011. The proportion of individuals in the EU making purchases from other EU member states remained low (11%) - marginally higher than in 2011 (10%). Looking at the trend over time it can be seen that while gradual progress is being made towards the Digital Agenda target of 20% of individuals buying online from other EU Member States, it is clear that if this trend continues, the target will only be met by around 2020, rather than the current target date of 2015. It should however be taken into account that measurement of progress towards this target is based on self-reporting by consumers and on the assumption that consumers can differentiate

between domestic and cross-border transaction; which is not always the case.¹⁴ This may lead to under-reporting of cross-border buying. Furthermore, above a certain volume retail sales across borders are not the most efficient strategy for companies. There is an incentive for companies to establish a physical presence in countries where they have significant online sales, thus turning what was cross-border eCommerce into domestic eCommerce, suggesting that there may also be a limit to the growth of cross-border eCommerce.

Figure 100: National and cross border online purchases in the last 12 months in the EU27 (% individuals)



Source: Eurostat

3.8.2. *eCommerce by Enterprises*

Ordering online goods and services is an opportunity not only for consumers but also for the exchanges between enterprises and all their business partners.

The percentage of *small and medium sized enterprises (SMEs)* selling online is progressing slowly, gaining around one percentage point every two years. In 2011, 15% of SMEs in EU27 received orders via "computer mediated networks". Behind the latter concept there are two different technologies: web-sales and EDI (electronic data interchange or XML formats). Web-sales is the main channel, used by 12% of SMEs, and the majority (9% of EU SMEs) use only this channel. 3% use both web-sales and EDI and 3% use only EDI.

eCommerce sales by *large enterprises* is more developed than that of SMEs and the means by which it takes places also differs. For large enterprises EDI is somewhat more prevalent (26%) than web-sales (23%). Looking more closely at web sales (which is the channel holding most opportunity for a variety of customers, such as final consumers, other enterprises and public administrations), data on total turnover of SMEs via this channel can shed light on its relative importance vis-à-vis non-web sales. The data show that on average in the EU web sales are responsible for between 1 and 10% of turnover in almost 5% of SMEs. For just under 4% of SMEs it is responsible for between 10 and 50% of turnover. For just over 2% it is responsible for less than 1% and for only 1.5% of SMEs are web sales responsible for over half of turnover.

¹⁴ Multinational companies may establish national websites dedicated to clients from a certain country, which may look to consumers as domestic eCommerce even if the actual purchases may be cross-border.

Table 5: Relevance of selling via the web for SMEs (2011) – proportion of turnover from web sales (% SMEs)

anecdotal = less than 1% of their turnover	2,2%
low = 1% or more but less than 10%	4,8%
consistent = 10% or more but less than 50%	3,8%
dominant = 50% or more of their turnover	1,5%
Total	12,3%

Source: Eurostat

Looking at the distribution of web-sales across countries, it can be seen that while on average in the EU around 12% of SMEs have web-sales, this rises to 20% and above in Norway, Iceland, Croatia Denmark, Sweden, Germany and Ireland; while it is 6% or less in Bulgaria, Macedonia, Italy and Romania. Interestingly, it can be seen that in the countries where eCommerce is more diffused, it largely remains a complementary channel involving less than 10% of their turnover. The main exceptions to this are the Czech Republic, Lithuania, Croatia and Luxemburg; where for the majority of enterprises doing online sales they represent a more significant part of their turnover. Similarly, on the bottom side of the ranking, we have countries where few SMEs sell via the web, but for these few enterprises it is a relevant source of business: Slovakia, Estonia, Portugal, Poland, Greece, Macedonia and Romania.

Table 6: Relevance of web-sales across the EU27+

	% SMEs having web-sales	Relevance of web-sales: distribution of SMEs having web-sales into four classes based on the percentage of their turnover coming from web-sales			
		anecdotal < 1%	low 1-10%	consistent 10-50%	dominant >50%
NO	34,5%	10%	49%	31%	10%
IS	29,4%	20%	45%	20%	14%
HR	24,8%	16%	27%	31%	26%
DK	22,9%	11%	53%	27%	8%
SE	20,8%	2%	49%	37%	11%
DE	20,1%	not declared			
IE	20,0%	0%	49%	37%	14%
BE	18,0%	5%	51%	31%	13%
UK	16,2%	20%	37%	31%	12%
MT	15,8%	22%	42%	25%	11%
CZ	15,5%	7%	37%	35%	21%
NL	15,3%	16%	45%	29%	10%
LT	14,9%	15%	27%	37%	21%
FI	14,4%	25%	40%	25%	10%
LU	13,3%	14%	36%	50%	0%
EU27	12,3%	18%	39%	31%	12%
SI	12,0%	20%	31%	39%	10%
AT	11,2%	38%	32%	23%	7%
SK	10,9%	17%	37%	28%	19%
FR	10,2%	26%	30%	32%	12%
ES	10,0%	13%	40%	33%	14%
EE	9,4%	16%	32%	35%	18%
HU	8,8%	21%	37%	30%	11%
PT	8,6%	7%	40%	53%	0%
PL	8,2%	23%	27%	50%	0%
EL	7,9%	23%	23%	36%	18%
LV	7,3%	26%	31%	28%	15%
CY	7,2%	8%	49%	37%	6%
BG	5,6%	40%	37%	16%	7%
MK	5,2%	19%	27%	35%	20%
IT	4,6%	35%	29%	28%	8%
RO	4,6%	6%	29%	48%	16%

Source: Eurostat

The 2012 survey has started to investigate also the relative part of these web-sales coming from consumers and the part coming from other enterprises or the public sector. The indicator is available only for few countries (Austria, BBulgaria, Spain, Finland, France, Hungary, Ireland, Lithuania, Luxemburg, Malta, the Netherlands, Portugal, SI, SK) because the question was optional for this first pilot exercise.

Around one third of the volume of web-sales comes from consumers and the two thirds come from B2B or B2G transactions. The situation varies according to the economic sectors, and as expected the reverse is valid in the retail sector (70% of web sales are from B2C), in telecommunication (61%) and in the accommodation sector (52%).

Bearing in mind the previous analysis which shows how that selling online is often only a minor part of total turnover, the survey estimates that only 1% of all SMEs turnover comes from web-sales to consumers, with the exception of Ireland (4%), Lithuania and Malta (both 3%). The sectors with the largest proportion of their turnover from online selling, as could be expected, are tourism (accommodation and travel), transport arrangements (booking flights,

train, etc) and telecommunications; also retail but with a lower percentage because the traditional "bricks and mortar" channel remains dominant.

Table 7: B2C Sales via a website over the last calendar year – as a % of turnover (leading sectors)

Sales B2C via a website over the last calendar year - as a % of turnover (leading sectors)	
Accommodation 10+	9,3%
Adm&support services: Travel agency; tour operator reservation	8,3%
Telecommunications 10+	4,8%
Transport and storage 10+	4,6%
Retail trade, except of motor vehicles and motorcycles 10+	3,3%
Publishing activities; films & television, sound & music publishing	1,8%

Source: Eurostat

Finally, the data in the table below confirm that, in most cases, those enterprises investing in the organisation of web-sales attract or include final consumers as a relevant part of their clients. Two out of three SMEs having web-sales, have consumers covering at least 10% of the sales realised through the web channel.

Table 8: Enterprises with significant B2C sales

	Enterprises where B2C sales via a website over the last calendar year are 10% or more of the total websales	Enterprises having received orders via a website
MT	14,3%	15,8%
LT	11,8%	14,9%
NL	9,1%	15,3%
LU	8,9%	13,3%
AT	8,8%	11,2%
SI	8,4%	12,0%
SK	8,4%	10,9%
EU27	8,3%	12,3%
IE	7,6%	20,0%
FI	7,3%	14,4%
HU	6,9%	8,8%
ES	6,3%	10,0%
FR	5,8%	10,2%
BG	4,8%	5,6%
PT	4,2%	8,6%
MK	4,0%	5,2%

Source: Eurostat

3.9. Summary and conclusions

This chapter has looked at recent developments in internet use and digital skills in the EU27, Iceland, Norway, Croatia and (for data on enterprises) the Former Yugoslav Republic of Macedonia. The chapter finds that ***progress towards the Digital Agenda key performance targets on internet use are on track***. More people are going online than ever before (70%) and most are doing so every day (59%). Furthermore, disadvantaged people are catching up with the average population in terms of their use of the internet (54%) and the target for internet use by this group will also most likely be met. Across the EU countries, ***rates of regular internet use are still quite dispersed*** and the leaders and laggards have changed little over time. However, ***catch-up is taking place*** for the majority of those with the lowest rates of use; though there are some exceptions. The major exception is Italy, which is seeing its relative position slip and now belongs to the group of countries with the lowest rates of use. Furthermore, there are a number of "average performers" which have also made little recent progress (Austria, Belgium, Slovenia, Poland and Malta); they also risk seeing their relative position slip. Never-the-less, overall catch-up is confirmed by the gradual decline over time in measures of dispersion.

Progress is also being made in making "Every European Digital". The percentage of non-users has declined once more in the last year. However, in some countries, rates are still substantial: 40-50% in Bulgaria, Greece and Romania; and above 30% in Italy, Cyprus, Croatia, Portugal and Poland. As the number of non-users falls, reasons for not having access to the internet concentrate around a "lack of need" and "lack of skills"; and to a lesser extent "costs". There is some variation across countries in reasons. However, in general it can be said that for countries with relatively high rates of non-users all three reasons are important, whereas for countries with less non-users the overriding reason given is lack of interest. This evidence suggests getting the remainder of the population online policy should increasingly focus on, on the one hand, talking the increasing importance of lack of skills and awareness among non-users by for example implementing awareness raising and skills development initiatives, and, on the other, enabling the persistent proportion of non-users for which financial constraints are an issue to overcome them, such as by providing vouchers or tax incentives to low income non-user households for their first computer and/or internet connection. Furthermore, in countries where costs for access are still relatively high, policy should be implemented to provide affordable access to all: this seems of particular importance in Hungary, Slovenia and Portugal where not only are average prices of popular telecoms bundles high but also countries where non-users complain most often about high costs.

Turning to digital skills, latest evidence shows that there has been ***little improvement in the digital skills*** of the EU population over the past year. The proportion of those having digital skills has remained unchanged at 67% and the composition low/medium/high saw a slight deterioration: increased low skills/ fall in high skills. As a result, almost half of the EU population has low or no skills; an increasingly concerning situation given the growing necessity for digital skills in Europe: the projected 90% of jobs that will soon require some digital skills and the more than half of the labour force that says it feels its skills would be insufficient if it they were to need to look for a job. Again skills vary substantially by country. The analysis contained in this chapter has shown that ***as countries develop digitally, with higher rates of internet users so skills levels shift up towards medium and high levels and also diversity of internet use increases***. In particular, analysis on progress in diversity of internet activities shows that on average both laggard and leading countries are developing at a similar rate: with the laggards being around four and a half years behind the EU average in

terms of the number of activities undertaken online, while the leaders are about four and half years ahead. While internet users in the least developed online countries undertaking around 4-5 activities, those in the most advanced engage in twice the number. ***Across countries, variations in rates of use of internet activities follow to a large extent rates of regular use,*** especially for the most diffused activities. However, there are some exceptions. Looking at the interrelation between skills and activities shows that ***most activities are skills dependent:*** rates of use of all activities are higher for those individuals with higher skills.

ICT professional skills are also lacking in Europe and it is projected that there could be as many as 900,000 unfilled vacancies for ICT professionals in Europe. ICT professional skills are needed throughout the economy in many sectors, not only in the ICT sector. However, evidence shows that around 40% of enterprises seeking to recruit such professionals have difficulty doing so. Difficulty in filling ICT vacancies is a cross-European issue; however particular difficulties are evidenced in four countries (IE, LU, AT, SE). To counter this trend, the European Commission has launched an EU-wide "Grand Coalition for Digital Jobs". ***Use of eGovernment also saw moderate growth*** over the last year from 41% in 2011 to 44% of individuals in 2012. Some catch-up was also witnessed here. The overriding reason given by internet users for not using interactive eGovernment services was "no need" and this reason grew in importance despite an unchanged reference population (% internet users not submitting filled in forms remained unchanged at 53%), suggesting that citizens do not find enough (net) benefit in doing so or are unaware of the benefits. In terms of enterprises, there has also been an increase in eGovernment use, though the improvement was more pronounced for SMEs than larger enterprises, suggesting large enterprises are reaching saturation.

Finally, the chapter looked in some detail at developments in eCommerce use by citizens and enterprises. eCommerce by citizens showed continued positive growth in 2012, suggesting that the Digital Agenda for Europe ***target relating to eCommerce use by citizens of 50% will be met*** by the target date of 2015. Across countries there are large differences in eCommerce use, the top performers were the Nordic countries, the UK, the Netherlands, Germany and Luxemburg with around two thirds of citizens making purchases online. In the countries with the lowest rates (Romania, Bulgaria, Italy, Lithuania, Greece, Cyprus, Portugal, Croatia and Estonia) less than a third of citizens do so.

Purchasing patterns across the EU differ. While buying clothes and sports goods was most popular among online buyers in Bulgaria, Germany and the UK; travel and accommodation was most popular in Sweden, Ireland and Norway. Tickets for events were popular in Iceland, Sweden and Denmark, while purchasing of household goods was popular in the UK, Germany and Poland. Books and newspapers were particularly sought after in Luxemburg, Germany and Austria. Of the less popular purchases, noticeable that purchasing medicines was popular in Germany and Romania, while telecoms services was popular in Iceland, Denmark, Portugal and Sweden.

Most eCommerce remains national. Cross-border eCommerce remains low (11% of individuals) and it is clear that the ***2015 target of 20% of individuals buying over the internet from other EU countries is unlikely to be met,*** based on current trends.

In terms of eCommerce by enterprises, ***eCommerce by SMEs is developing slowly*** and reached 15% in 2011 (latest data). Most is done by web-sales (12%), while 6 % is done with EDI (electronic data interchange or XML formats); 3% use both. ***eCommerce by large enterprises is more developed*** and EDI (26%) is somewhat more prevalent than web-sales (23%). SME turnover from web-sales is usually less than from non-web sales. For only 1.5%

of SMEs is it the dominant part. Across countries, eCommerce by SMEs is above 20% in a hand full of countries (NO, IS, HR, DK, SE, DE and IE), it is around 6% or less in four countries BG, MK, IT and RO. As such turnover from eCommerce also varies. Finally, the analysis shows that on average the largest proportion of web-sales come from the B2C and B2G channels, rather than from B2B. However, this varies by country and sector and is the reverse for retail, telecommunication and accommodation/travel services.

In analysing recent developments in internet use and skills in the EU27 and selected other countries, this chapter has touched upon developments in the use of various online content, as well as mobile use of the internet. The following two chapters are devoted to a more in-depth analysis of available data thereon.