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Uses of digital technologies and services
in Belgium: what can be learnt from
statistics in 2018?

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May 2019

Deliverable 4.3



The research pertaining to these results received financial aid from the Federal Science Policy according to the agreement of subsidy no. BR/143/A5/IDEALiC



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Introduction

This document is an update of the deliverable 1.3¹ on quantitative analysis of survey data concerning the social dimensions of usages of digital technologies and services, according to basic socio-demographic characteristics of the Belgian population. It addresses two main topics: on the one hand, the identification of non-users of Internet and the evolution of the population of non-users over the past ten years; on the other hand, a statistical mapping of differentiated usages of online services according to age, gender, education level and income level. The purpose is to draw a general overview of the socio-demographic aspects of digital exclusion and inclusion in Belgium. In addition, some comparisons are established with neighbour countries.

Statistical data come from the Eurostat Community Survey on the Information Society (CSIS). This survey was established by the Regulation (EC)808/2004 of the European Parliament and the Council concerning Community statistics on the information society. Data collection started in 2005. Results are used at the European policy level, in the framework of the successive digital agendas and the associated reports on benchmarking the information society. The survey is conducted by the national statistical offices, within the framework of the European Statistics System. In Belgium, a synthesis of the results is published every year by Statbel (DGSIE, SPF Economy).

This paper exploits the household part of the CSIS survey, covering households with at least one member aged 16-74 years, and individuals aged 16-74 years. Information on access to ICT is collected at the household level, while data on the use of ICT is collected at the individual level. On the Eurostat online database, the most recent available data in April 2019 are those of CSIS 2018.

¹ Valenduc, G. (2016). *Usages of digital technologies and services in Belgium: what can be learnt from statistics?* Deliverable 1.3, IDEALiC, powered by BELSPO.
<https://www.idealic.be/publications>

1. Non-users

In this paper, non-users are defined as those who never used the internet or did not use it for more than one year, through any access device (computer, tablet, smartphone or other).

1.1. Current situation

According to the last available Eurostat data (2018)², the proportion of non-users in the Belgian population between 15 and 74 years is only 10% (9% of men and 11% of women). This proportion is rather stable over the past three years. Five sociodemographic characteristics can be considered as discriminating factors in relation to inequalities of access:

- *Income level.* Among individuals living in households in the lowest quartile of the income distribution, there are 24% of non-users, against 3% in the upper quartile. There is a rather linear relation between the proportion of non-users and the income level.
- *Education level.* Among individuals with a low education level (no degree from any kind of secondary school), the proportion of non-users is also 24%. Among individuals with a degree from higher education (universities and high schools), the proportion drops to 1%. If we look at the age group 25-54 years, which represents the life stage of intensive professional activity, there are almost no non-users among the highly educated, against 14% of non-users among the low educated.
- *Age over 55 years.* Age differences only become significant after 55 years. The proportion of non-users, which is very low until 54 years, increases to 23% in the age group 55-74 years (22% in the age group 55-64 years and 35% in the age group 65-74 years).
- *Gender, but only if combined with age and education level.* Gender gaps are only significant among the individuals with lower education level (20% of non-users among men, 28% among women) or over 55 years (19% of non-users among men, 28% among women).
- *Unemployment.* Among individuals aged 25-64 years, the proportion of non-users is 10% among the unemployed against only 3% among the employed (wage earners or self-employed). It is worthwhile to note that the proportion of non-users among job seekers has rapidly decreased over the past three years (21% in 2015 against 10% in 2018).

² The most recent data available online on the Eurostat web site are those of the 2018 survey, but only partially. On the Stabel web site (DGSIE), the most recent downloadable excel files are those of the 2017 survey (situation on May 2019).

- *Family composition.* Among households without children, 84% are connected to the Internet against 97% among households with children. This difference is even more significant when a person lives alone without children (75% of them are connected to the internet). A slightly lower percentage of single parent families are connected to the Internet than others (91% against 97%).
- Other sociodemographic variables, such as the Region of residence, the urban or rural environment do not reveal any significant inequality regarding Internet access anymore, although it was the case in the past.

The five discriminating factors are not independent and can be thus cumulative. The proportion of low income and low education level is higher among older people, particularly among women. Income level and education level are correlated. Unemployment is also correlated to low income and, in many cases, to low education level too. For instance, in 2015, Eurostat computes the proportion of non-users among individuals having at least two out of the following three characteristics: aged over 55 years, having a lower education level and being either unemployed or retired or inactive; in this category, the proportion of non-users amounts to 37%.

The composition of the non-users category reflects a huge age bias. Among all non-users, 73% are aged between 64 and 75 years. 98% of non-users are aged over 55 years and only 2% under 55 years³. It means that, when we point out something about non-users, we have to think first about ageing people, cumulating the generational disadvantage with a low-income level and/or a low educational background.

Despite this statistical statement “among non-users, only 2% are aged under 55 years “the sample is too small for further analysis”, it is however worthwhile to mention that’s this “small group” accounts for about 300 000 people at the national level, and that public digital spaces and other institutions fighting digital exclusion are precisely confronted with those people, and among them many unemployed.

1.2. Evolution

The next graphs represents the evolution of the proportion of non-users over the last years, from 2007 to 2018, according to the above-mentioned discriminant factors.

Figure 1 shows a constant decrease in the proportion of non-users in all age categories. The proportion of non-users remain important over 55 years, mainly among women (28%). However, the general trend is the same as in younger age groups.

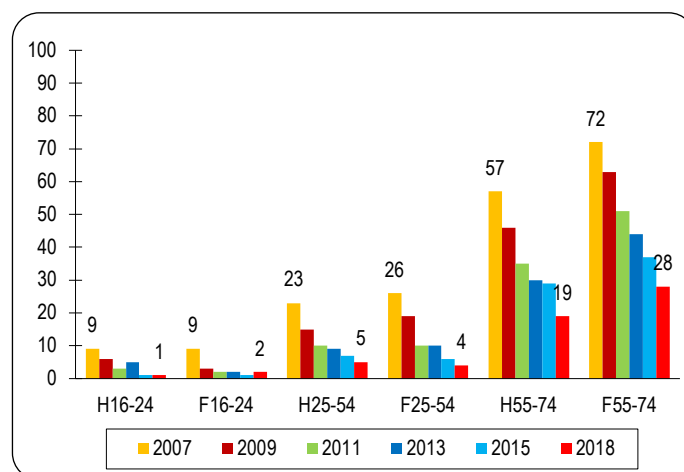
Figure 2 highlights the educational gap. Despite a decreasing trend, the proportion of non-users remains important among the low educated (without any degree from

³ The size of the sample of non-users younger than 55 years is so small (50 respondents out of 6012) that is not possible to make any reliable statistical treatment within this category.

secondary school), and among low-educated women particularly (28% against 20% among low-educated men).

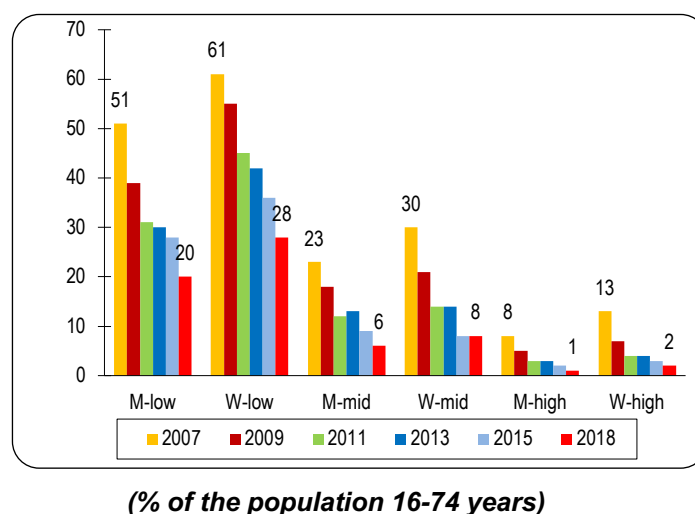
Figures 1 and 2 also give an insight on the evolution of the gender gap. From 2007 to 2018, gender gaps almost disappeared, except in the older age group (55-74 years) and among the less educated (low education level).

Figure 1: Proportion of non-users according to gender and age, 2007- 2018
(% of the population 16-74 years)



Source : Statbel (DGSIE) and Eurostat, calculations CIRTES, UCL

Figure 2: Proportion of non-users according to gender and education level, 2007-2018



(% of the population 16-74 years)

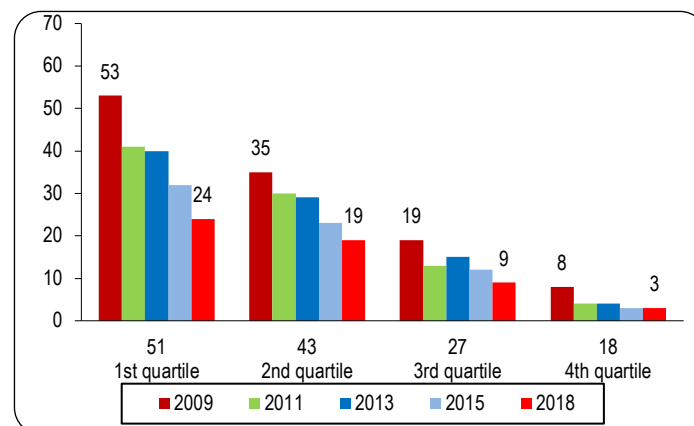
Low = no degree from secondary education (ISCED 0-2)
Mid = any degree from secondary or post-secondary education (ISCED 3-4)
High = any degree from higher education (ISCED 2-6)

Source: Statbel (DGSIE) and Eurostat, calculations CIRTES, UCL

Figure 3 clearly indicates that the household income level is still a discriminating factor in Internet access, despite a decreasing trend in all income quartiles. In the lowest income quartile, the decreasing trend is however not constant. The proportion of non-users only becomes very low in the two upper income quartiles. Conversely, it

remains 24% of non-users among individuals living in a household belonging to the lowest income quartile in 2018.

Figure 3: Proportion of non-users according to household income level, 2007-2018
(% of the population 16-74 years)



Source : Statbel (DGSIE) and Eurostat, calculations CIRTES, UCL.

2. Mapping differentiated uses of the Internet

2.1. The changing context of Internet usage

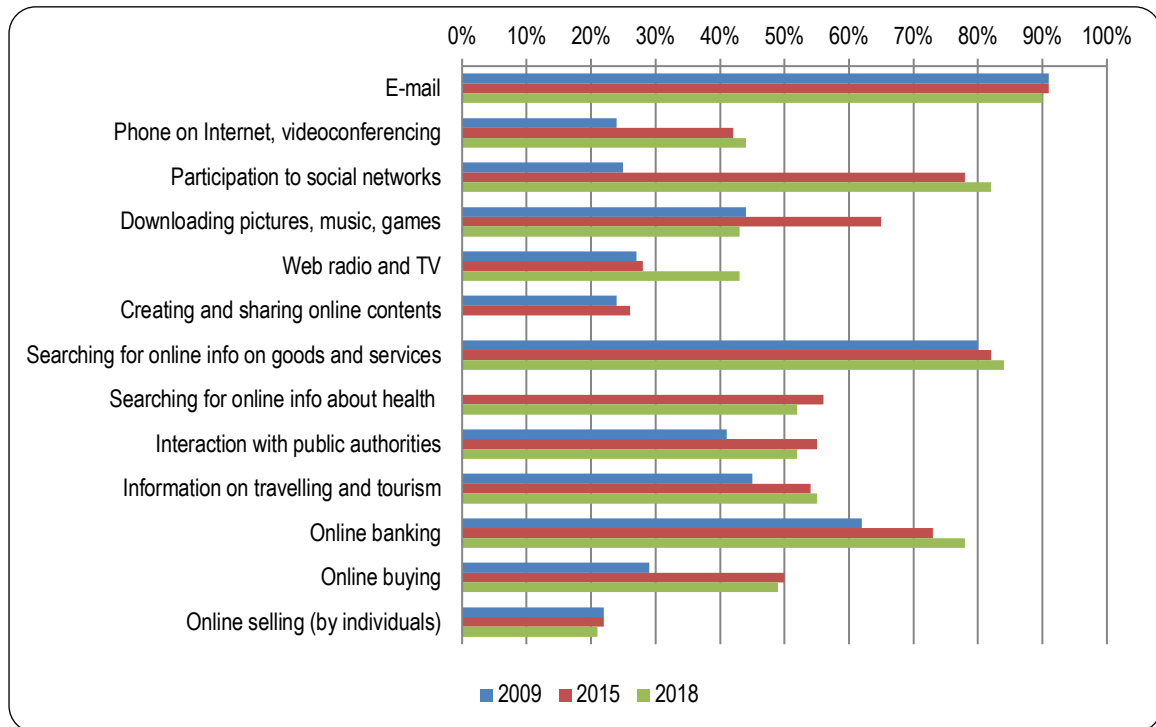
Almost all Internet users are frequent users: 98% of them at least once a week, in all sociodemographic categories; 87% use Internet every day. The proportion of daily users is above the average among the 16-34 years, the individuals with a higher education degree, and those living in a household in the upper quartile of incomes. Conversely, the proportion of daily users is significantly under the average over 55 years, among low-educated individuals and in the households in the lower quartile of incomes.

The accelerated expansion of mobile access to the Internet is significant since 2009. Mobile access through Wi-Fi networks or 3G-4G cellular networks concerns portable computers, tablets, smartphones, and other portable devices. Mobile access was measurable in 2007. In 2009, about 25% of Internet users had mobile Internet access, and about 50% in 2013. This percentage raised to 86 % in 2018. According to the most recent data (2018), the proportion of mobile users is significantly under the average among the 55-74 years (71%) in the lowest quartile of incomes (78%), and among individuals with a low education level (78%). Among the various mobile devices, 77% of users access the Internet from their smartphones against 69% in 2015. Smartphones are highly popular in the younger age groups (until 35 years). It is worthwhile to note that the oldest age groups (over 55 years) still use smartphones significantly less than the average in 2018 (53%).

2.2. Mapping online activities

The Eurostat survey provides a sociodemographic breakdown of users of a set of online services, covering communication and leisure activities, information seeking activities, administrative activities, and commercial activities. Figure 4 summarises the evolution of online activities of Internet users from 2009 to 2018.

Figure 4.
Evolution of the proportion of Internet users who carried out online activities
during three months before the survey
(% of the population of Internet users)



Percentages of year 2018 for downloading pictures, music, games and for online buying
Source: Eurostat database, consulted on 03/04/2019

Figure 4 highlights that the popularity of some online activities did not change so much during the period (e-mail, participation to social networks, searching for online goods and services), while some others activities were expanding. Since 2015, the most significant expansion concerns web radio and TV (+15 points) and, in a lesser extent, online banking (+ 5 points) as well as participation to social networks (+ 4 points).

Conversely, downloading pictures, music or games is an activity that has significantly decreased since 2015 (- 12 points) as well as searching info about health (- 4 points) and interacting with public authorities (- 3 points).

It is worthwhile to note that expanding activities are encouraged by the mobile use of the Internet the last three years. The proportion of mobile Internet users is higher than the proportion of those who do not use mobile access in all online activities mentioned in Figure 1. The gap is particularly important for participation to social networks (85% among mobile users, 54% among users with no mobile access in 2018).

Table 1 distinguishes the proportion of users of online activities according to two main discriminating factors: education level (lower against higher) and household income (first against fourth quartile).

Table 1
Proportion of Internet users who carried out online activities
during three months before the survey, according to education level and household income
(% of the population of Internet users – 2018)

		All	Education level		Income level	
			Low	High	1 st quartile	4 th quartile
Communication or leisure activities	E-mail	90	79	97	81	94
	Internet phone calls, videoconferencing	44	39	50	40	47
	Downloading games, music, films	43	47	38	41	47
	Web radios or web TV	43	36	48	40	48
	Participation to social networks	82	81	82	81	84
Searching for information	Information about goods or services	84	71	93	69	90
	Information about health	52	41	63	45	55
Administrative activities	Interaction with public authorities (last 12 months)	52	29	81	44	72
	Civic or political participation	9	6	15	6	12
Commercial activities	Reservations of travel or accommodation (last 12 months) *	33	15	50	/	/
	Online banking	78	59	89	62	83
	Online buying of goods or services*	49	27	69	/	/
	Online selling by individuals, auctions sites	21	14	28	14	27

(*) 2017 when 2018 not yet available. Source: Eurostat database, retrieved on 05/04/2019
Income level: 1st quartile = the poorest 25%, 4th quartile = the richest 25%. Education level: cf. legend of Fig. 2.

Concerning almost all online activities mentioned in Table 1, important gaps are observed between individuals with a low level of formal education (without any final degree of any kind of secondary school) and those with a high level (universities or high schools), as well as according to the income level of the household. The income level has a clear impact on the proportion of users in all activities included in the table. Gaps in relation to the education level are also important, except for participation to social networks – the percentages are almost similar between both educational level groups – and for downloading music, games and films – the percentage of users doing this activity is higher among individuals with a low education level than among the others.

Table 2 contains the same items as Table 1, but highlights the gender gap and particularly two discriminating factors between women and men in Internet usage: age (unfavourable to the older) and education level (unfavourable to the less graduated).

Table 2
Proportion of Internet users who carried out online activities during three months before the survey, according to gender
(% of the population of Internet users – 2018)

		All	Age group 55-74		Low education level	
			Men	Women	Men	Women
Communication or leisure activities	E-mail	90	89	86	79	78
	Internet phone calls, videoconferencing	44	32	34	35	43
	Downloading games, music, films	43	24	32	49	45
	Web radios or web TV	43	24	19	38	35
	Participation to social networks	82	64	66	82	80
Searching for information	Information about goods or services	84	85	81	73	69
	Information about health	52	44	56	33	50
	Online reading of newspapers or magazines*	62	63	53	52	45
Administrative activities	Interaction with public authorities (last 12 m)*	52	43	42	35	26
	Civic or political participation*	9	8	5	7	6
Commercial activities	Reservations of travel or accommodation (last 12 months) *	33	36	27	17	12
	Online banking	78	75	65	60	59
	Online buying of goods or services	49	33	25	29	25
	Online selling by individuals, auctions sites	21	14	9	15	14

(*) 2017 when 2018 not yet available. Source: Eurostat database, retrieved on 05/04/2019.

Education level: Low = no degree from secondary education (ISCED 0-2); Mid = any degree from secondary or post-secondary education (ISCED 3-4); High = any degree from higher education (ISCED 2-6).

Although the differences between men and women regarding online activities have become insignificant at the general level, table 2 confirms that gender gaps remain significant among the older (over 55 years) and among the less graduated users (education level under secondary school).

Over 55 years, gaps between men and women are important in commercial activities and information searching activities, at the detriment of women, except for health information services (56% of women against 44% of men over 55 years). Conversely, most of communication and leisure activities are online activities privileged by older women.

At lowest education level, gender gaps have been considered for many years as unfavourable to women. However, most recent survey data (2018) show a trend in rebalancing. For some online activities, participation of low-educated women becomes similar or higher than men (E-mail, Internet calls, participation to social network, health information services, online banking).

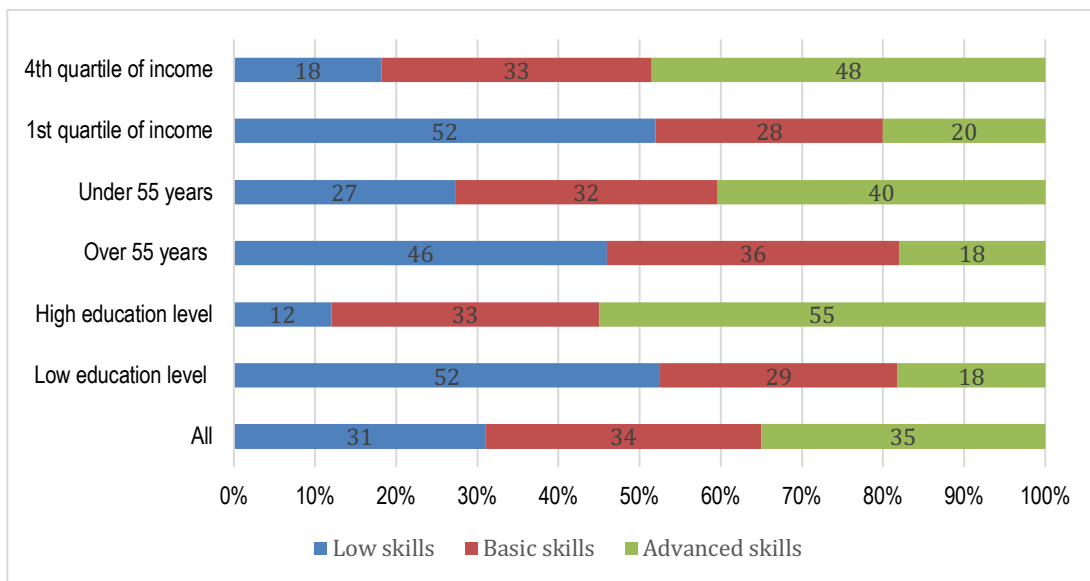
2.3. Mapping level of digital skills

Although the vast majority of individuals in Belgium use the Internet in 2018, it is worthwhile to note that the overall level of digital skills reported by Internet users remains relatively low. Almost a third of them (31%) reports having low digital skills. If we add to this percentage, the proportion of non-users (10%) in Belgium in 2018, one can affirm that more than 40% of the population has no or low skills and, therefore, runs the risk of digital exclusion.

The proportion of users reporting low digital skills is particularly high among some socio-demographic categories of users: those with a low level of education (without any final degree of any kind of secondary school) or living in households in the lowest quartile of the income distribution are 52% to affirm having low digital skills. Among users over 55 years old, 46% report a low level of digital skills. The statement contrasts with the low proportion of users reporting low digital skills among those with a high level of education (12%) and among those living in households in the uppermost quartile of the income distribution (18%).

Figure 5. Level of digital skills among Internet users according to age, household income and education levels

(% of the population of Internet users – 2018)



Source: Eurostat database, retrieved on 05/04/2019.

3. Comparison with neighbour countries

3.1. Non-users

The comparison between Belgium and its neighbour countries (Germany, France, the Netherlands and UK) highlights a paradox. On the one hand, the diffusion of Internet reaches similar levels in Belgium as in those countries, if the reference group is the adult population in working age (25-54 age groups). In this age group, the proportion of regular Internet users amounts to 96% in Belgium, against 97% in the Netherlands, 98% in the UK, 99% in Germany and 95% in France (EU28 average: 87%).

On the other hand, the proportion of non-users is significantly higher in Belgium within the majority of socio-demographic categories, which have been identified in section 1 as being at higher risk of digital exclusion: individuals over 55 years, individuals with a lower education level, individuals living in households in the lower quartile of the income distribution. The only exception is the category of unemployed between 25-64 years, who are relatively more numerous to be non-users in Germany than in Belgium.

Table 4
Proportion of non-users in socio-demographic categories “at risk of digital exclusion”
in Belgium, Germany, France, the Netherlands, United Kingdom and EU28
(% of the population 16-74 years – 2018)

	BE	DE	FR	NL	UK	EU28
All individuals 16-74 years	10%	7%	11%	5%	5%	13%
Individuals 25-54 years	4%	1%	5%	3%	2%	6%
Men over 55 years	19%	15%	23%	8%	14%	29%
Women over 55 years	28%	21%	24%	10%	14%	33%
Individuals with a lower education level	24%	12%	22%	12%	23%	30%
Men with a lower education level	20%	8%	21%	11%	24%	27%
Women with a lower education level	28%	16%	24%	13%	21%	33%
Individuals over 55 years, with a lower education level	39%	34%	39%	14%	35%	52%
Individuals in households in the first (lower) quartile of income distribution	24%	15%	20%	11%	/	26%
Individuals in households in the second quartile of income distribution	19%	11%	16%	6%	/	18%
Individuals 25-64 years, employed or self-employed	3%	2%	5%	2%	2%	6%
Individuals 25-64 years, unemployed	10%	13%	8%	4%	4%	17%

Source: Eurostat database, consulted on 02/04/2019
Education level: cf. legend of Fig. 2

The “at-risk” groups are obviously the same in other countries. Table 4 draws a comparison of the proportion of non-users of the Internet in Belgium, its neighbour countries (Germany, France, the Netherlands and UK), and the average European Union (EU28). Non-users are defined as in section 1.

Although the proportion of non-users is lower in Belgium than in the average EU28, the comparison highlights that Belgium has worse percentages of non-users than all neighbour countries in most of the socio-demographic categories mentioned in the table. Both age gaps and education gaps are particularly high in Belgium, such as in France. The education gap is significantly narrower in Germany and in the Netherlands. The Netherlands displays the lowest proportion of non-users in all “at-risk” categories.

The income level is even more discriminating in Belgium than in the other countries. The percentage of non-users in the first quartile of income distribution is particularly high in Belgium – and the lowest in the Netherlands.

Although the proportion of non-users among the unemployed was particularly high in 2015 in comparison with neighbour countries, this is no longer the case in 2018. This percentage decreased from 21% in 2015 to 10% in 2018.

3.2. Overview of online activities

The comparison of online activities carried out in Belgium and in the neighbour countries highlights a wide variety of pattern, as shown in Table 5.

Table 5
Proportion of Internet users who carried out online activities
during three months before the survey, in Belgium, Germany, France, the Netherlands, United Kingdom and EU28
(% of the population of Internet users – 2018)

		BE	DE	FR	NL	UK	EU28
Communication or leisure activities	E-mail	90	92	88	9	92	86
	Internet phone calls, videoconferencing	44	57	35	61	51	49
	Downloading games, music, films *	43	38	33	47	35	33
	Web radios or web TV *	43	48	49	53	67	56
	Participation to social networks	82	57	48	69	74	65
Searching for information	Information about goods or services	84	93	79	94	86	82
	Information about health	52	69	52	76	61	60
	Online reading of newspapers or magazines*	62	72	50	59	71	68
Administrative activities	Interaction with public authorities (last 12 m)	61	60	72	79	53	57
	Civic or political participation*	9	22	12	28	22	18
	Online banking	78	64	72	94	78	64
	Online buying of goods or services	50	73	58	64	82	54
	Online selling by individuals, actions sites	21	35	25	37	28	23

(*) 2015 when 2018 not yet available. Source: Eurostat database, consulted on 05/04/2019.

The variety of online activities in the different countries does not correspond to any clear pattern of interpretation. Belgian users have higher participation rates to social networks. They have lower rates regarding listening web radio or TV, civic or political participation and online shopping.

The differences between countries cannot be attributed only to users' behaviours and characteristics; they also rely on the quality of online services (in the interaction with public administration), on the institutional aspects of the development on particular online activities (online banking), and on cultural aspects (online newspapers, travel services), etc.