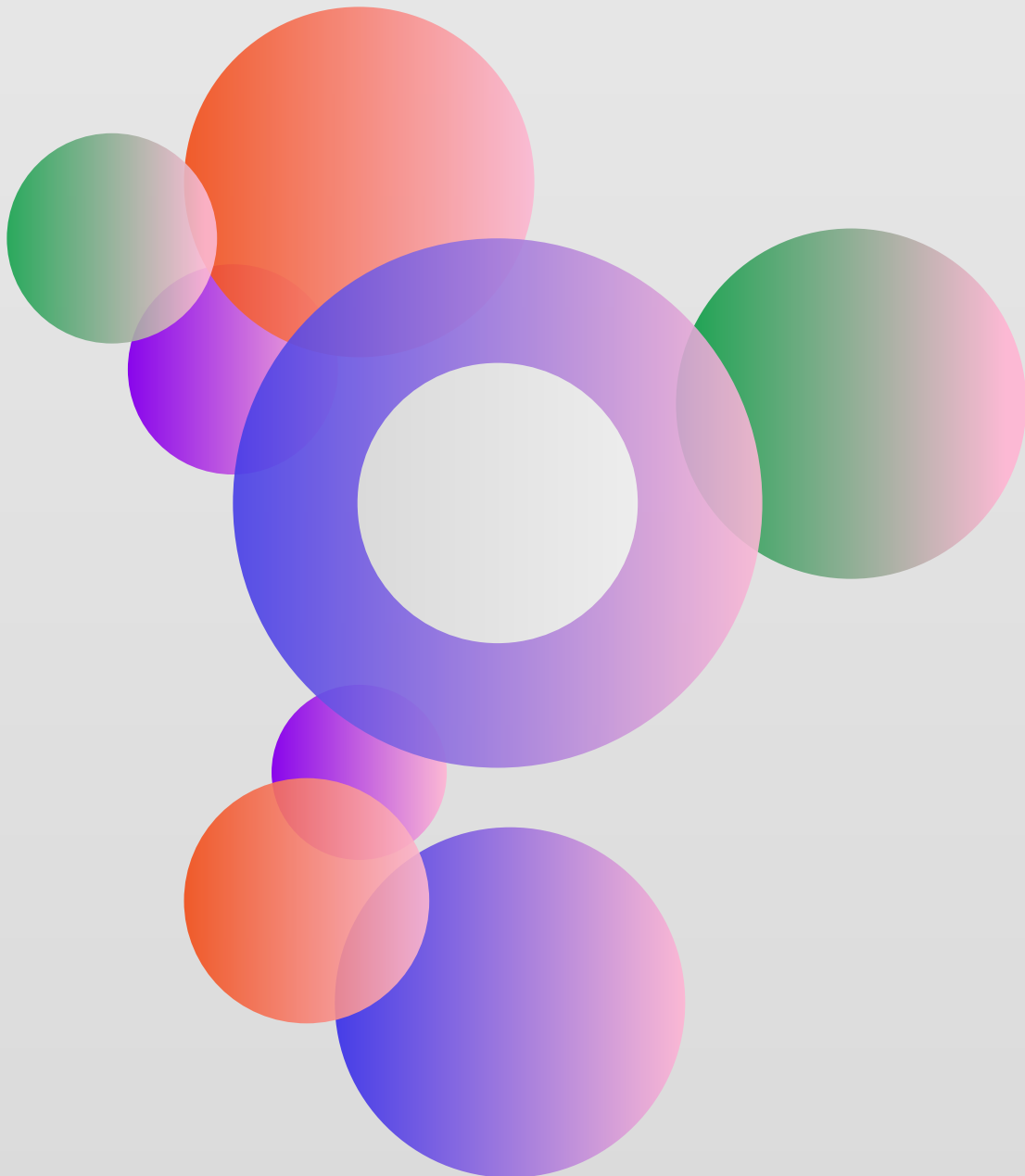


The Digital Divide in the City of Barcelona. 2020

Executive summary



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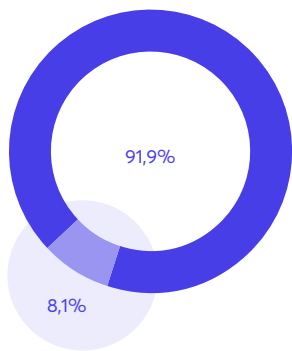
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The percentage of homes with a fixed internet connection in Barcelona stands at 91.9%, while just 8.1% of homes do not have an internet connection. This shows that access to the internet has become widespread; in fact, in the last four years, the digital divide according to income has narrowed considerably

In autumn 2020, Barcelona City Council carried out a survey among 2.542 city residents to analyse the digital divide in the city and the impact of the pandemic on the use of information and communication technologies (ICTs).

The aim of this study, which includes some qualitative elements, is to assess the evolution of the digital divide since the last survey, carried out in 2016, and to analyse how the lockdown caused by the COVID-19 crisis has changed behaviour in the use of ICTs.

The survey shows that the digital divide has narrowed significantly in Barcelona in the last four years. Today, very few households have no internet (8,1%), and this percentage is mainly made up of people over the age of 74. The degree of internet access among low-income households has increased from 75,7% to 91,8%, reducing the gap with high-income households to just 6 percentage points.

Now, 91,8% of low-income homes have an internet connection. The households without an internet connection mainly consist of people over the age of 74.

However, the narrowing of the digital divide has shed light on pre-existing factors that continue to condition the type of access and use of ICTs. These three factors are age, income and level of education.

Age is a factor that affects internet access among the older population and, especially, the way the internet and ICTs are used. The number and diversity of uses decreases as age increases. Meanwhile, level of education impacts both uses of these technologies and the type of devices used, and income conditions ability to work remotely and resources and skills to continue with education online, among other aspects.

Finally, the effects of the COVID-19 health crisis have influenced all social sectors and changed digital behaviours in almost all social groups, as well as diversifying the uses of ICTs. It goes without saying that most city residents used ICTs more during 2020, but another effect is that certain online activities that were uncommon before, such as remote work, online education and e-Government procedures, have now become widespread. This rise in online activity has exacerbated existing inequalities, linked to type of work, level of education and digital skills.



The number of low income households with an internet connection has risen from 75.7% to 91.8% in four years, cutting the gap with high income households by 6%

Internet access

One initial conclusion is that the vast majority of households in Barcelona now have internet access (91,9%). Only 8,1% of households do not have an internet connection, and most of them (55%) are made up of people aged 74 and over.

Two thirds of the people without an internet connection state that they do not have one because they do not use the internet or do not know how to use it. Only 1% of those surveyed do not have internet access for economic reasons.

Two thirds of the people without an internet connection do not have one because they do not know how to use the internet (31,8%) or because they do not use it (32,5%), while just 12,2% state that they cannot afford it. In other words, only 1% of those surveyed do not have an internet connection due to economic issues.

Therefore, the degree of internet access in the home is closely linked to age. However, two thirds of people aged over 75 have internet in their home.

As for gender, there are more men with an internet connection (94,6%) than women (89,4%), a trend that is down to the greater number of older women in our society: indeed, 42,5% of people without internet access in the home are women over the age of 75.

Level of education and employment are key factors in terms of internet access: people with a university education are more likely to have an internet connection (97,3%) than people with only compulsory education (79,5%), and both employed (97,6%) and unemployed people (91,7%) are more connected than retired people or pensioners (80,1%).

Finally, 2,3% of the people surveyed declare that they have a disability that makes internet access difficult for them, and two thirds of them do not have the technological tools to overcome these difficulties.

When it comes to type of connection, 84% of households have fibre optic broadband, and connection quality scores an average of 7,81 out of 10.

Taking into account only people under the age of 74, in comparison to the 2016 survey, internet access in the home has increased by 12 points (83,7% to 95,8%), and this increase has taken place especially among the lowest-income households, whose internet access has improved by 16 points (from 75,7% to 91,8%). Today, the gap in internet access between high-income areas and low-income areas is just 6 percentage points (97,5% and 91,8%, respectively). And fibre optic connections have increased in prevalence very significantly, from 50% to 84% of households.

Looking at personal devices, the vast majority of Barcelona residents have a smart phone (91%), 91,3 % of which have taken out a data plan on it. This device is prevalent among all sectors of society, except people aged over 75; in this group, the figure is as low as 66,2%. Compared with 2016, the number of people younger than 75 with a smart phone has increased by 11 points, from 84,5 % to 95,6 %, and the difference according to level of income has been reduced significantly. Income has ceased to be a key factor in terms of internet access, but it continues to exert an influence.

The average number of devices per home does vary according to income level. In higher-income households, the average number of devices is 6 (2,2 per person), while in lower-income homes, this figure is 4,7 (1,9 per person). In any case, the distribution of mobile, touch-screen devices is more balanced among the population than that of devices with a keyboard (desktop and laptop computers), which are more common in households with students and employed people.



ICT use among the people interviewed has increased by 62% in recent months as a result of the Covid-19 health crisis. Teleworking, online education and e-administration procedures have led this increase

Internet use

In terms of use of the internet, 89,8% of those surveyed had used the internet the day before the survey, and this percentage rises to 96,3% when only the population under the age of 75 is taken into account (11 percentage points higher than in 2016). Meanwhile, only 47,3% of people over 74 use the internet daily.

Currently, 89,8% of city residents go online daily, but 35% of people over the age of 74 have never done so.

Therefore, looking at both access to and use of the internet, one of the most significant divides is that of age, which particularly affects people older than 74: 35% of them have never used the internet.

The other most influential factors in internet use are level of education and employment situation. People with a lower level of education use the internet less, while almost all university graduates (97,7%) use it daily. As for employment situation, almost all employed people and students go online every day.

The most popular online activities include communicating, either via instant messaging (97,3%) or email

(94,7%), and staying informed (91,9% use the internet to read the news). The percentage of those surveyed who use social media is 76,5%, while 80% use the internet to access cultural and leisure content for free and 65,9% pay for it. Other common activities (over 75%) include checking bank accounts, searching for health-related information and consulting public administration websites.

Compared with 2016, the internet uses that have seen the greatest increase are training courses, which have tripled in popularity (from 13,5% to 48,8%), medical appointments and consultations, which have doubled (from 35,4% to 70,2%), e-Government procedures (from 42% to 75,6%), video and voice calls (from 50,2% to 77,9%) and the purchase and sale of goods and services (from 53,6% to 76,2%).

Across all these uses, the most obvious divide is that of age. People aged between 16 and 34 carry out the most daily activities online, then this figure slowly falls with age. There are also notable differences in terms of level of education, between those who have a university or further education and those who have no studies or just a compulsory education. However, there is a strong correlation here with age, as the average level of education decreases in people older than 65.

The impact of COVID-19

Use of ICTs has grown in recent months for 62% of those surveyed as a result of the COVID-19 health crisis.

Remote working, online education and e-Government procedures are at the heart of this increase, which is slightly more pronounced in mid- to high-income areas than in low- to mid-income areas.

In particular, students (81,9%), university graduates (67,2%), employed people (66,8%) and those looking for work (64,5%) have been using the internet more. Remote working became widespread during the lockdown. Some 58,3% of employed people were able to work remotely during this period, while 38,5% were not, as their work could not be done remotely. Here, there are considerable differences according to income: 56% of people living in low-income areas could not work remotely, while only 24% of people in high-income areas found themselves in this situation.

In low-income areas, 56% of people could not work remotely.

Among those who did work remotely, the satisfaction rate is 62%, and over half would like to incorporate this format in the future, yet only 12,6% of those surveyed worked remotely before the pandemic.



Remote education has largely been possible thanks to ICTs. Some 73.2% of school pupils under 16 have been able to pursue their studies online during lockdown, while 26.8% have been unable to do so

Remote learning was made possible, to a great extent, by ICTs. With regard to children (under 16) at school, 73,2% were able to continue with their studies online during the lockdown, according to the people surveyed who live in the same household as them, while 26,8% were not able to do so.

Almost half of those who did not continue with their education remotely (48,3%) state that their school did not offer online learning, 16% had connectivity problems – 9% due to a lack of devices and 7% because their connection quality was not good enough – and 19% declare that their family members did not have enough time or training to help them.

In solely low-income households, meanwhile, almost 50% of those who did not continue with their education online state that they did not have enough devices, a good internet connection, or the necessary training. In higher income bands, these reasons only account for around 35% of responses. Instead, in these mid- and high-income bands, the main reason given is that the school did not offer online education, which may suggest higher expectations when it comes to school. In the highest income band, it is notable that around 25% of those surveyed state that they had no time to monitor their children's education.

Difficulties in following online education were more pronounced among low-income families.

Lastly, looking beyond the education of minors, it is important to point out that 38,5% of people over the age of 16 did some kind of online training during the lockdown, both regulated (9,6%) and non-regulated (3,6%), and for both work (13,9%) and leisure reasons (5,1%).

Administration procedures

The lockdown and health crisis situation have caused e-government procedures to skyrocket; 75% of city residents now use ICTs for procedures with the public administration, though this varies according to age, income and level of education.

Over 75% of people who live in mid- or high-income areas carried out electronic procedures with the public administration, but this figure falls to 63,7% for low-income areas. In terms of level of studies, 81,9% of university graduates carried out this type of procedure, compared with just 28,7% of people without studies. With regard to age, 80% of people younger than 55 have used the internet for this task, in contrast with just 34,2% of people over the age of 75.

e-Government procedures are widespread among university graduates, but still uncommon among people without studies.

This reality has been corroborated through the ICT Agents programme, driven by the BIT Habitat Foundation, which aims to help citizens carry out various administrative procedures electronically.

Among more than 2,000 people assisted with urgent administrative needs – who were applying for unemployment benefits or the minimum living wage, for example – the prevailing profile is a younger person with less education than the survey average who is less equipped, in terms of internet connections and computers in the home, and does not have the digital skills required to complete these procedures.

In other words, the qualitative study carried out as part of the programme highlights the fact that the digital divide, which is linked both to equipment and to digital skills, is wider among the more vulnerable population.

Open access to the report



The report and the survey results can be viewed openly and permanently in the following places (available in Catalan and Spanish):

- The report is available on the website for BIT Habitat (bithabitat.barcelona/bretxadigitalbarcelona)
- The data are available on Open Data BCN (opendata-ajuntament.barcelona.cat)
- The tables are available on the website for Statistics and Dissemination of Data (bcn.cat/estadistica)



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