



WHY CHOICE MATTERS

A REPORT ON THE MARGINALISATION OF DIVERSE GROUPS
IN EUROPE AND THE IMPORTANCE OF THEIR RIGHT TO
CHOOSE HOW THEY RECEIVE INFORMATION.



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Executive Summary

This report addresses the crucial issue of maintaining a balance between digital and physical communication methods in a rapidly digitalising society. As technological advancements reshape our world, the importance of offering individuals the choice to engage via both digital and non-digital means has become increasingly significant. The report examines the challenges posed by digital exclusion, particularly for groups such as older adults, low-income households, rural populations, marginalised communities, persons with disabilities, and individuals who are unwilling to adopt digital technologies due to concerns ranging from illiteracy to privacy issues, mistrust, or simply a preference for traditional methods. These individuals remain reliant on traditional forms of communication, such as postal services, to access vital information and services.

The *Why Choice Matters* framework emphasises that the *right to choose* one's preferred mode of communication, whether digital or physical, is essential. Regarding this, people should not be coerced into digital-only environments. The issue is not solely about digital skills or access but also about respecting individual preferences and personal comfort with non-digital modes of communication. Ensuring people are not forced into digital platforms when they prefer or need physical alternatives is key to preserving inclusivity.

Key recommendations include protecting and modernising postal services, targeted digital literacy programmes for marginalised groups, and creating hybrid communication models that integrate digital and physical options. The report also advocates for public awareness campaigns that highlight the ongoing value of print communication alongside efforts to expand affordable internet access and devices. Furthermore, businesses, public institutions, and policymakers must ensure that their services accommodate both digital and physical communication preferences to foster a truly inclusive society.

Ultimately, the report underscores that promoting digital engagement must not come at the expense of those who rely on traditional communication methods. By maintaining this balance and offering the *freedom to choose*, society can move towards a more equitable and inclusive future where no one is left behind.

Why

Choice Matters



In today's digital world, the value of printed communication is often overlooked.

While digitalisation has improved many aspects of communication, it has created new barriers for marginalised communities, including older adults, persons with disabilities, residents of digitally underserved areas, and individuals with lower levels of digital literacy.

On the other hand, printed communication has a clear track record of ensuring inclusivity and access for all citizens. It is also well-positioned to play a key role in bridging the digital divide and maintaining equal access to critical information for all groups.

Even today, many individuals still prefer and depend on print communication, which is a tangible, reliable, and familiar medium. For example, older people and those with limited digital access see physical mail as a trusted way of receiving critical information, such as bills, medical leaflets, and government documents.

Despite a high inclination towards digital, several studies have shown that printed materials foster better comprehension and retention than digital formats, especially for longer or more complex texts (Tawedian, 2024).

Other studies highlight growing concerns about the digital divide, particularly in Europe. For instance, a recent report by the World Economic Forum found that about 2.6 billion people still lack access to the internet—approximately one-third of the people on Earth (Katsoudas, 2024). Of particular concern are the various digitalisation efforts happening across the European Union (EU), many of which have left specific populations behind, with disparities in digital skills and access creating new forms of exclusion.

Similarly, the *Comparing Print and Digital Media* report released by Intergraf last year underscores how the digital divide remains a persistent issue across the EU, especially among older adults and marginalised residents, many of whom face numerous barriers to digital inclusion (Tawedian, 2024). These barriers include inadequate internet, high implementation costs, data security and privacy concerns, navigation issues and digital illiteracy, all of which have a greater impact



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on older generations and persons with disabilities. According to research: “As persons with disabilities are also at a much higher risk of poverty and social exclusion, they are less likely to have access to internet and their own digital equipment such as computer, laptop and mobile” (European Disability Forum, 2020). This creates a digital divide and raises questions about the justice system in the digital world.

Furthermore, according to research, “28% of European SMEs have experienced at least one type of cybercrime in 2021” (European Union, 2022). Many individuals prefer not to conduct business online or leave a digital trail due to concerns about privacy, data security, and the permanence of online information. By maintaining print communication, these concerns need to be addressed and respected without judgment or disadvantage.

This report emphasises the need to preserve access to physical mail and print-based communication options for all citizens, particularly those willing to engage with digital alternatives. The premise is that by offering choice and flexibility, the EU can ensure that the digital transformation is inclusive.



Digital exclusion and the role of physical communication in the European Union

In recent years, the EU has made digitalisation a central component of its socio-economic development, advancing various digital policies to drive innovation, connectivity, and digital literacy across member states. However, despite substantial progress, significant disparities in digital access, skills, and engagement have emerged and is known as “digital divide”.

The digital divide is defined as the “stark gap between those with access to digital resources and those without (that) threatens to exacerbate existing inequalities and perpetuate social exclusion across Europe” (Bost, 2024).

Research highlights that marginalised groups and older adults, particularly those facing barriers to digital inclusion, rely heavily on traditional communication to deal with this digital divide (Taipale et al., 2021).

This section examines the current landscape of digital exclusion in the EU. It highlights the vital role of physical communication in maintaining inclusivity across different segments of the European population.

Digital transformation and the digital divide

The EU's digital agenda, formalised through the Digital Decade policy programme, sets ambitious goals for achieving universal digital access. Key targets include connectivity, digital skills, business digital transformation, and e-governance (European Commission, 2021).

While Northern and Western member states have advanced rapidly, many Southern and Eastern countries are facing significant challenges in achieving these targets. According to the *Digital Economy and Society Index (DESI)*, disparities in internet access, digital infrastructure, and literacy rates reflect a geographic divide, with certain EU regions outpacing others in terms of digital readiness and adoption (European Commission, 2023).

Basic digital skills, essential for participating in an increasingly digital society, remain elusive for 54% of EU adults. This shortfall is particularly pronounced among older adults, individuals with limited educational backgrounds, and residents of rural areas (Eurostat, 2023).

A 2024 *World Economic Forum* study on EU digitalisation echoes these findings, noting that even within highly connected nations, a sizable portion of the population remains disconnected, particularly those who are economically disadvantaged. This disconnect is predominantly based on financial constraints and high implementation costs.

The widening gap in digital skills and access threatens to marginalise those unable to navigate digital environments. It also emphasises the crucial need to maintain and support accessible communication options outside of digital channels.



The socio-economic impact of digital exclusion

The EU's push for digital transformation aims to foster inclusivity, economic growth, and innovation. However, digitalisation has created new forms of exclusion, significantly affecting those who are economically and socially disadvantaged. For instance, individuals in low-income households are less likely to afford reliable internet access or digital devices, which restricts their ability to access such vital online services as healthcare, education, and banking (Kovač et al., 2024).

According to a *Eurocities* report, this digital gap risks reinforcing socio-economic disparities, particularly in marginalised areas where digital infrastructure is either limited or unreliable (Bost, 2024).

A distinct demographic dimension also characterises the digital divide. According to an article entitled *The Complex Gender Face of Digital Exclusion in Old Age* (2023), in Europe, older adults, particularly older women, are most affected by digital exclusion.

For many, physical communication – such as postal services – remains essential for accessing important information on health, finances, and government services. Data also suggests that as these services shift online, a lack of digital literacy and confidence among older populations creates a barrier to engagement, thus increasing the risk of social isolation and exclusion.

Excluded by Choice: The Burden of Digital Footprints

As digitalisation transforms societies, a less visible yet significant group of individuals actively avoids full participation in the digital realm due to concerns about digital footprints. While they have access to digital resources and possess the skills to engage, their deliberate decision to limit their online presence highlights an emerging form of self-exclusion driven by privacy fears and mistrust of digital systems.

Digital footprints, the traces of personal data left behind through online activities, are increasingly viewed as a liability. For privacy-conscious individuals, these traces carry risks such as identity theft, surveillance, fraudulent activities and the misuse of personal information. The annual report of EDPB 2023 shows that “data breaches are caused by malicious attacks by third-party hackers, insufficient internal practices and IT systems or human error” (European Data Protection Board, 2024). These factors exacerbate the fears surrounding digital footprints and their potential for exploitation.

Contrary to the belief that education and digital literacy alone can mitigate digital exclusion and lessen the fear of digital footprints, this group demonstrates that exclusion is not merely the result of technological inaccessibility but also of informed choice in the face of fraudulent activities. For example, the report highlights that payment fraud within the European Economic Area (EEA) reached EUR 4.3 billion in 2022 and EUR 2.0 billion in the first half of 2023, with most fraud being related to credit transfers and card payments (European Banking Authority,

2023). These figures underscore the growing concern among consumers about the security of online transactions, even as digital access continues to expand. In light of this, many people with access to digital services cite concerns over data permanence and security vulnerabilities.

According to a study, it is inevitable to leave behind digital footprints and the research “results indicated a widespread failure to mitigate the risks of data misuse” (Abrantes & Ostergaard, 2021). The permanence of digital footprints exacerbates these fears. An international survey of 10,250 European consumers, commissioned by Two Sides in 2023, highlighted that: “56% are concerned about online security and the risk of personal information being hacked or stolen”. Many individuals feel uncomfortable with the idea that their online activities could be stored indefinitely, potentially accessed or exploited without their consent. These anxieties create a barrier to digital participation, leading individuals to prioritise non-digital alternatives such as physical mail and face-to-face communication.

This self-imposed exclusion reveals a critical gap in digital policy: the failure to adequately address the ethical and structural concerns surrounding data privacy. By focusing solely on increasing access and skills, policymakers risk overlooking those who opt out of the digital world not out of necessity but out of principle.

Respecting the preferences of those wary of leaving digital footprints is essential for an inclusive digital transformation. Maintaining accessible, secure, non-digital communication channels can bridge this gap, ensuring these individuals are not marginalised in an increasingly digitised society. Recognising the diversity of digital engagement is key to fostering inclusivity without compromising personal autonomy or security.

Physical communication as a critical component of inclusivity

For many individuals affected by digital exclusion, physical communication provides a reliable, accessible, and familiar means of obtaining essential information. While the EU’s Digital Decade initiative acknowledges the importance of inclusivity in digital policies, it fails to preserve the means of communication, such as physical mail and printed materials, that promote such inclusivity. Older adults and rural residents often prefer paper-based communication, which they perceive as being more secure, dependable, and easier to understand than digital alternatives (Kovač et al., 2024).



Digital exclusion, compounded by low digital literacy rates and limited access to electronic devices, hinders specific populations from fully participating in the digital economy and society. Here, physical mail and print-based communication are crucial, particularly for low-income households, marginalised communities, and the senior citizens, all of whom face significant barriers to digital engagement.

As for low-income households, due to financial constraints, high implementation costs for digital adoption have become the primary concern. Marginalised communities also face challenges based on a lack of infrastructure, digital illiteracy, cultural resistance, educational gaps, and economic constraints. For the elderly, the main challenge is resistance to change, resulting from digital illiteracy, generational and educational gaps, and limited skills to operate technology.

Beyond a general lack of access, autonomy and inclusion also play a role in Europe's digital divide. For example, because of their digital illiteracy, some marginalised groups must rely on others to understand how to operate different digital platforms – a reliance that can substantially curtail their autonomy. Similarly, this lack of autonomy can give rise to a sense of exclusion.

The evolving role of physical communication in an increasingly digital Europe

Recent studies reinforce the importance of preserving physical communication options within the EU and highlight the risks associated with taking a fully digital approach to public services. For instance, despite efforts to improve digital literacy and infrastructure, marginalised and low-income EU households still lack reliable access to digital services (Borg & Guio, 2021). This gap underscores why physical communication must be prioritised as a means of ensuring access and choice for all citizens.

Print communication offers a tangible, reliable, and familiar medium that many individuals still prefer and depend on. For older populations and those with limited digital access, physical mail provides a trusted way to receive critical information, such as bills, medical leaflets, and government documents.

Furthermore, despite a high inclination towards digital formats, different studies highlight that printed materials foster better comprehension and retention than digital formats, especially for longer or more complex texts. According to the *Comparing Print and Digital Media report*, “print media remains crucial for facilitating reading comprehension, retention, and learning” (Tawedian, 2024). One would be remiss not to mention cybercrimes and threats, perhaps the biggest concern in this age of digitalisation. Here, print offers a sense of security, with fewer concerns about cyber threats compared to digital communication (Wall, 2009).

The research study by the *European Union Agency for Fundamental Rights* underscores that while digitalisation can streamline services and enhance efficiency, it also introduces risks for those unable or unwilling to engage with digital technologies. According to research, the digitalisation of public services poses a risk of exclusion for older persons (FRA, 2023). Many older individuals express reluctance or resistance to adopting digital technologies due to factors such as

unfamiliarity, perceived complexity, and concerns about digital security and privacy (FRA, 2023). This unwillingness to engage with digital platforms further exacerbates their fears of being left out, as they are left behind in an increasingly digital world, unable to access essential services that have transitioned online.

As digital policies progress, reliance on postal services and paper communication can serve as an important buffer against the exclusionary effects of a wholly digital approach. Physical communication also helps bridge the gap between the digitally connected and the disconnected, preserving access to essential information across Europe.

The Kovač et al. (2024) study notes that, as digitalisation accelerates, maintaining traditional communication channels like postal mail and printed materials is essential to safeguarding inclusivity. This is particularly true in the Western Balkans and Southern EU regions, where digital adoption is slower and infrastructure less robust. In regions like these, such channels can serve as a valuable tool for ensuring that all citizens have equal access to critical information and services.

By acknowledging and addressing the continued role of traditional communication methods, the EU can work toward achieving an inclusive digital future where every citizen can access information in a way that best meets their unique needs.



Regional Perspectives on the EU's digital divide

The digital divide manifests differently across the European Union, shaped by regional disparities in infrastructure, digital literacy, and socio-economic factors. While some countries have made significant progress towards digital inclusion, others continue to face challenges that hinder their populations from fully participating in the digital economy.

This section extensively explores the digital divide across Northern, Southern, Eastern, and Western Europe, highlighting shared trends and unique regional characteristics. This broader perspective sets the stage for the more detailed country-specific case studies that follow.

Northern Europe



Northern Europe, including Sweden, Finland, Denmark, Norway, and Iceland, is widely recognised as a leader in digital connectivity and innovation. These nations consistently achieve high rankings in the Digital Economy and Society Index (DESI), reflecting their strong performance in internet connectivity, digital skills, and e-government adoption.

With investments in advanced broadband infrastructure, digital literacy programmes, and technology integration into public services, they serve as a benchmark for successful digital transformation.

However, despite their advancements, challenges remain. These nations face persistent digital divides among specific demographics, including older adults, low-income households, and marginalised groups, indicating that universal digital inclusion is yet to be achieved. Rural areas often grapple with infrastructural limitations, and certain groups continue encountering barriers to affordability and digital literacy.

This section explores how these gaps affect specific populations in Northern Europe and emphasises the importance of maintaining non-digital alternatives, such as paper-based systems, to ensure inclusivity.



Sweden

Sweden is widely recognised for its advanced digital infrastructure, ranking among the top EU countries in digital adoption and internet access. According to Eurostat, nearly 98% of Swedish households have internet access (Eurostat, 2024).

Furthermore, according to the 2024 edition of the *Digital Decade* report, Sweden has achieved 66.4% basic digital skills coverage compared to the EU average of 55.6%. This puts Sweden at 83% of the overall target for the EU 2030 goal, which aims to have 80% of the EU population possess at least basic digital skills (Kralj, 2023).

However, challenges remain for marginalised populations. For example, slower broadband speeds and inconsistent access to high-speed internet affect approximately 15% of the population (Melchiorri et al., 2024). Furthermore, older adults in Sweden, particularly those over 65, are less likely to use digital services, with nearly 30% of this group reporting no internet usage, creating a vast digital divide (Anderberg et al., 2020).

Economic disparities and digital illiteracy among marginalised groups further exacerbate digital exclusion. Efforts like the Swedish government's Digital by Default initiative aim to tackle these challenges by promoting digital skills training for marginalised groups, including older adults and people in rural areas (Gültekin, 2023).



Finland

Finland stands out as one of the most digitally advanced nations in the world, with virtually universal broadband coverage and a highly digitally literate population. However, rural regions still face connectivity challenges, including slower internet speeds and limited access to services.

In fact, according to the Finnish government, the country trails other Nordic countries in high-speed connections, especially in terms of access to fibre optic connections. At the end of 2023, fibre optic networks were available to 61% of Finnish households, compared to 96% of households in Sweden at the end of 2022 (Finnish Government, 2024). Finland has also fallen behind the Baltic countries in this respect.

This digital infrastructure gap is most noticeable in Finland's northern and eastern rural areas. There, households may not have access to fibre-optic connections, which can impact their ability to participate in the digital economy.

Older adults in Finland also face challenges in engaging with digital technology. A Finnish Institute for Health and Welfare study found that over 30% of Finns aged 65 and older lack basic digital skills (Rasi & Kilpeläinen, 2015). Recent studies have further highlighted that the digital literacy gap is exacerbated by senior citizens' unwillingness to adopt digitalisation – an unwillingness that ultimately hinders their ability to access essential services such as healthcare, banking, and social interaction.

The problem here is not simply the lack of skills but the entrenched unwillingness to engage with digital tools, even when they could greatly benefit from them. This reluctance stems from factors such as unfamiliarity, fears around privacy and security, and a preference for traditional, face-to-face interactions. According to Tomczyk et al. (2023), no amount of training or awareness campaigns can fully overcome the deep-seated resistance among certain groups to digital adoption.



Denmark

Denmark is another leader in digital infrastructure. According to the *Digital 2024: Denmark* report, there were 5.87 million internet users in Denmark at the start of 2024, when internet connectivity stood at 98.1% (Kemp, 2024). The DESI reports that over 80% of Danes have at least basic digital skills, and the country ranks highly in terms of digital public services (DESI, n.d.).

That being said, digital inclusion remains an issue for certain groups, particularly those with lower incomes who struggle to access fast internet (Aagaard & Pedersen, 2022). This lack of access creates an economic divide, limiting opportunities for those already facing financial challenges.

Older adults in Denmark also struggle with digital engagement. Although the Danish government offers digital literacy programmes for seniors, 5% of older people report difficulties using digital tools (Wendt-Lucas et al., 2024). These older adults often rely on paper-based communication, highlighting the ongoing need for traditional services alongside digital options.



Norway

Norway is recognised for its high level of digital connectivity. As of 2023, the country had a 99% internet connectivity rate (Kemp, 2023).

The country's commitment to digital inclusion is reflected in its emphasis on e-government services, with nearly 90% of Norwegians using online public services (OECD, 2017). However, significant gaps remain in rural areas, particularly in Norway's remote northern regions, where broadband access is slower and more expensive. In these areas, access to digital tools and services is a matter of speed and affordability, as high costs deter some from fully utilising digital resources.

Like other Northern European countries, older adults in Norway are less digitally engaged. This group often cannot take advantage of digital public services, creating further barriers to accessing essential social and healthcare services.

Southern Europe



Southern Europe, encompassing countries such as Italy, Spain, and Greece, faces a more pronounced digital divide driven by economic disparities and regional inequalities. While urban centres benefit from relatively strong digital infrastructure, rural and remote areas often lack reliable broadband access.

A significant portion of the population in Southern Europe has limited digital skills, particularly among older adults and economically disadvantaged groups. These challenges are exacerbated by high unemployment rates and lower levels of public investment in digital infrastructure compared to their Northern counterparts. As a result, traditional communication methods, such as postal services and paper-based communication, remain crucial for ensuring inclusivity and access to essential services.

Italy

Italy faces notable regional disparities in digital infrastructure, with urban areas like Milan and Rome having extensive broadband coverage while rural and southern regions lag significantly. Statistically, the share of rural Italian households with internet access saw no significant change between 2022 and 2023, remaining at around 87.83% (Statista, 2024).

Digital skills are another area of concern, with 40% of the population lacking essential digital competencies. This is particularly true among older adults and economically disadvantaged groups (Vainieri et al., 2023). Similarly, according to the *Italy 2024 Digital Decade Country Report*, only 45.8% of people in Italy have at least basic digital skills, with gaps across all age groups. This is well below the EU average of 55.6% and shows a limited dynamic in the past years (European Commission, 2024).



40% of the population lacking essential digital competencies



Spain

Spain demonstrates a duality in digital access, with metropolitan hubs like Madrid and Barcelona boasting high connectivity rates, while rural areas remain underserved (Ruiz-Rua et al., 2024).

According to *Digital Literacy of Older People in an Ageing World*, in 2019, the situation had not changed much. More than 43% of older people do not use the internet. The older demographic is approximately three times more prone than the general adult population to be without internet access. It highlights Spain's digital divide, which runs sharply along generational lines, with older generations being less likely to use internet-based services. However, it should be noted that the Spanish government is implementing a hybrid communication model that aims to help bridge this gap.



Greece

Greece struggles with some of the EU's lowest levels of digital connectivity and literacy. As of 2023, less than 20% of its households had access to fibre optic broadband, and rural areas often lack reliable internet.

According to the article titled *Greece: a snapshot of digital skills*, the overall level of Greece's digital development score is 81%, which is 17% below the Central and Eastern Europe (CEE) average. In fact, compared to other CEE countries, Greece is ranked below average in digital business, digital government and public sector, digital infrastructure, and digital sector (Kralj, 2024).

Economic challenges exacerbate the situation, with public investment in digital infrastructure lagging behind other EU nations. Digital literacy also remains a key issue, with only 52.4% of the population possessing basic digital skills, creating significant barriers to participation in e-government services and digital marketplaces (Kralj, 2024).

While programmes like Greece's Gigabit Society aim to address these challenges, they require substantial investment and time (Digital Economy & Society Index, 2023; Eurostat, 2023).

Eastern Europe



Eastern European countries, including Romania, Bulgaria, and Poland, continue to face significant challenges related to digital inclusion. Despite notable advancements in expanding broadband coverage, the region remains behind the EU average regarding internet connectivity and digital literacy.

Rural areas in Eastern Europe face particularly severe barriers to digital access, with outdated infrastructure and lower investment in technology exacerbating these disparities. Older adults and low-income families are disproportionately affected, with many lacking the skills or resources to engage with digital services.

Within this context, physical communication channels are vital to bridging the digital gap and preventing further marginalisation.

Bulgaria

Bulgaria has one of the lowest broadband connectivity rates in the EU, with 89% of households accessing reliable internet, which is comparatively lower than Norway's 99% and Switzerland's 100% (Eurostat, 2024). The digital divide is most evident in rural regions, where infrastructure remains outdated and investment in digital technology is minimal.

In 2023, only 29% of Bulgarians aged 55 and older had basic digital skills, making it difficult for this demographic to engage with digital government services and the online economy (Eurostat, 2023). Bulgaria is the lowest-performing EU country in terms of adult digital skills, with only 29% of its adult population having basic digital skills (OECD, 2023).

All of this highlights the alarming potential for much of the Bulgarian population to be marginalised – pointing to a growing need for paper-based communication as a means of ensuring that marginalised groups are not left behind in the digital transformation.

Poland

Although Poland has a more significant urban-rural divide in terms of digital access, it has seen progress in broadband availability, particularly in cities like Warsaw and Kraków (Janc & Silka, 2016). However, rural areas still lag. According to research, the share of rural households with internet access in Poland saw no significant changes between 2022 and 2023, remaining at around 92.89% (Statista, 2024b).

The country also faces challenges in digital literacy, with 43% of its population unable to complete basic digital tasks (Eurostat, 2023). Poland has achieved 44.3% basic digital skills coverage, compared to the EU average of 55.6% (Kralj, 2023a).

Poland's digital divide is especially pronounced among older adults and low-income families, two groups that are less likely to have access to digital devices or the skills to use them.

Clearly, physical methods of communication, such as print, remain critical in reaching these underserved communities.

Western Europe



Western European countries, including Germany, France, and the Netherlands, showcase some of the world's most advanced digital ecosystems. These nations benefit from robust broadband infrastructure, extensive e-government services, and high digital literacy rates.

However, the digital divide persists nonetheless, disproportionately affecting older adults, marginalised communities, and economically disadvantaged populations. The persistence of these barriers highlights the critical need to maintain paper-based communication to ensure inclusivity.

France

According to the DataReportal, France boasts a 92.6% broadband connectivity rate and one of the EU's most sophisticated e-government systems (Kemp, 2023a). However, these advancements are not evenly distributed. According to research, 67% of senior citizens in France are unaware of new technologies, and most have never been trained in their use, both of which contribute to this population being excluded from vital online services (Lemoine, 2024).

Similarly, marginalised communities face significant barriers to digital participation, particularly in low-income urban areas and rural regions. Economic inequality compounds these challenges, leaving some unable to afford devices or consistent internet access.

Traditional communication modes, including printed documents, are key to bridging these gaps.

Netherlands

The Netherlands exemplifies high digital inclusion, with 98% of households having internet access (Eurostat, 2023). However, disparities persist among specific demographics. For instance, with nearly 23% relying on analogue communication methods, older adults often cite discomfort with or an inability to adapt to digital platforms (Lindeberg et al., 2024). Marginalised groups, including ethnic minorities and low-income families, also face limited opportunities for digital engagement due to economic constraints.

Maintaining postal and in-person communication channels has been critical to ensuring equitable access across all population groups.

Common trends and opportunities across regions

This chapter explored the regional dimensions of the digital divide, highlighting the multifaceted nature of digital exclusion found across the European Union. Despite the progress in digital infrastructure and literacy, significant gaps remain, particularly among marginalised groups.

Moreover, as it is generally believed that digital adoption is crucial for improving competitiveness and innovation, it is essential to recognise that some regions or businesses prefer or rely on non-digital practices. These preferences often stem from concerns about privacy, data security, and the desire to maintain personal, face-to-face interactions with clients (Sharma et al., 2009). Overemphasising digital tools without adequately supporting traditional methods may inadvertently exclude businesses that operate effectively in non-digital spaces, hindering inclusivity and limiting opportunities for those who favour non-digital avenues. To achieve a truly inclusive digital development strategy, it is necessary to embrace a more balanced approach that respects both digital and non-digital preferences, ensuring support for all sectors.

A key takeaway is the indispensable role of maintaining physical communication options, such as postal services and paper-based systems, alongside digital advancements. This dual approach ensures that no population is left behind during the EU's digital transformation. Addressing these disparities with regionally sensitive strategies will be essential to achieving a truly inclusive and equitable digital landscape across Europe.





Country Reports



Why Choice Matters

Country Reports



This section looks at the factors contributing to digital exclusion in several different EU countries, highlighting regional disparities, socio-economic challenges, and the implications the digital divide has on social equity and access to services.

Digital Exclusion in Germany

Despite being one of Europe's leading economies, Germany faces notable challenges in terms of digital inclusion. As digital services become increasingly essential for accessing government, healthcare, education, and financial services, a significant digital divide persists across regions, age groups, and socio-economic backgrounds.

This section examines the digital divide in Germany, its impact on societal participation, and the importance of preserving non-digital mediums for the inclusivity of marginalised communities.

Regional disparities in digital access

One of the most prominent aspects of digital exclusion in Germany is the regional disparity in internet access and digital literacy. While urban areas are generally well-connected, with advanced digital infrastructure, rural regions lag behind, especially in the former East Germany.

Research indicates that regional characteristics, such as a high proportion of immigrants and non-native residents, low levels of income, and limited local internet infrastructure, contribute to these disparities (Schleife, 2008). For example, in the rural areas of eastern Germany, the lower availability and higher cost of digital infrastructure reduce access opportunities, creating a stark divide compared to urban regions (Politische Medienkompetenz, 2023).

Despite digital connectivity's benefits – such as facilitating economic development in rural areas by providing easier access to markets and services – many rural communities remain disconnected. This disconnect hinders economic growth and limits access to information and communication, which are essential for societal inclusion (Schleife, 2008).

The persistence of this regional digital divide in Germany underscores the need for alternative means of communication to ensure that all citizens can access critical information and services.

Socio-economic factors and digital literacy

Socio-economic disparities further intensify digital exclusion in Germany. Digital access is strongly correlated with income and education levels, as higher-income, better-educated individuals are more likely to own digital devices, be able to afford internet subscriptions, and possess the necessary skills to navigate online services.



Conversely, those with lower incomes and/or lower levels of education face substantial barriers to digital inclusion, including

being unable to afford the technology required for online engagement

(Politische Medienkompetenz, 2023).

Digital literacy also varies significantly by age. Older adults in Germany, particularly those aged 65 and above, are less likely to have digital skills than younger generations. According to an article titled “Challenges and outlook: Widening digital divide”, this demographic group frequently depends on traditional, non-digital communication methods, such as postal mail, to access such essential services as healthcare information and banking (European Association for the Education of Adults, 2022).

Lacking the digital skills and resources to adapt to an increasingly online society, older and economically disadvantaged Germans are at risk of being marginalised.

Gender and age-based digital exclusion

Age is a critical factor in Germany’s digital divide, with older adults, particularly older women, experiencing higher rates of digital exclusion. In fact, studies show that older women are disproportionately affected by digital exclusion due to a combination of socioeconomic and cultural factors. For example, women aged 65 and above are often less familiar with digital tools, more hesitant to adopt digital services and face more significant challenges in navigating online platforms (Politische Medienkompetenz, 2023). This lack of digital proficiency frequently requires them to rely on physical communication as a trusted means of receiving important information.

Germany’s gendered digital divide also reflects disparities in traditional digital education and workforce participation. Historically, women have had fewer opportunities to acquire technical skills, leading to the lower digital literacy seen among older females today. This divide suggests that Germany’s digital transformation must consider the specific needs of different demographics to avoid exacerbating existing inequalities (Challenges and Outlook: Widening Digital Divide, 2022).

Digital exclusion in Germany: key statistics

Challenge	Statistic	Comparison	Source
Low Digital Skills	47.8% of Germans lack basic digital skills	A significant challenge despite Germany's high internet access / Basic digital skills coverage is below the EU average of 55.6%	DESI 2024; Digital Decade Report, 2024
Digital Access	91.66% of households in Germany had internet access in 2023	Germany's internet access is higher than the EU average of 89.5%.	EU Survey on the Use of Information and Communication Technologies (ICT), 2023
Older Adults' Digital Exclusion	42.6% of participants aged 65 and above used the internet	Internet usage is significantly lower in adults aged 75 and above compared to younger age groups.	Quittschalle et al., 2020, European Association for the Education of Adults, 2022
Digital Exclusion in Rural Areas	In rural areas of eastern Germany, the lower availability and higher cost of digital infrastructure reduce access opportunities.	There is a stark divide between rural and urban regions, with urban areas having significantly better access to digital services. Rural areas, especially in eastern Germany, experience more barriers to digital access due to infrastructure limitations and higher costs.	Politische Medienkompetenz, 2023

In summary

Germany's persistent digital divide underscores the importance of maintaining inclusivity as a central component of the country's drive towards digitalisation. Regional disparities, socio-economic challenges, and demographic factors create a complex landscape of digital exclusion, particularly affecting marginalised residents, older adults, and low-income individuals. While Germany continues to advance its digital infrastructure, it remains one of the few Western countries where traditional communication methods such as post and printed matter still play a substantial role. Recognising the necessity of these non-digital alternatives, alongside digital innovations, is vital to ensuring that all citizens, regardless of their access to or skills in using technology, remain connected to essential services and information. This dual approach is crucial for bridging the digital divide and promoting equitable access in an increasingly digital society.

Ensuring that marginalised communities have access to both digital and non-digital solutions will foster broader societal participation. A balanced, hybrid approach to digitalisation can create a more connected, cohesive society where no one is left behind, regardless of their technological capabilities.

Digital Exclusion in Belgium

Despite Belgium's status as a technologically advanced country with high internet diffusion, significant segments of its population remain digitally excluded, particularly older adults, persons with disabilities, and low-income households. This digital divide exacerbates inequalities, as those without the necessary skills or access to digital tools struggle to navigate essential services, from banking to healthcare and utilities (Van Deursen et al., 2019).

The digital divide in Belgium

Belgium is part of the European Union's Digital Decade strategy, which aims to achieve universal digital access and skills by 2030. According to a special Eurobarometer survey on the Digital Decade, 77% of Belgium's population believes that the digitalisation of daily public and private services is making their lives easier. This is just above the EU average of 73% (European Commission, 2024).

However, while access to digital infrastructure is high, the DESI 2024 report shows that 20% of Belgians lack basic digital skills. The situation is even more critical for older adults (aged 55-74), with 34% lacking essential digital skills. Additionally, 12% of the population lacks internet access at home, a fact that disproportionality impacts marginalised areas and low-income households (Baromètre de l'Inclusion Numérique, 2024).

These statistics show that digital connectivity alone is insufficient to ensure inclusion. The real challenge lies in digital literacy and the ability to navigate the increasingly online nature of public and private services.



20% of Belgians lack basic digital skills

Research shows that “the main axes of social inequalities, such as socioeconomic status, gender, age, and level of education, influence the ways individuals access Information and Communication Technology (ICT), and use the internet and their digital competencies to get benefits/outcomes from the digital experience” (Ragnedda et al., 2022).

The impact that digital exclusion can have on older citizens was made clear during the COVID-19 pandemic. People who were not directly managing household administrative tasks led by spouses, children, or grandchildren lacked literacy skills and any familiarity with digital platforms faced a significant crisis. In such a situation, the problem was not digital connectivity but digital illiteracy. In the face of digitalisation, when vital services are increasingly transitioning online, persons with less digital skills are left alone to cope with it.

Groups at risk of digital exclusion



Older adults

As noted in the *Labo Société Numérique* article (2022) and further highlighted in the 2024 DESI report, older adults face the highest risk of digital exclusion. More than one-third of individuals aged 65 and older in Belgium lack basic digital skills, which limits their ability to access online banking, healthcare services, and social welfare. This group often relies on physical mail and in-person services to manage essential tasks, but the closure of these avenues during the pandemic left many feeling isolated and helpless (DNS Belgium, 2024).

Persons with disabilities

Persons with disabilities face unique challenges in navigating an increasingly digital world. According to Funka Foundation et al. (2024), individuals with visual, auditory, cognitive, or motor impairments often encounter significant barriers in accessing digital platforms and tools, even when these are theoretically available. For example, screen readers may not work effectively with poorly designed websites, and individuals with motor impairments may struggle with standard input devices like keyboards and mice. These barriers limit their ability to benefit from essential digital services, such as online healthcare, education, and social support. Consequently, ensuring the accessibility of both digital platforms and non-digital alternatives is vital to promoting inclusivity and preventing further marginalisation.

Low-income households

The digital divide is also closely tied to economic inequality. Around 18.6% of the Brussels population is at risk of poverty or social exclusion. Furthermore, 11.6% suffer from severe material and social deprivation (*Risk of Poverty or Social Exclusion*, 2024). Many individuals also lack the resources to afford digital devices or internet subscriptions. The 2024 DESI report highlights that 15% of low-income households do not have internet access at home, preventing them from taking advantage of e-government services, digital education, and online job applications.

Rural areas

Although urban centres such as Brussels and Antwerp boast high levels of connectivity, rural areas in Belgium, particularly in Wallonia, lag. The *Report on the State of the Digital Decade (2024) Belgium* notes that 10% of rural households still experience slow or unreliable internet connections, which further hampers digital inclusion efforts. For individuals in these areas, the lack of high-speed internet and low digital skills creates a double barrier to accessing digital services.

The intersection of literacy and digital exclusion

Digital exclusion is closely linked to other forms of marginalisation, including low literacy rates. For instance, approximately 10% of Brussels residents face difficulties with reading and writing, further complicating their ability to use digital services that require a basic level of literacy (*Report on the State of the Digital Decade 2024, 2024*). For individuals with limited digital literacy skills, even simple tasks such as filling out online forms or navigating government websites can be insurmountable, leading to missed opportunities and increased dependence on social support services.

The issue is particularly acute among immigrant populations, which constitute 73% of those enrolled in adult literacy programs in Brussels. Many of these individuals, especially those from non-EU countries, face additional language barriers that prevent them from engaging with digital services designed primarily for native French or Dutch speakers (*Digital Life Learning, 2023*).

Digital exclusion in Belgium: key statistics

Challenge	Statistic	Comparison	Source
Low Digital Skills	20% of Belgians lack basic digital skills	A significant challenge despite Belgium's high internet access	DESI 2024
Older Adults at Risk	34% of individuals aged 55-74 lack essential digital skills	Much higher than younger age groups	DESI 2024
Digital Exclusion in Low-Income Households	12% of low-income households lack internet access	Disproportionately impacts marginalised areas and low-income groups	Baromètre de l'Inclusion Numérique, 2024
Rural-Urban Digital Divide	10% of rural households face slow or unreliable internet connections	Connectivity in urban areas like Brussels and Antwerp is significantly higher comparative to rural areas of Wallonia	Report on the State of the Digital Decade, 2024
Digital Skills	20% of Belgians lack basic digital skills	Better than the EU average of 44% lacking basic digital skills	Eurobarometer, 2024

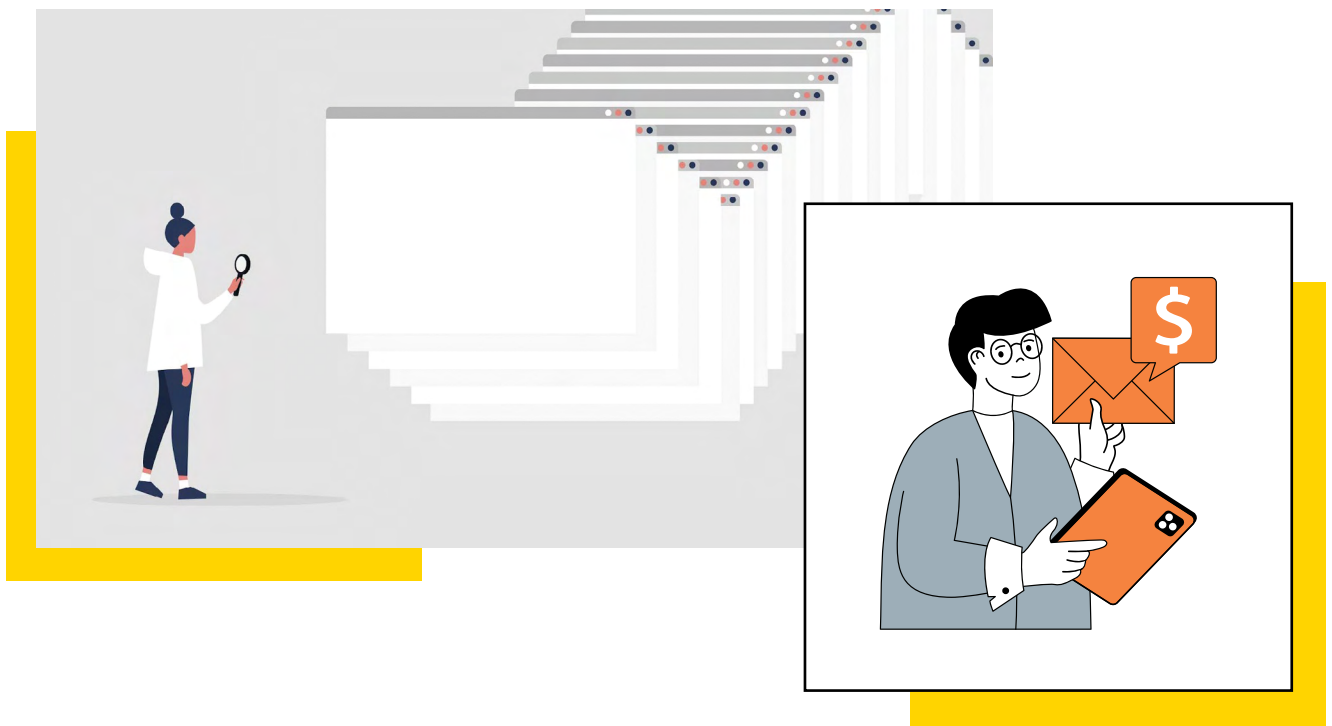
Policy responses and challenges

Although Belgium has implemented several initiatives to improve digital inclusion, gaps remain. The *Digital Inclusion Barometer* (2024) highlights that 40% of Belgians remain excluded when it comes to the use of digital technologies, with 32% having low digital skills and 8% being non-internet users. It also highlights the need for targeted interventions, particularly for older adults, low-income households, and marginalised communities.

Some key initiatives include:

- **Plan d'Appropriation Numérique:** A programme to increase digital literacy through community-based training, focusing on older adults and persons with disabilities (Région De Bruxelles-Capitale, 2021).
- **Digital Strategy Wallonia:** An initiative to improve internet infrastructure in rural areas and promote digital skills development across all age groups (Digital Wallonia, 2020).

Despite these efforts, the 2024 *Digital Decade Country Report* indicates that Belgium still faces a digital skills shortage. Specifically, it says that 47% of the workforce lacks basic digital skills, a significant barrier to achieving full digital inclusion.



>> TESTIMONIALS

“I like to share photos of my children with my grandma who lives in The Netherlands.”

“By sending printed pictures by post I can keep her involved in our lives.”

Isabelle Robert, 38,
Belgium
Her grandma,
Liesbeth Timmerman, 99,
The Netherlands



In summary

As Belgium advances in the digital era, ensuring that no one is left behind is crucial. The focus should not solely be on increasing digitalisation but also on preserving the right of individuals to choose how they receive critical information.

Digital exclusion can lead to significant hardships and leave individuals without access to vital services. To avoid this, Belgium must continue to provide non-digital alternatives and support traditional communication methods like post and paper. By maintaining and promoting these options, Belgium can celebrate a society that values inclusivity, choice, and respect for individual preferences while also ensuring that all citizens have access to the services and information they need in the format that best suits them.

Digital Exclusion in Romania

Romania continues to grapple with a significant digital divide, one that disproportionately affects various marginalised groups, including those in digitally underserved areas, older adults, and individuals with lower educational backgrounds. Despite advancements in digital infrastructure, the country remains at the bottom of the EU's rankings for digital skills. This highlights the urgent need for targeted interventions to promote inclusion through traditional means of communication, such as post and paper (Cibian et al., 2022).

The digital divide in Romania

Romania's digital infrastructure ranks among the least developed in Europe. According to the 2021 DESI report, only 28% of Romanians possess basic digital skills, significantly lower than the EU average of 55.6%. This data reveals a critical challenge, especially given that digital literacy is now essential for navigating many aspects of life, from accessing public services to participating in the labour market.

Further complicating the issue is the fact that 45.5% of Romania's population resides in rural areas, where access to digital infrastructure is often limited. While 96% of Romanian localities can access fixed-line internet services, only 57.6% of rural households are connected to the internet, compared to 77.9% in urban areas (ANCOM, 2022). Moreover, 33.8% of Romanian citizens use only their mobile phones for internet access, which may limit their ability to fully engage with digital platforms that require more sophisticated devices (Cibian et al., 2020).

One of the primary consequences of this digital divide is the marginalisation of large segments of the population (Mubarak & Suomi, 2022). Many Romanians, particularly older adults, face challenges in accessing the many essential services now available primarily online, including healthcare, financial services, and public administration.

Digital exclusion in Romania: key statistics

Challenge	Statistic	Comparison	Source
Low Digital Skills	28% of the population possesses basic digital skills	Significantly lower than the EU average of 56%	European Commission, 2021
Rural-Urban Divide	57.6% of rural households have internet access	Compared to 77.9% of urban households	ANCOM, 2021
Older Population at Risk	29% of individuals aged 55-74 have never used the internet	A stark contrast to younger age groups who are more digitally active	Cibian et al., 2020
Education Disparities	29.1% of low-educated individuals use the internet	Compared to over 80% of university graduates	Eurostat, 2023

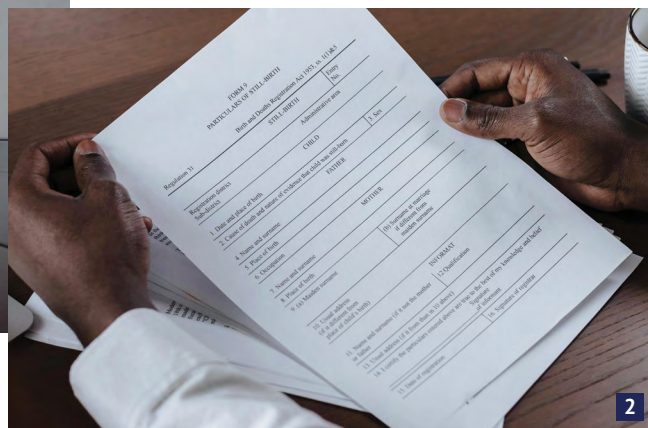
The negative consequences of digital exclusion

The lack of digital skills exacerbates social exclusion and reinforces existing inequalities. For instance, these individuals can face difficulties accessing essential services, leading to a reduction in quality of life and increased isolation.

Without access to traditional, reliable methods such as post and paper, these individuals risk further isolation from society. For example, e-government services are designed to simplify interactions with public institutions. However, despite improvements in Romania's digital infrastructure, only 16.7% of citizens aged 16-74 interacted with public authorities online in the past year. Furthermore, many older adults and rural residents are unfamiliar with these platforms or lack the necessary tools to engage with them, meaning they miss out on critical services, such as healthcare or applying for social benefits (Cibian et al., 2022).



1



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>> TESTIMONIALS HIGHLIGHTING THE CHALLENGES

“I’m not very tech-savvy, but I enlist the help of my family, at least once a week, if not more often, to help me with various things in this area, such as the internet. That way, I have more access to information, not just from TV. However, it is through the postman that I get my pension and all the news I should know. Without the postman, I wouldn’t receive my pension and I wouldn’t be up to date with all the necessary information that we need to have. At my age, the connection with technology is a bit more difficult.”

Steliana Berceanu, 65, Bucharest

“I don’t have a smartphone, I don’t use technology, I don’t turn to anyone to help me with technology. Everything I need, including information and news, I get from communicating with people. The postman helps me a lot; he plays an important role for me because he brings my money home and I have security.”

Eremia Iuliana, 75, Bucharest

“Although I’ve had an intellectual job,
let’s say, I haven’t adjusted
to the technology part.”

“There are people around me, of course, who use technology, digitalisation, as you call it, but I don’t trust it. I still get my pension by post, I still pay with cash, and the postman still brings me my bills... I’m better that way; I feel more confident, and I know what I have to do and how to do it. With technology, I don’t have the same security.”

Elena Muşat, 67, Bucharest



In summary

While Romania has improved its digital infrastructure, significant barriers remain for many of its citizens. First, digital infrastructure should not be seen as the end-all solution. After all, such infrastructure is only helpful when accompanied by digital literacy, skills, and the means to adapt to the digital world. As has been shown, for older citizens and marginalised communities, transitioning to digital-only services is often easier said than done. That's why it is crucial that Romania continues to provide and promote non-digital communication. By doing so, it will preserve accessibility for all, regardless of one's digital capabilities.

Digital Exclusion in Ireland

Despite its reputation as a tech-savvy nation and being the headquarters of many global technology giants, Ireland continues to face significant challenges in addressing the digital exclusion that many citizens face. The country's rapid pace of digitalisation has left behind key segments of its population, particularly older adults, low-income families, and individuals living in marginalised areas.

This section explores the extent of digital marginalisation in Ireland, drawing on the latest data and research. It also examines how this exclusion impacts an individual's ability to access essential services and fully participate in society.

The digital divide in Ireland

Ireland has seen significant advancements in digital infrastructure, with 87% of households covered by Very High Capacity Networks (VHCN) and 85.3% of the population having access to 5G coverage (European Commission, 2017). However, much of the population still struggles with basic digital tasks or prefers physical communication methods such as the post.

The Digital Decade report shows that while 76% of Irish respondents believe digitalisation has made life easier, nearly 30% of adults over the age of 65 report difficulty using online services (Eurobarometer, 2024).

While Ireland's introductory digital skills rate of 72.9% is above the EU average of 55.6%, it still means that many people lack the knowledge or tools needed to navigate digital systems (Eurobarometer, 2024). This issue is particularly acute among older adults, those with lower levels of education, and people in marginalised areas who may have limited access to both digital devices and reliable broadband (Norris et al., 2022).

These individuals should not be overlooked as society becomes more digital. Access to post and print remains essential for their inclusion.

Digital exclusion in Ireland: key statistics

Challenge	Statistic	Comparison	Source
Rural-Urban Divide	22% of rural households report internet connectivity issues	Compared to just 8% in urban areas	Eurobarometer, 2024
Older Adults	More than one-third of adults aged 65+ have never used the internet	This limits access to online services for a significant portion of the older population	Norris et al., 2022
Low-Income Households	67% of lower-income households have broadband internet	A disparity exists with 90% of wealthier households having access	European Commission, 2024
Education Disparities	55% of individuals without secondary education have basic digital skills	Compared to 89% of university graduates	European Commission, 2024

The impact of digital exclusion

The rapid shift towards online services continues, even though many citizens lack the necessary skills or tools to keep up. For example, the Citizens Information Board reported that 40% of clients seeking assistance in 2022 did so because they were unable to complete online social welfare applications (Norris et al., 2022).

While digitalisation may offer convenience for some, it has created new barriers for others. As Ireland continues its digital transformation, it must ensure that people who rely on post and print are not excluded.



“Paper mail is easier for me to hold, read, and organise my record-keeping for important documents.”

I don't have to get swamped with digital overload or worry about losing or deleting important information. Paper mail is reliable and tangible and is a secure and private way of filing and managing my business correspondence.”

Jan Way, Proprietor,
James Allen Hair Design
Ireland



“As a small business owner, I rely on physical mail for accurate record keeping.”

“It’s easier for me to organise and reference important documents in paper format. I don’t have to deal with digital clutter or worry about computer systems crashing. Paper mail is reliable and tangible and is a more straightforward way to manage my business communications.”



Ursula McDonnell,
Diaz Boutique,
Ireland

In summary

Despite Ireland's progress in digitalisation, many citizens – especially older adults, low-income families, and marginalised residents – rely on non-digital communication channels like post and print. As society embraces technological advancements, it is essential to ensure that people who prefer paper-based communications are not left behind. Access to post and printed documents is vital for inclusivity and consumer choice.



Digital Exclusion in Slovenia

Slovenia, known for its progressive approach to technology and connectivity, still grapples with a digital divide that impacts a significant segment of its population. While the country has made remarkable strides in digital infrastructure, including high broadband connectivity and widespread 5G coverage, not everyone has been able to adapt to the rapid pace of digitalisation. This section examines the digital divide in Slovenia, its impact on societal participation, and the importance of preserving non-digital mediums for inclusivity.

State of digital infrastructure and digital exclusion

As of the beginning of 2024, 91.9% of Slovenia's population was connected to the Internet, reflecting the country's advanced digital infrastructure (Kemp, 2024). However, while most of the population has internet access, a significant portion still relies on traditional communication channels. Older adults, rural residents, and those with limited digital skills often prefer paper-based media for such tasks as receiving bills or managing correspondence (OECD, 2024). Ensuring the availability of non-digital services is therefore crucial to maintaining inclusivity and preventing these groups from becoming marginalised in an increasingly digital society.

Furthermore, trust in digital communication and online media remains notably low. Only 26% of Slovenians express high to moderately high trust in online media, significantly below the OECD average of 39% (OECD, 2024). This lack of trust underscores the importance of maintaining

tangible, reliable communication methods like print media, which offer a sense of credibility and permanence that is often lacking in digital platforms.

Digitalisation, while transformative, also poses the risk of marginalising individuals who are hesitant or unwilling to adopt digital tools due to various factors, including lack of skills, access, or trust in digital systems (Tomczyk et al., 2023). This hesitance often leaves these individuals excluded from the benefits of digitalisation and reliant on traditional mediums for critical communication and access to information.

As Slovenia advances its digital transformation, it is imperative that it also takes steps to ensure that traditional communication channels remain available and accessible. Doing so will help foster inclusivity, reduce marginalisation, and bridge the divide that can arise from rapid technological advancements.

Digital exclusion in Slovenia: key statistics			
Challenge	Statistic	Comparison	Source
Rural Connectivity	Nearly 20% of rural households report issues with slow or unreliable internet	Rural areas face challenges with internet quality, in contrast to urban centers with only 5% reporting such issues	DESI, 2024; Statista, 2024
Rural Household Access	87.56% of rural households have internet access (2023)	Despite some progress, rural Slovenia still faces challenges in internet penetration	Statista, 2024
Older Adults	21.4% of citizens aged 65+ in Slovenia	Slovenia has one of the oldest populations in the EU, contributing to digital exclusion among older adults	Petrovčič et al., 2024
Disconnected Individuals	7.96% of individuals have never used the internet (as of December 2023)	A notable portion of the population remains digitally disconnected	Eurostat, 2024
Business Digital Divide	50.4% of SMEs in Slovenia have a basic level of digital intensity	Slovenian SMEs lag behind in digital adoption, impacting communication and competitiveness / below the EU average of 57.7%	Shaping Europe's Digital Future, 2024
Digital Skills Gap	50% of individuals aged 16-74 have basic digital skills	A significant portion of the population lacks the necessary digital skills, with a wider gap for advanced skills/ below the EU average of 56%	Digital Skills and Jobs platform, 2024

Impact of digital exclusion

The digital divide in Slovenia significantly impacts various demographics, limiting their access to essential services and economic opportunities. For example, due to regional disparities in digital infrastructure, rural areas face persistent connectivity challenges, with many households experiencing slow or unreliable internet. Older adults, who make up a large proportion of Slovenia's population, often lack the digital skills required to navigate online platforms, leaving them reliant on traditional communication methods.

Small and medium-sized enterprises (SMEs) also face barriers, with many encountering challenges in adopting digital technologies at the same pace as EU averages. While this is often viewed as affecting their competitiveness and innovation potential, it is equally important to recognise that some SMEs actively choose to maintain non-digital practices due to privacy concerns, operational preferences, and a commitment to personalised customer interactions. In the words of research conducted by SME owners: "All of the traditional marketing tools are rated as either very effective or effective by most of the respondents (more than 50%), except magazines (44.9%). The top three tools rated in terms of efficiency (very effective or effective) are business cards, radios and pamphlets" (Manley, 2015, p. 209).

Emphasising digital adoption as the sole path forward risks excluding these enterprises, as it neglects the unique advantages of traditional methods, such as fostering trust, enhancing direct communication, and catering to customers who share these preferences. A singular focus on digital solutions can inadvertently marginalise businesses that operate effectively through non-digital means, creating a divide that hinders inclusivity and balanced growth.

To address these challenges, it is essential to create frameworks that support both digital and non-digital practices. This includes providing resources and training for SMEs interested in adopting digital tools, as well as ensuring that traditional practices are respected and supported. By fostering an environment that values diverse operational methods, SMEs can achieve their full potential without being constrained by rigid expectations or exclusionary policies.

All of these challenges underscore the importance of maintaining alternative, non-digital communication methods as a means of ensuring inclusivity, bridging economic and social gaps, and preventing the exclusion of marginalised communities.

>> TESTIMONIALS

The importance of maintaining non-digital communication channels is echoed by individuals from diverse age groups and backgrounds in Slovenia. Their experiences highlight the continued relevance of paper-based methods in fostering trust, organisation, and accessibility, especially in a digitally evolving society.

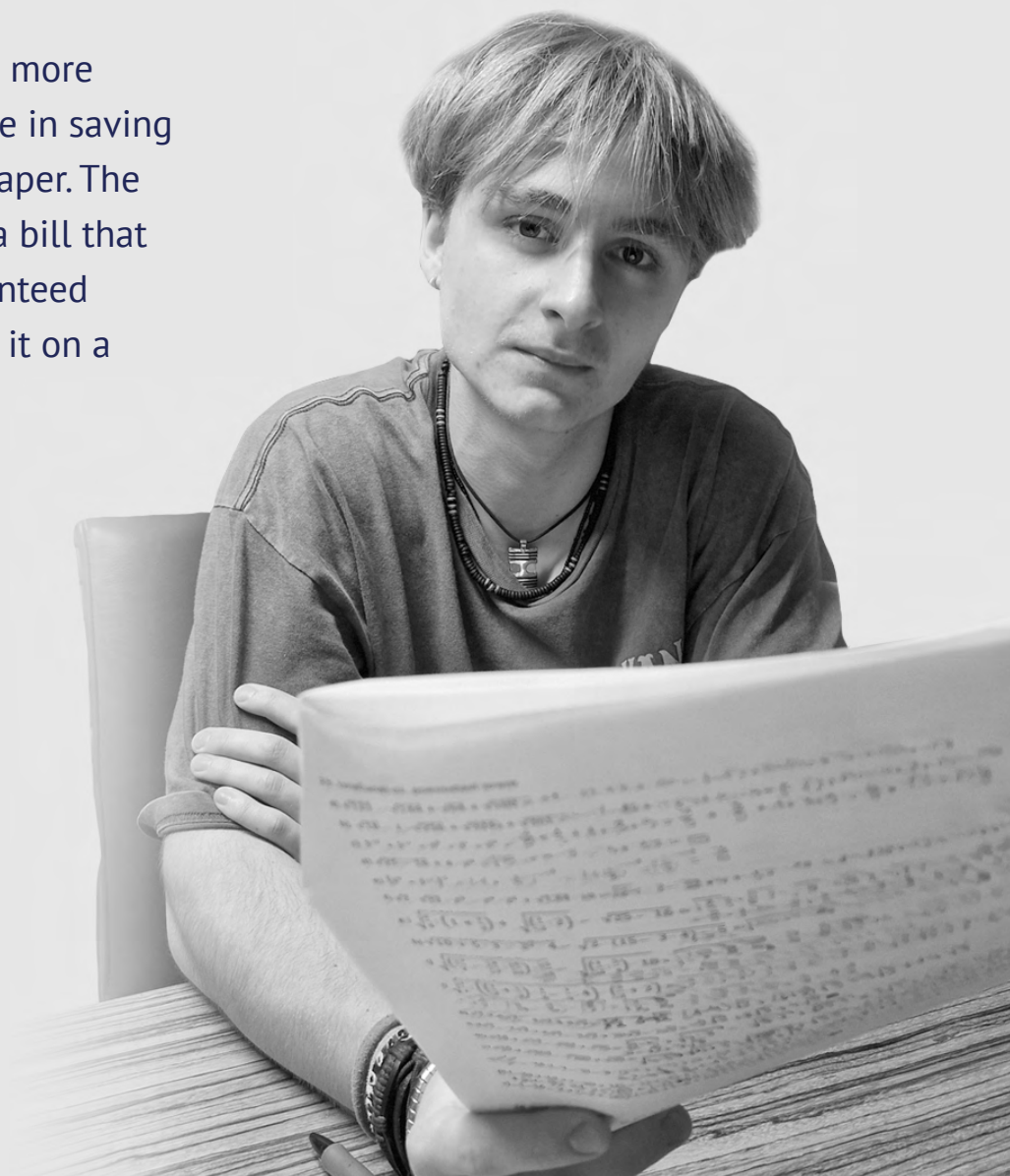
One young Slovenian, Žan Luka B., shares his thoughts on the dual nature of digital and paper communication:

“As a student I daily use e-conversation channels and social media with my schoolmates and friends. I like it because it is easy, fun and always available.”

“But when I think of messages received by the state, bank and other institutions, I prefer having them on the piece of paper.”

I just find such messages more serious. I feel more secure in saving some official things on paper. The same goes for receiving a bill that is a basis for some guaranteed services... I prefer having it on a piece of paper.”

Žan Luka B., 18, Slovenia



>> TESTIMONIALS

This viewpoint aligns with the above-mentioned research indicating that trust in digital communication among Slovenians is relatively low, with only 26% expressing high to moderately high trust in digital media, compared to the OECD average of 39% (OECD, 2024).

Maj R., a 24-year-old, combines a love for traditional books with a strong preference for paper-based official documents:

“I have to admit that I like the handiness of e-readers, but I am a firm believer in the good old book.”

“Nothing beats a good book. A paper book has a charm of its own that translates into the story and makes it 10 times better. That and the different cover art that tells a different story each time. That is priceless and would otherwise, in my opinion, be lost. Other than my love for books, one aspect I am sceptical about and where I prefer the use of paper is notices or documents from government institutions and similar institutions like banks. With all the scams and constant notifications, I have to say that I prefer the certainty that paper offers.”

Maj R., 24, Slovenia



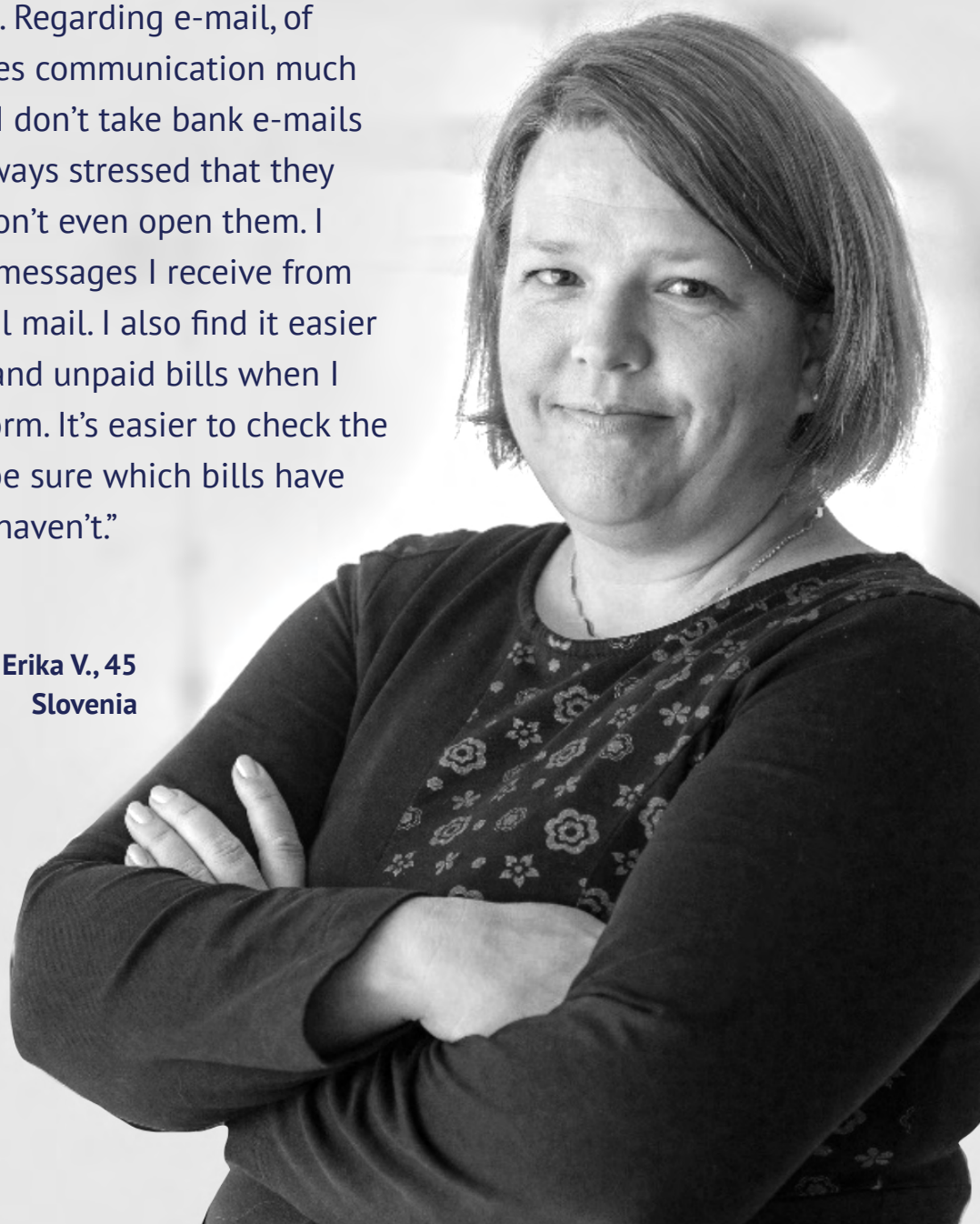
Maj's scepticism about digital communication in Slovenia highlights concerns about digital scams and reliability. These concerns show why physical mediums are still essential for ensuring inclusivity across different regions and demographics.

For Erika V., a creative professional in her 40s, paper is an essential medium for both personal and official use:

“I am a very creative person, so I have used paper forever. I adore my own writing being saved in paper notebooks.”

“I use a different notebook for every single topic I am working on. Regarding e-mail, of course, I use it, it makes communication much easier and faster. But I don't take bank e-mails seriously at all, I'm always stressed that they might be fake and I don't even open them. I do however trust the messages I receive from the bank by traditional mail. I also find it easier to keep track of paid and unpaid bills when I have them in paper form. It's easier to check the synchronisation and be sure which bills have been paid and which haven't.”

Erika V., 45
Slovenia



Erika's reliance on paper reflects the broader challenge faced by Slovenians with limited digital skills, as only 50% of individuals aged 16–74 possess at least basic digital proficiency, below the EU average of 56% (*Digital Skills and Jobs Platform, 2024*).

These testimonials highlight the importance of taking a balanced approach to communication, where digital advancements complement robust paper-based options. They also reflect personal preferences and conscious choices shaped by trust, convenience, and practicality. Furthermore, they align with data emphasising the preferences and needs of various groups, including those who may face challenges in fully embracing digital tools.

In summary

While Slovenia continues to advance its digital infrastructure, the persistent digital divide highlights the need for a balanced approach to modernisation. Rural connectivity challenges, low digital skill levels among older adults, and SMEs' limited digital intensity underscore the barriers significant segments of the population face.

These gaps show how the push toward digitalisation can be transformative but also how it creates risks for marginalising individuals who are unable or unwilling to adopt digital tools. To address this divide, preserving and modernising traditional communication methods, such as postal services and print media, is vital for fostering trust, enhancing security, and promoting inclusivity in Slovenia's evolving digital landscape.



Digital Exclusion in Portugal

Portugal has made significant strides in its digital infrastructure, achieving high rates of internet connectivity and advancing the availability of digital services. Yet despite this progress, disparities persist, particularly among older adults, persons with disabilities, rural residents, and SMEs.

This section examines the digital divide in Portugal, its impact on societal participation, and the importance of preserving non-digital mediums for the inclusivity of marginalised groups.

Progressive digital infrastructure, persistent exclusion

As of early 2024, Portugal's internet connectivity rate was 91.9%, reflecting the country's advanced digital infrastructure (Statista, 2024). Portugal also scores among the best in the EU for 5G in the 3.4-3.8 GHz band, considered the primary pioneer band for 5G in Europe, with 65.2% of Portuguese households covered (European Commission, 2024).

Yet despite these impressive figures, specific population segments continue to rely on traditional communication channels. According to "The Special Eurobarometer Digital Decade 2024" report, 43% of Portuguese respondents believe the EU protects their digital rights. This is slightly below the EU average of 45% (European Commission, 2024). Confidence in digital privacy stands at 48%, also lower than the EU average.

However, concerns about safety and security are on the rise, with 60% of respondents worried about children's online safety (+20% compared to 2023) and 52% about control over personal data (+15%) (European Commission, 2024).

Likewise, with regard to using internet services for personal purposes, in 2019, 22% of the Portuguese population reported never having used the internet, more than twice as much as in the EU as a whole. While Portuguese users rank high in using the internet to access news and social media, the percentage who use it for remote banking or shopping is comparatively lower (Duarte, 2021).

This reluctance to fully embrace digital technologies reflects a broader unwillingness to adopt digitalisation, driven by concerns about privacy, security, and the perceived risks of engaging with online services. Despite the growing prevalence of digital services, certain population segments remain hesitant, preferring traditional methods over digital alternatives.

What these figures show is that, regardless of the country's leading infrastructure and digital channels, Portugal still faces challenges from the perspective of digital illiteracy, people's unwillingness to adopt digital channels, and increasing privacy concerns. In this regard, older adults, rural residents, and those with limited digital access predominantly prefer paper-based media for such tasks as receiving bills or managing correspondence.

These findings underscore the need to prioritise consumer rights and the right to choose

between print and digital communications at the national level. It also shows why ensuring the availability of non-digital services is crucial to maintaining inclusivity and preventing the marginalisation of specific groups in an increasingly digital society.

Beyond the challenges of digital illiteracy and privacy, some groups also face significant economic barriers to accessing technology (Lesmana et al., 2023). While Portugal boasts impressive internet infrastructure, socio-economic factors continue to hinder some individuals’s ability to benefit from digital technologies fully.

A 2022 report by the Portuguese Statistics Institute (INE) indicated that almost 30% of Portuguese households with a monthly income below the national median lacked internet access (INE, 2022). This digital divide is more pronounced in lower-income communities, where individuals may not be able to afford the smartphones and computers they need to participate in the digital economy effectively.

Moreover, the cost of digital skills training remains a barrier, particularly for older adults or those in low-income households – two groups who are less likely to invest in learning how to use digital tools due to competing financial priorities.

By limiting opportunities for education, employment, and civic participation, these economic barriers exacerbate social inequality. Consequently, without targeted interventions to address both digital infrastructure and economic accessibility, Portugal may face growing disparities in digital participation that could undermine its efforts to create an inclusive digital society.

Digital exclusion in Portugal: key statistics			
Challenge	Statistic	Comparison	Source
Rural Connectivity	22% of individuals in rural areas possess basic or above digital skills (according to a report in 2020)	Rural Portugal faces challenges in digital skills acquisition, one of the lowest levels in the EU	“Delivering Quality Services to All in Alentejo,” 2022
Older Adults	34.1% of individuals aged 65-74 never used the internet (report in 2019)	There is a marked digital divide between older and younger Portuguese citizens, limiting older adults' access to services	Palo-Närhinen, 2024
Business Digital Divide	Portugal ranks 19th in the 2020 EU Digital Economy and Society Index (DESI)	Businesses in Portugal are lagging behind in digital adoption compared to the EU average	Duarte, 2021
Digital Skills Gap	43% of Portuguese respondents believe the EU protects their digital rights	Slightly below the EU average of 45%, indicating a gap in digital confidence and trust among Portuguese citizens	European Commission, 2024



Impact of digital exclusion in Portugal

The digital divide in Portugal has a multifaceted impact, primarily stemming from digital illiteracy, a reluctance to adopt new technologies, and growing concerns over privacy. Despite the country's impressive digital infrastructure, widespread internet access, and high 5G coverage, certain population segments continue to face significant barriers to fully leveraging the benefits of digitalisation.

Older adults, in particular, experience challenges in adopting digital technologies. Many within this demographic lack the digital skills needed to navigate online platforms, leaving them reliant on traditional communication methods. Older adults are also at risk of being marginalised as the internet becomes increasingly essential for accessing such services as healthcare, banking, and government benefits.

This age group's general reluctance to embrace digital tools, often due to unfamiliarity or a fear of privacy risks, further exacerbates Portugal's digital divide. Furthermore, older adults' limited digital participation underscores the importance of ensuring accessible alternatives, such as paper-based media, to avoid excluding them from vital societal functions.

Privacy concerns are another significant factor contributing to digital exclusion in Portugal. Growing apprehension around online security, particularly regarding personal data and children's safety, has caused many individuals to avoid engaging with digital platforms. These concerns also cause some groups to feel uneasy about the potential misuse of personal information, reflecting broader European concerns about data privacy (Quach et al., 2022). This widespread distrust in digital services affects the willingness of certain groups to engage with e-commerce, online banking, and even governmental services, ultimately limiting their participation in the digital economy.

While Portugal's digital infrastructure is robust, a lack of digital skills among certain sections of the population further contributes to the exclusion of those unable or unwilling to embrace

digital tools. This skills gap mainly affects people in lower-income households, older individuals, and those living in more isolated areas, who may find it financially or socially unfeasible to show an inclination towards digital training (Vassilakopoulou & Hustad, 2021). Without adequate support and initiatives to foster digital literacy and build confidence in online environments, these groups remain at a distinct disadvantage, unable to access essential services or participate fully in modern society.

The cumulative impact of these issues creates a barrier to full digital inclusion in Portugal, underscoring the need for targeted initiatives to bridge the digital divide. Ensuring that non-digital alternatives remain available, addressing privacy concerns, and prioritising digital literacy programmes are all critical steps to making Portugal's digital transformation genuinely inclusive and equitable for all its citizens.

In summary

While Portugal has made significant strides in digital infrastructure, the digital divide remains a pressing challenge, particularly for older adults, rural residents, and SMEs. Despite the country's advanced digital services, barriers such as digital illiteracy, privacy concerns, and economic limitations continue to hinder full participation in the digital landscape.

To ensure inclusivity, it is crucial to maintain and expand non-digital mediums for essential services, such as paper-based communication, postal services, and in-person support, particularly for marginalised groups. The goal of digitalisation should not be a completely paperless or digital society, as this risks further exclusion.

By addressing these gaps through targeted policies and initiatives, Portugal can bridge the digital divide by promoting the "right to choose", ensuring that no one is left behind in its digital transformation.





Conclusion



Why Choice Matters

Conclusion



The transition towards a digital society offers opportunities for innovation and efficiency. However, it also puts marginalised groups at risk of exclusion, including older adults, persons with disabilities, those with lower digital literacy, and economically disadvantaged populations. To address these challenges and foster a more inclusive society, it is essential to prioritise policies and practices that preserve access to both digital and physical communication options. Such an approach ensures that all citizens can participate fully in society regardless of digital proficiency or access.

It is crucial to safeguard citizens' *right to choose* their preferred means of communication. EU and national-level policymakers are encouraged to mandate that public and private institutions offer citizens the freedom to select their preferred communication channels, whether that be digital or physical, without incurring additional costs or penalties.

Consumer rights must also be strengthened to protect against coercive practices, such as discounts tied exclusively to digital-only options, which unfairly disadvantage individuals who rely on or prefer physical communication.

Equally important is protecting and modernising postal services, which remain a lifeline for many marginalised populations. Postal infrastructure must be maintained and enhanced to ensure reliability, particularly in rural and economically disadvantaged areas. Public investment should focus on sustaining these services while also exploring opportunities to integrate them with digital tools to create a seamless, hybrid communication system. Such modernisation will help ensure that postal services continue to play a vital role in bridging the digital divide.

Efforts to address the digital divide must adopt a multi-channel approach. While expanding digital infrastructure in underserved regions is vital, it is equally important to maintain robust physical communication networks and fair access to printed documents. Policymakers should also invest in targeted digital literacy programmes tailored to the needs of older adults, marginalised communities, and individuals with low levels of education. Such initiatives empower individuals to adopt digital tools at their own pace and according to their preferences rather than feeling coerced into digitalisation.

Research consistently demonstrates the cognitive advantages of printed materials in enhancing comprehension and retention, particularly for complex information (Jian, 2022). Recognising this, public institutions and private organisations should incorporate print communication into their strategies, especially for delivering legal documents, medical leaflets, and educational materials. Public awareness campaigns can help highlight the enduring benefits of print media, ensuring that its value is not overlooked in the rush toward digital transformation.

Inclusivity must be a cornerstone of digital transformation strategies. Businesses and public institutions should be encouraged to adopt hybrid communication models that blend digital and physical approaches to meet the diverse needs of their users. Digital services should be designed with user-centric principles, ensuring they are intuitive and accessible to individuals across different age groups and education levels. Such measures can bridge gaps in digital engagement while respecting the preferences of those who rely on traditional communication methods.

Policies must also safeguard groups that are disproportionately affected by digital exclusion. Subsidies for devices and internet connectivity should address financial barriers to digital adoption, ensuring that digital options are accessible to those who choose them. However, it is important to recognise that some individuals, such as those with visual, auditory, cognitive, or motor impairments, may face significant barriers to fully utilising digital solutions despite their availability. Policymakers must, therefore, prioritise the affordability and accessibility of non-digital communication channels, ensuring that these essential alternatives remain a viable and inclusive means of engagement for everyone.



Cognitive advantages of printed materials in enhancing comprehension and retention, particularly for complex information

In addition, the concerns of individuals who consciously avoid leaving digital footprints must also be addressed. This group underscores that digital exclusion is not solely about inaccessibility but also informed choices driven by legitimate concerns over data misuse, fraud, and security concerns. Policies should acknowledge these apprehensions and provide secure and trustworthy alternatives, ensuring that these individuals are not excluded from participating in society.

Preserving non-digital alternatives is crucial for protecting the autonomy of individuals who lack digital skills, confidence, or willingness, as well as those with disabilities. Ensuring the accessibility of these alternatives enables individuals to independently access critical information and services, mitigating the risk of exclusion in the face of digitisation and reducing reliance on others.



Addressing Digital Exclusion: Recommendations for a More Inclusive Society



Why Choice Matters

Addressing Digital Exclusion: Recommendations for a More Inclusive Society

As digital transformation reshapes our societies, it is critical to address the digital exclusion faced by marginalised communities. These groups, including older adults, low-income households, marginalised groups (i.e., immigrants and migrants, and residents of digitally underserved areas), and persons with disabilities, often struggle to access essential digital services due to limited skills, lack of resources, or unreliable internet connectivity.

To create an inclusive society, we must focus on preserving non-digital communication channels, providing targeted digital literacy programmes, and expanding affordable access to digital services.

The following recommendations provide a concrete framework to ensure that no one is left behind.

Preserve and Strengthen Non-Digital Communication Channels:

It is imperative to safeguard non-digital communication channels, particularly postal services. In Germany, for example, older adults, residents of areas with connectivity issues, persons with disabilities and low-income households continue to rely on physical mail for important communications like bills, healthcare information, and government notices (Schleife, 2008; Reuter et al., 2019).

Given the ongoing role of postal services, policymakers should take steps to protect their availability and accessibility, especially for those who are digitally excluded or lack the necessary skills to navigate digital platforms. In Belgium, citizens currently enjoy the option of receiving communications either digitally or via physical mail. It is imperative to ensure that the transition to digital services should not come at the expense of those who rely on or prefer physical mail (Hert, 2022).

This *right to choose* should be preserved and actively supported to prevent the marginalisation of those who depend on traditional communication methods.

Launch Targeted Digital Literacy Programmes While Preserving Non-Digital Communication Channels:

To address digital illiteracy while ensuring inclusivity, a comprehensive approach should combine targeted digital literacy and privacy programmes with the preservation of non-digital communication channels. Digital literacy courses tailored to older adults and other marginalised communities can play a critical role in bridging the digital divide. These courses

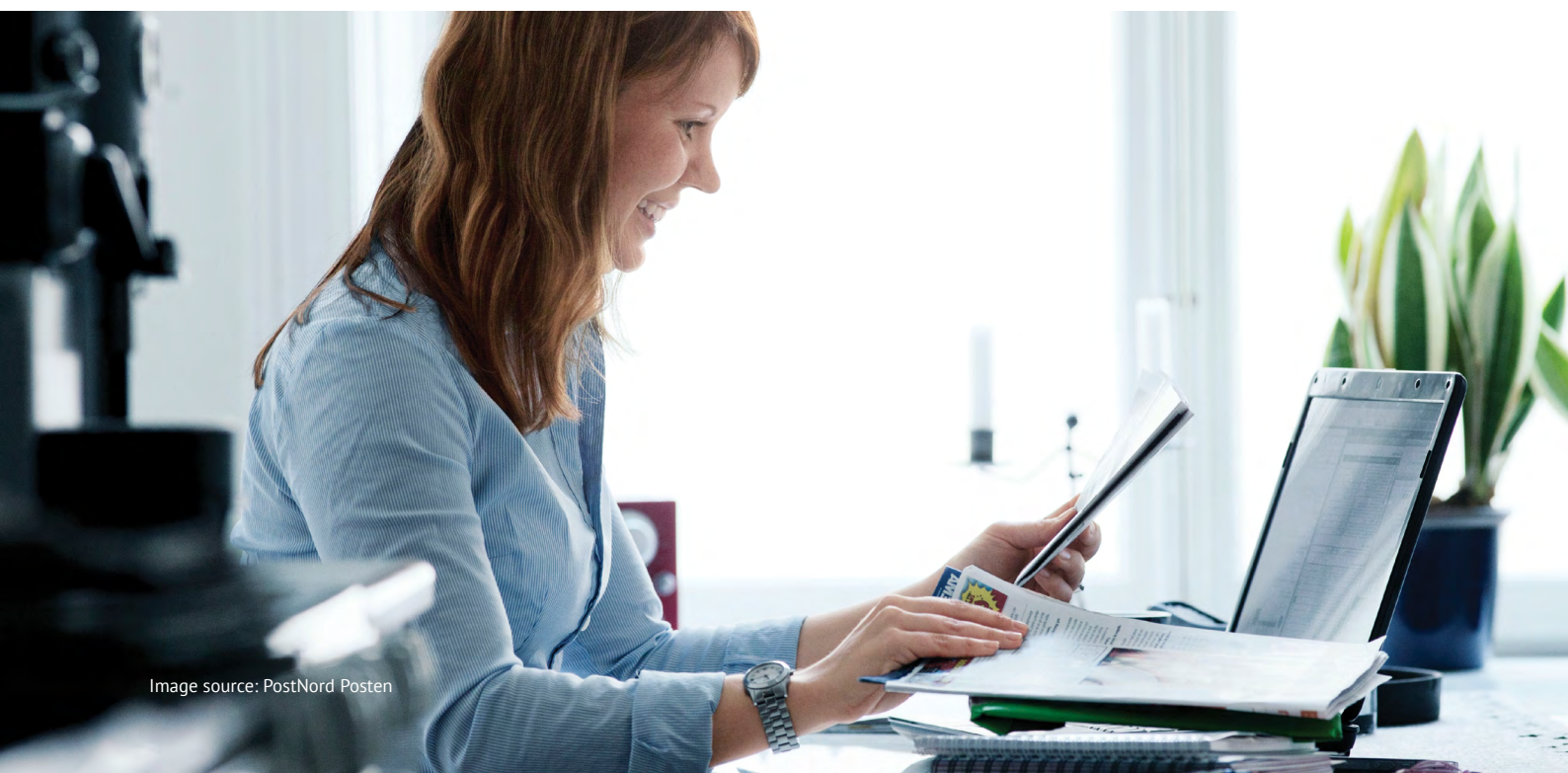
should focus on practical skills, such as accessing online banking and government services, and could include mentorship programmes where younger, digitally literate individuals assist older citizens, fostering intergenerational support and community cohesion (Schleife, 2008).

These initiatives must operate alongside efforts to sustain non-digital options to ensure that individuals who prefer or rely on traditional methods are not marginalised. It is crucial to acknowledge that addressing digital exclusion is not solely about educating these groups but also about understanding their limitations. For example, individuals with disabilities such as visual, auditory, cognitive, or motor impairments may face inherent challenges that digital solutions cannot fully address, making the availability of non-digital alternatives essential for inclusivity.

Non-digital channels, such as postal services, printed bills, and in-person interactions, remain vital for those who lack digital skills or face economic, geographical, physical or technological barriers to digital access (Schleife, 2008; Cibian et al., 2022). For example, preserving the role of non-digital channels as a trusted link for isolated individuals in marginalised areas provides both practical and social support (Eurostat, 2023).

Privacy-first digital platforms should also be developed to build public trust in online services. Collaboration with technology companies to prioritise user privacy, combined with clear, enforceable guidelines on data protection, can help address cybersecurity concerns. Public education campaigns about data privacy and secure online practices can further reduce apprehension about digital platforms (Reuter et al., 2019). These efforts should be paired with the maintenance of paper-based alternatives, ensuring that no one is forced to adopt digital methods.

Ultimately, this dual approach—targeting digital inclusion while protecting non-digital channels—creates an equitable system where individuals have the freedom to choose their preferred mode of communication. This ensures that the transition toward digitalisation does not come at the expense of accessibility, trust, or autonomy, fostering a truly inclusive society.



Promote Balanced Access to Affordable Internet While Preserving Non-Digital Communication Channels:

Ensuring equitable access to services requires a dual strategy that supports digital inclusion while safeguarding non-digital communication channels. While improving internet access for marginalised groups—such as low-income individuals, seniors, and rural residents—can enable broader participation in the digital economy, it is equally vital to preserve traditional communication methods for those who rely on them.

For instance, in Romania, limited digital infrastructure and affordability issues leave many dependent on postal services and paper-based communication to access essential services (Cibian et al., 2022). To address this, governments should introduce subsidised internet plans and low-cost device programmes, focusing on populations with limited access. Alongside these efforts, maintaining robust postal services and offering printed alternatives for government correspondence, bill payments, and healthcare information is essential to ensure inclusivity.

Establishing community-based access points, such as digital hubs, can provide digital training and internet access to those ready to engage digitally, but these initiatives should be complemented by sustained investment in non-digital communication. This balanced approach acknowledges diverse needs, ensuring that individuals who prefer or rely on traditional methods of communication are not marginalised as digitalisation advances.

By fostering a synergy between digital initiatives and non-digital options, policymakers can create an inclusive framework that respects individual preferences while addressing economic, geographical, and technological barriers.

Ensure Postal Services Remain Accessible:

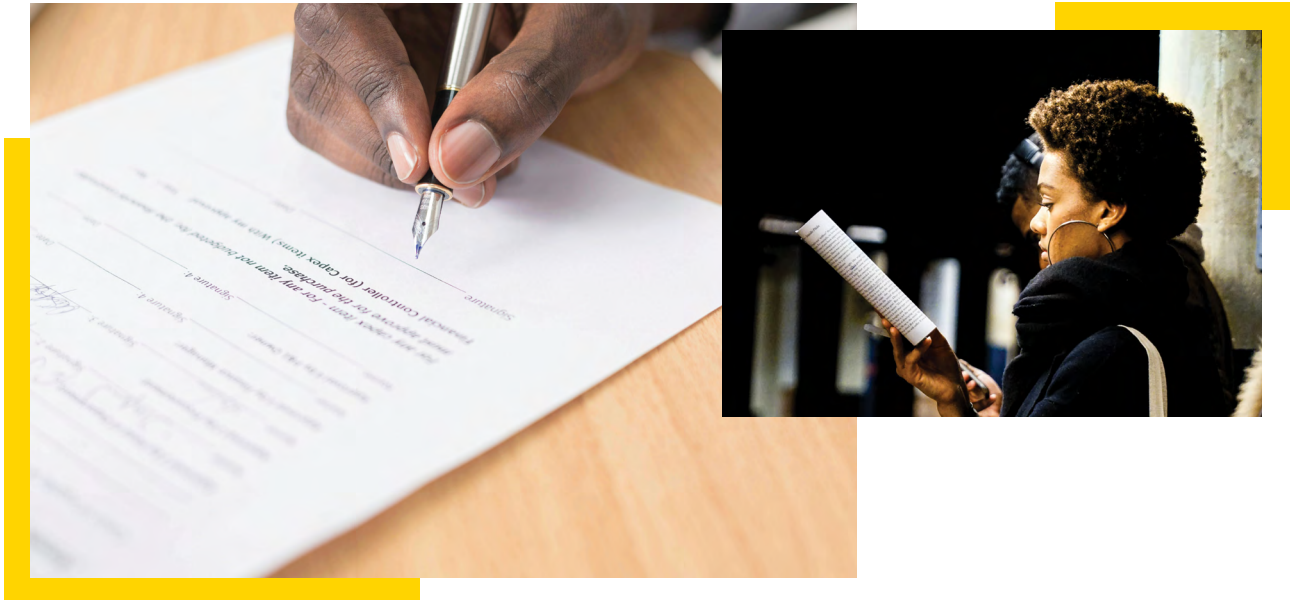
As the world moves toward digitalisation, it is essential to ensure that postal services continue to play a central role in communities. In Romania, for example, ensuring access to postal services in marginalised areas is vital to maintaining connectivity for those without digital skills (European Commission, 2021). The role of postal workers in providing social interaction and assistance, especially for older adults, cannot be understated. To preserve this connection, governments should increase support for postal services, ensuring they remain robust and reliable. This will mitigate feelings of social isolation, particularly in communities where digital access or a willingness to adopt digital services remains limited (Milutinović, 2023).

Guarantee the Right to Choose Between Digital and Physical Communication:

Citizens must retain the right to choose how they receive essential communications, ensuring inclusivity and fairness in an increasingly digital world. In Belgium, the eBox system allows citizens to receive documents electronically, but this digital platform does not inherently provide an option for physical mail. To ensure individuals who prefer paper-based communication or

lack access to digital platforms aren't disadvantaged, it is essential to protect the availability of non-digital alternatives actively.

It is crucial to understand that advancement through digitalisation should not come at the expense of those who prefer physical mail services (Hert, 2022). Offering both digital and paper-based options for bills, healthcare information, and government correspondence fosters inclusivity, respects personal autonomy, and ensures equitable access to vital services.



Promote Public Campaigns to Raise Awareness About Digital Benefits and Limitations While Highlighting the Importance of Non-Digital Options:

In the global push for digital inclusion, there is a growing recognition that digital engagement must be accessible to all. However, despite advancements, many websites and digital platforms still present significant challenges. A key example is the European Greens website, that struggles with accessibility, such as low-contrast text, lack of alternative text for images and podcasts, and navigation barriers that severely hinder digital participation for individuals with disabilities (Funka Foundation et al., 2024). Persons with disabilities, for example, may face unique barriers, such as low-contrast design, inconsistent image descriptions, and navigation issues, which can make it difficult for them to use online services effectively. Those with visual impairments struggle with poorly contrasted text and inaccessible elements, while individuals with motor impairments often cannot use keyboard or touch-based navigation features. These issues lead to exclusion and missed opportunities for digital engagement. Considering this, there is a need for inclusive strategies that ensure digital platforms cater to everyone, regardless of their ability to engage with digital tools.

Public campaigns should be launched to raise awareness about the limitations of digital engagement for marginalised communities while ensuring that non-digital options remain visible and accessible. These campaigns can use a variety of media channels—such as print, television, and digital platforms—to reach a broad audience, promoting the advantages of digital participation in sectors like healthcare, education, and civic engagement. However, it is

crucial to emphasise that these benefits should not overshadow the importance of maintaining access to non-digital services for individuals who are not ready or are unable to engage with digital tools fully.

Campaigns should also focus on addressing digital illiteracy, helping marginalised populations understand the practical value of engaging with online services. This includes raising awareness of digital literacy and online safety ensuring that citizens are informed about both the opportunities and potential risks of digital engagement (Milutinović, 2023). However, these campaigns should balance digital messaging with the reassurance that paper-based options for accessing healthcare, education, and government services are still available.

Moreover, campaigns must provide clear information on accessing free or low-cost digital resources, particularly for those who face economic barriers. At the same time, they should emphasise the availability of traditional means of communication, such as phone and in-person services, which are crucial for marginalised individuals who may face barriers to digital access. This approach empowers individuals to make informed decisions while reinforcing the need for a balanced approach that integrates both digital and non-digital options.

By promoting inclusivity and recognising diverse needs, these campaigns can create a more equitable society where no one is left behind due to their digital access limitations.

Strengthen Government Support for SMEs While Preserving Non-Digital Business Practices:

Small and medium-sized enterprises (SMEs) are vital to the economy, but many face challenges in adopting digital tools, particularly when it comes to balancing digital and non-digital operations. While the promotion of digital transformation is important for SMEs to remain competitive, it is equally crucial to ensure that these businesses are not pressured into abandoning non-digital avenues for communication, transactions, and customer service. Respecting the preferences of those who value privacy, security, and the permanence of non-digital methods is essential for fostering inclusivity.

Recent data (Two Sides, 2025) reinforces this need for balance. An international survey of 10,250 European consumers, commissioned by Two Sides in 2023, found that:

76% of European consumers believe they should have the right to choose how they receive communications (printed or electronically) from financial organizations and service providers.

62% agree they should not be charged more for choosing paper bills or statements.

55% think that when service providers ask them to switch to electronic billing under the guise of environmental benefits, it is actually about reducing costs.

53% recognize that when an organization encourages them to “Go Paperless,” it is not truly paperless because they regularly print off documents at home for a hard copy.

These findings demonstrate the importance of maintaining non-digital options to address the preferences of a significant portion of the population.

Government support should prioritise a balanced approach that accommodates both digital and non-digital practices. This can include grants, low-interest loans, and specialised training programmes to assist SMEs in adopting digital platforms while also maintaining traditional methods. Assistance should be tailored to businesses serving customers who prefer face-to-face interactions or rely on paper-based communication. For example, SMEs in marginalised areas or serving diverse communities may require a combination of digital and physical infrastructure to address the unique needs of their customers. Recognising and supporting these diverse operational preferences ensures that SMEs can thrive without exclusion or disadvantage.

Further consumers express concerns with digital communications, as highlighted in the Two Sides survey:

56% are concerned about online security and the risk of personal information being hacked or stolen.

49% feel they spend too much time on digital devices.

Such concerns underscore the necessity of non-digital options in fostering trust and inclusivity among customers (Two Sides, 2025).

Considering this, government-backed programmes should emphasise the importance of sustaining non-digital channels such as in-person services, physical marketing, and telephone-based customer support. Public-private partnerships can play an essential role in ensuring these hybrid solutions are accessible to small businesses, especially those with limited resources, enabling them to serve both digitally literate customers and those who prefer traditional forms of engagement.

By adopting a dual approach that supports both digital and non-digital channels, the government can foster a more inclusive business environment, ensuring that SMEs remain flexible, accessible, and resilient in meeting the needs of diverse customer groups. This balanced strategy will help ensure the long-term sustainability of SMEs and their ability to thrive in an increasingly digital world without leaving behind those who are not yet fully integrated into the digital economy.

Ensure Policymakers Use the Appropriate Medium for Specific Activities:

Policymakers must recognise the importance of using the right tools and mediums for the right activities. For example, printed materials such as medical leaflets are often more appropriate than electronic versions due to their ability to provide clear, accessible information to individuals who may not have the digital skills, access, or inclination to engage with online content. Medical leaflets play a vital role in providing essential information about medicinal products, ensuring that patients receive crucial health data in a format that is easy to read, understandable, and accessible (Intergraf, 2023). According to research: “the older population

will be disproportionately affected by the removal of paper leaflets, as over 50% of dosages are consumed by people aged over 65 (EuroVertice, 2024). Printed leaflets also offer the advantage of being available even when there is no digital infrastructure, such as in remote areas or for individuals facing technological barriers.

Similarly, other instances highlight where printed and digital media complement each other rather than substitute one another. In public health campaigns, for example, printed posters in community spaces can reach a broad audience, including those with limited internet access, while digital platforms provide a more targeted approach to certain groups (Kanchan & Gaidhane, 2023). Similarly, in education, printed textbooks remain crucial for students in underfunded areas or those lacking reliable internet access, while digital resources can enhance interactive learning for those who can benefit from them.

Another example can be found in the banking sector, where paper-based statements and receipts continue to serve an important function for individuals who are uncomfortable or unable to navigate digital banking systems. In particular, seniors or those with low digital literacy may rely on printed documents for their financial records, helping to ensure they remain informed and in control of their finances. While digital banking platforms provide increased convenience, paper statements are often preferred by certain customers for the added reassurance they provide, particularly in cases of technological failure or fraud.

Finally, in the public administration sector, printed forms are still necessary in many situations, especially in rural or isolated communities where internet connectivity is inconsistent. For example, applications for government aid, permits, or licenses may need to be submitted in physical form for those without reliable access to online portals. While digital submission forms offer speed and efficiency, printed alternatives ensure accessibility for everyone, ensuring that all citizens have the means to access essential services.

Therefore, it is essential for policymakers to embrace a hybrid approach that combines both digital and physical tools—ensuring that each medium is used to its fullest potential in providing services that are accessible, inclusive, and tailored to the needs of diverse populations.

In conclusion, addressing digital exclusion requires a balanced approach that promotes inclusivity across both digital and non-digital channels. While it is essential to advance digital engagement for marginalised populations, it is equally important to preserve traditional communication methods that remain vital for those with limited access or digital literacy.

The recommendations presented, ranging from safeguarding postal services to launching targeted digital literacy programmes and supporting SMEs, aim to create an inclusive environment where individuals can choose their preferred modes of communication. By ensuring that digital transformation does not come at the expense of those reliant on non-digital services, we can build a more equitable society that supports all members, regardless of their digital access or abilities.

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