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Analysis of previous
surveys on 5G

Institute P.I.I.U.





HEXA-X-II - WP1

Analysis of previous surveys on advanced communication services

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- Introduction
- Previous surveys on advanced communication services
 - Deloitte
 - EY
 - Ipsos
 - Traficom
- Analysis of survey results



Introduction



Introduction



- It is of paramount importance for HEXA-X-II to **understand the attitude of the citizens' concerns and needs toward 6G**. This is challenging as they are largely unfamiliar with this technology.
- The only way to address this is by **analyzing past users' attitudes and concerns on advanced communication services**.
- Various **government and private institutes** have conducted opinion surveys to monitor the rapidly evolving digital communications landscape.
- Previous surveys by **Deloitte, EY, Ipsos & Traficom** were analysed and included in HEXA X II deliverables, providing a global assessment and interpretation of the people's perspective on technological advancements. The focus area here was **trustworthiness and digital inclusion**.

Deloitte.



TRAFICOM



Previous surveys on advanced communication services



I. Survey by Deloitte's Centre for Technology, Media & Telecommunications

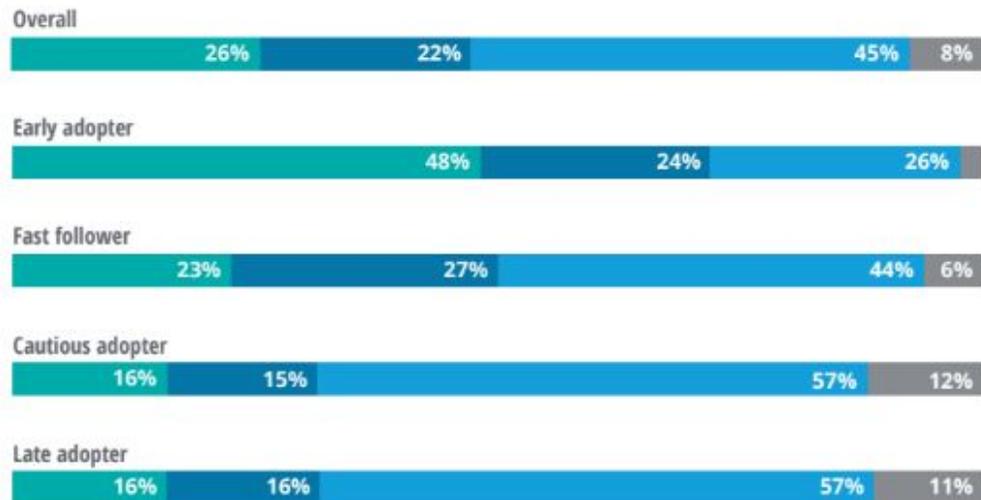


Deloitte conducted a survey of 2,005 US consumers in 2022 to understand consumer attitudes toward “digital life”. Aspects of digital life that were surveyed include devices (technology, entertainment, smart home, smartphones), connectivity (home internet and mobile), virtual experiences (work, school, and health care), wearables (fitness trackers and smart watches), and challenges of managing one’s digital life.

Nine in 10 5G smartphone consumers say the service meets or exceeds expectations

How does the 5G service on your smartphone compare to your expectations?

■ Significantly better ■ Somewhat better ■ Meets expectations ■ Worse



Note: Respondents represent consumers with 5G smartphones.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

Half of 5G smartphone users agree that the new connectivity standard enhances many capabilities and experiences.



I. Deloitte's survey



The pandemic catalyzed a dramatic shift to remote working and learning. 99% of those who have been working from home during the past year said they appreciated aspects of the experience.

Remote workers appreciate the experience overall, but issues around work-life balance, stress, connectivity, and videoconferencing persist

Experiences with working from home over the past year

Top benefits

- 1 No commute to work
- 2 Feel more comfortable at home (e.g., casual clothes, right temperature and lighting)
- 3 Reduce my chances of getting COVID-19 or other illnesses
- 4 Focus better on work
- 5 Feel more connected with my family

Top challenges

- 1 Have family or household responsibilities during working hours
- 2 Feel stressed or burned out
- 3 Slow or unstable home internet service
- 4 Work longer hours than I would if attending work in person
- 5 Videoconferencing problems (e.g., difficulty joining, staying connected, poor video quality)

Note: Respondents represent employed adults who worked from home for at least some of the time over the past year.
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

Managing health and well-being is another activity that has become increasingly digital over the past couple of years. 92% of consumers say they're very or somewhat satisfied with their virtual medical experiences.

Convenience and ease of scheduling and attending are top benefits of virtual health care

Experiences with attending virtual medical appointments over the past year

Top benefits

- 1 More convenient
- 2 Reduces my chances of getting COVID-19 or other illnesses
- 3 Easier to find appointment times that suit my schedule
- 4 Can see a health care professional more often

Top challenges

- 1 Lacks human touch or face-to-face connection
- 2 Health care provider couldn't examine me well enough
- 3 Connectivity issues
- 4 Health care provider couldn't collect vital signs
- 5 The appointment service or app was difficult to use

Note: Respondents represent people who attended at least one virtual health care appointment (as a patient or with a patient) in the past year.

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Top benefits	Top challenges
1 No commute to work	1 Have family or household responsibilities during working hours
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I. Deloitte's survey



Respondents have privacy concerns, 50% are worried about security breaches & 41% are concerned about being spied on. Nearly half (49%) of smart home users are concerned about hackers “taking over” their smart devices.

One-third of our respondents fell victim to at least one type of security breach in the past year, and 17% reported experiencing two or more

Consumers who reported experiencing the following kinds of data breaches or security failures in the past year

Social media account hacked



Credit card hacked



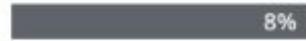
Fell for an online scam



Bank account hacked



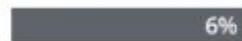
My location information was misused



Identity stolen



Health data breached



Ransomware attack



About 1 in 5 Gen Z, Millennial, and Gen X consumers experienced a social media hack.

Gen Z consumers were four times more likely than Boomers to fall for an online scam (16% vs. 4%), and more than twice as likely as Matures (16% vs. 7%).

Note: Respondents represent US consumers.

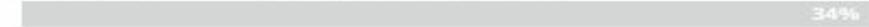
Source: 2022 Connectivity and Mobile Trends, 3rd edition.

71% took at least one security measure, only 21% have taken four or more. Even those who had experienced two or more breaches took only three measures on average to protect their data.

Despite concerns, consumers take only two proactive security measures on average

Consumers who have taken each action in the past year to address data privacy and security concerns

Implemented two-step authentication for apps/services



Turned off location-based services on a device



Turned off Bluetooth on a device



Used software to enhance security



Used a virtual private network (VPN)



Deleted or paused a social media account



Signed up for a credit-monitoring service or froze my credit score



Used anti-tracking software



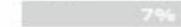
Used encrypted messaging service



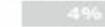
Deleted an account other than social media



Stopped using a device completely



Bought a connected device that doesn't track me



Bought a nonconnected device instead of a smart, connected alternative



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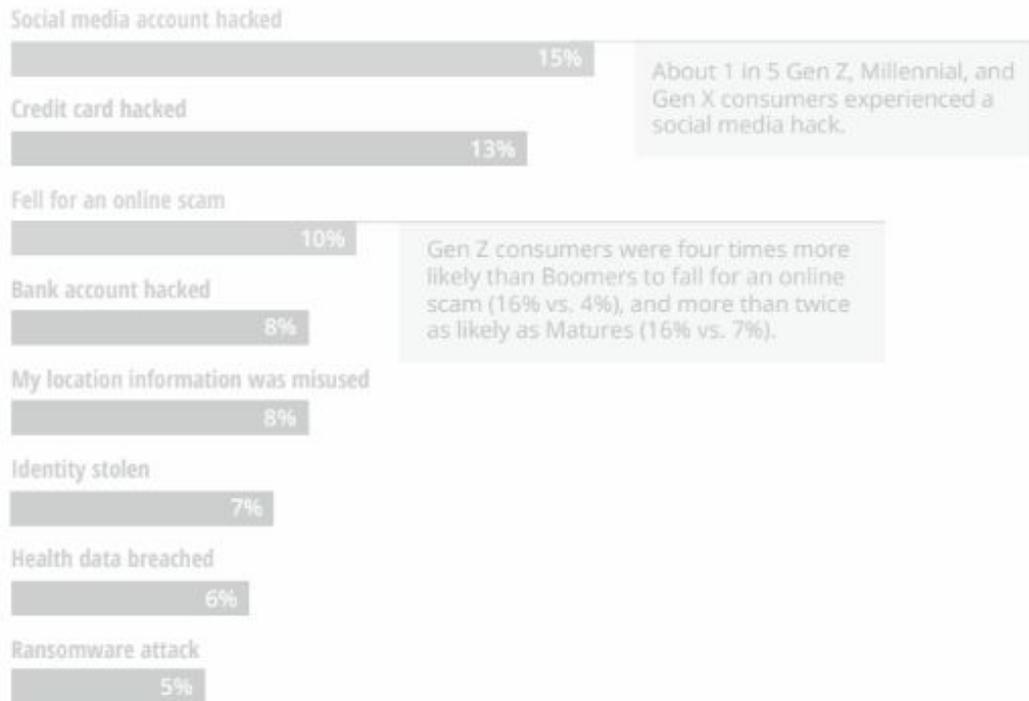


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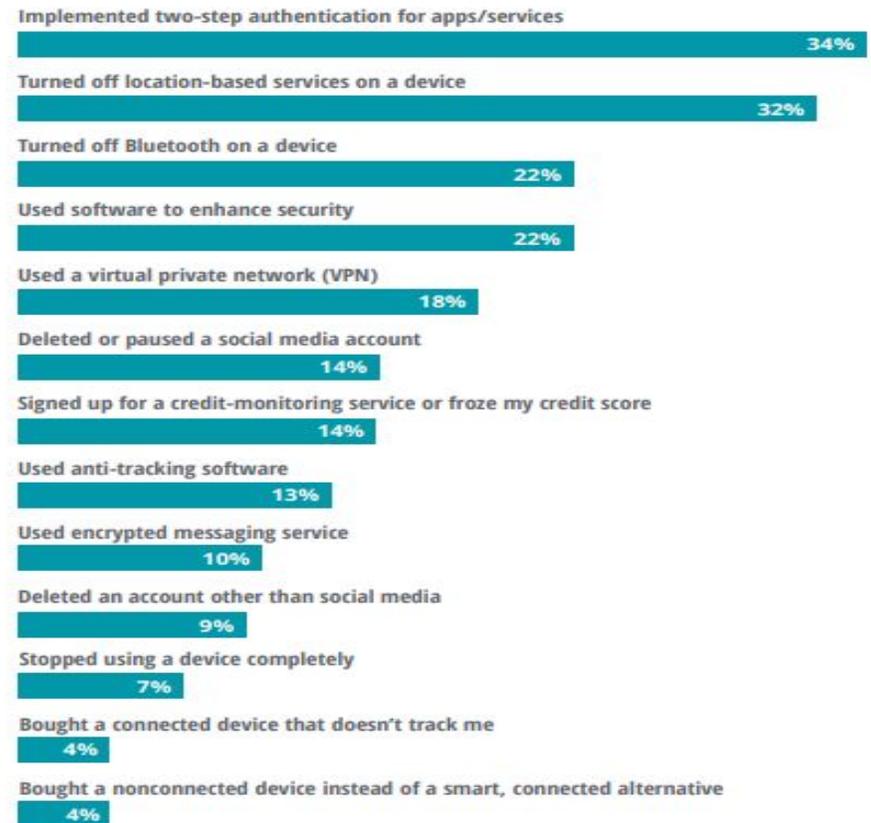


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II. EY Reimagining Industry Futures study



- 49% of respondents are prioritizing process optimization as a key application, compared with 28% who favor advanced 5G use cases featuring virtual or augmented reality.



- 85% of respondents say the impact of the global health crisis is driving their interest in 5G;
- 80% say supply chain disruption has galvanized their 5G pursuit, while 71% cite the focus on environmental, social and governance (ESG) issue.



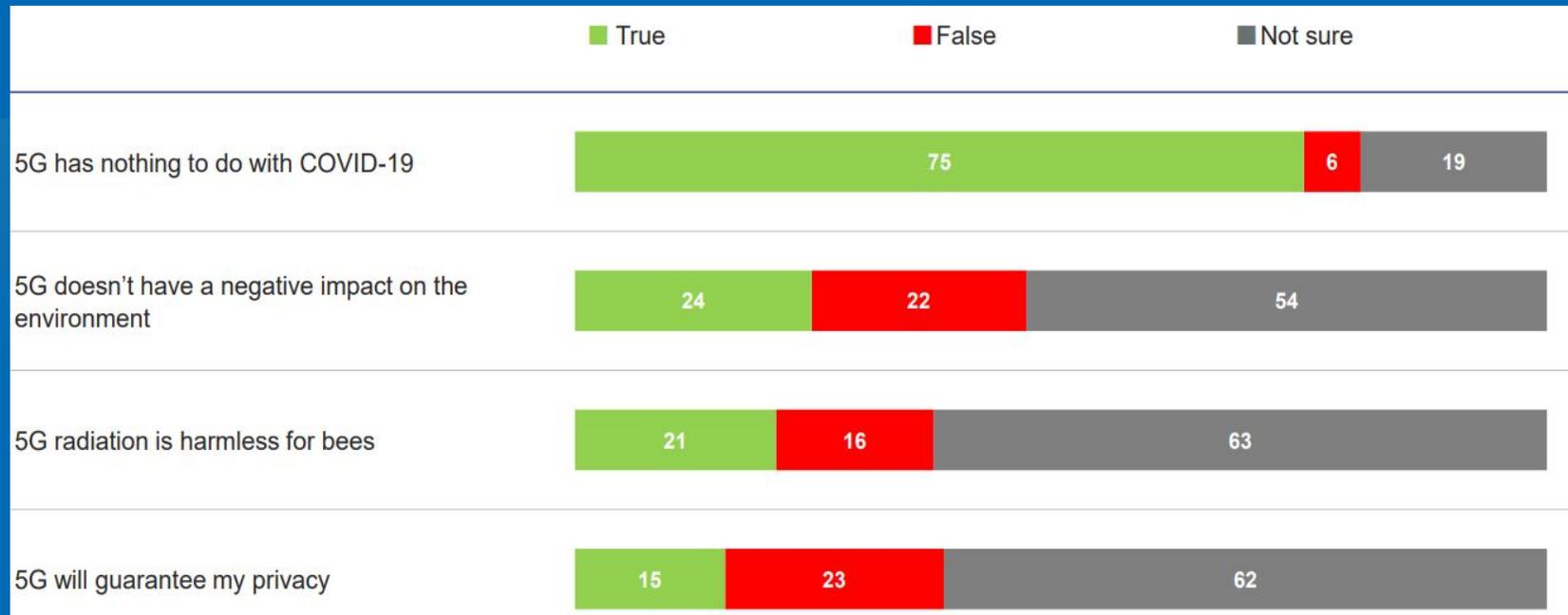
- 37% are concerned that 5G and internet of things (IoT) vendors' current use cases do not meet their business resilience and continuity needs, and 47% do not think their sustainability goals are met by today's use cases.

III. European study on 5G Awareness & Needs by Ipsos



Founded in France in 1975, Ipsos is the third largest market research company in the world, present in 90 markets and employing more than 180,000 people. This survey was done online in 2020 with 7350 respondents spread across 23 European countries.

5G “MYTHS”:

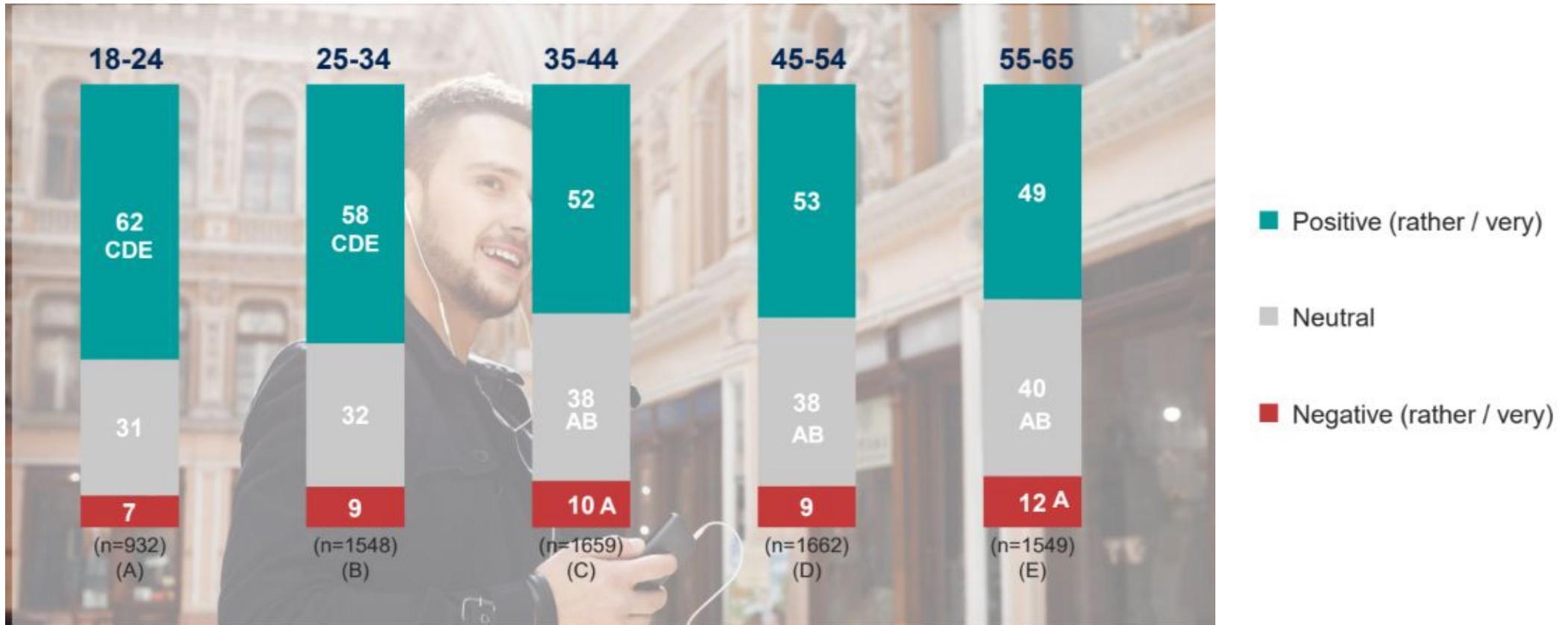


50-60% of the Europeans are unsure about some of the 5G myths, and about 1 out of 5, seems to believe the myths.

III. European study on 5G Awareness & Needs by Ipsos



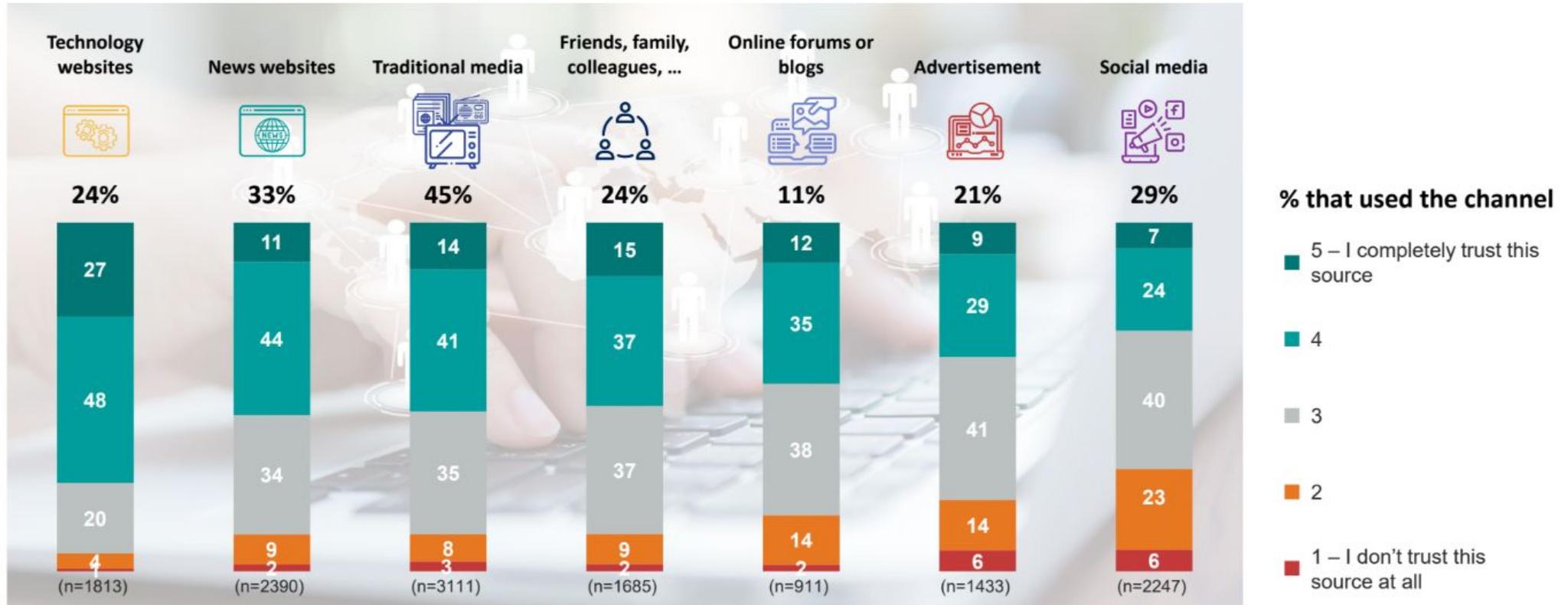
ATTITUDE BY AGE: Younger Europeans have a more positive attitude towards 5G. On the other hand, older Europeans are more often neutral towards 5G.



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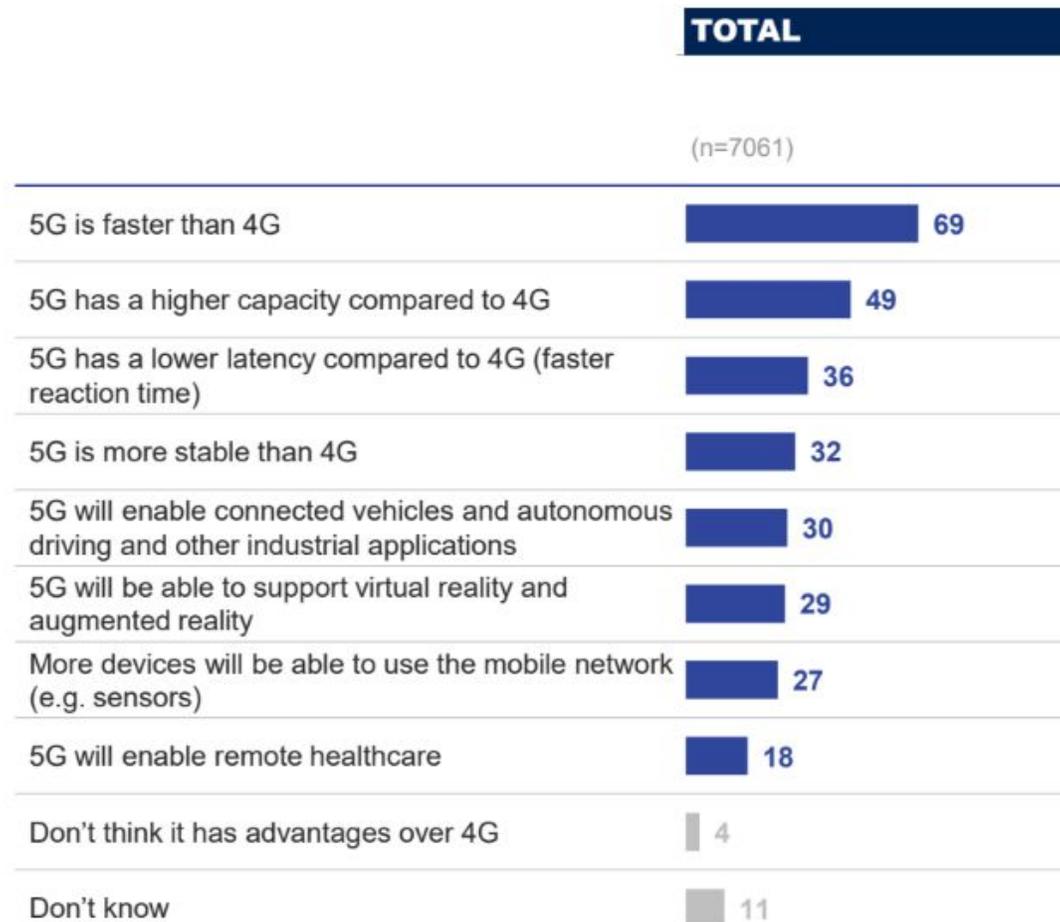
COMMUNICATION: Social media and advertisements are the least trusted information channels about 5G. The number of information sources, and the degree of being informed, has a high impact on the attitude of 5G.



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PERCEIVED ADVANTAGES OF 5G: Higher speed and capacity are the most known advantages. The new technologies that 5G can enable are better known by Europeans who have a good understanding of 5G.



IV. Survey by the Finnish Transport & Communication Agency Traficom



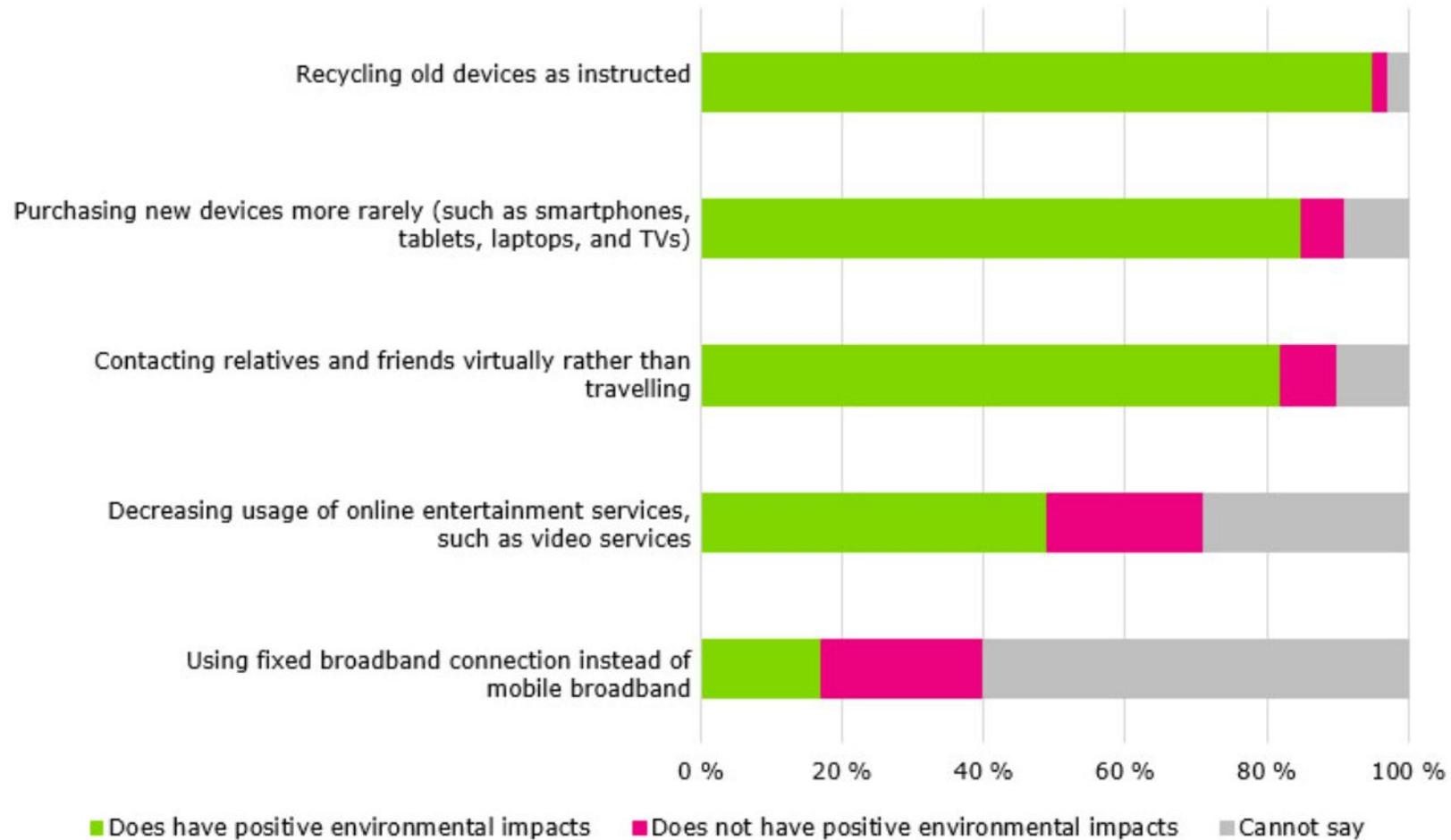
- In 2020, Traficom commissioned a consumer survey by interviewing 2,000 people on consumer behaviour in terms of ICT sector services and devices, and consumers' interest in environmental issues to support the ICT sector, climate and the environment strategy being prepared by the Ministry of Transport and Communications.
- Finns need more information on the environmental impact of IT devices and services.
- The environmental impact of terminal devices from manufacture to recycling is understood – the impact of internet usage (energy consumption of internet services) is more difficult to grasp. Up to 68 per cent of Finns could change the way they use internet services if they had access to more information.

Consumers are interested in using internet in environmentally friendly way!

IV. Survey by the Finnish Transport & Communication Agency Traficom



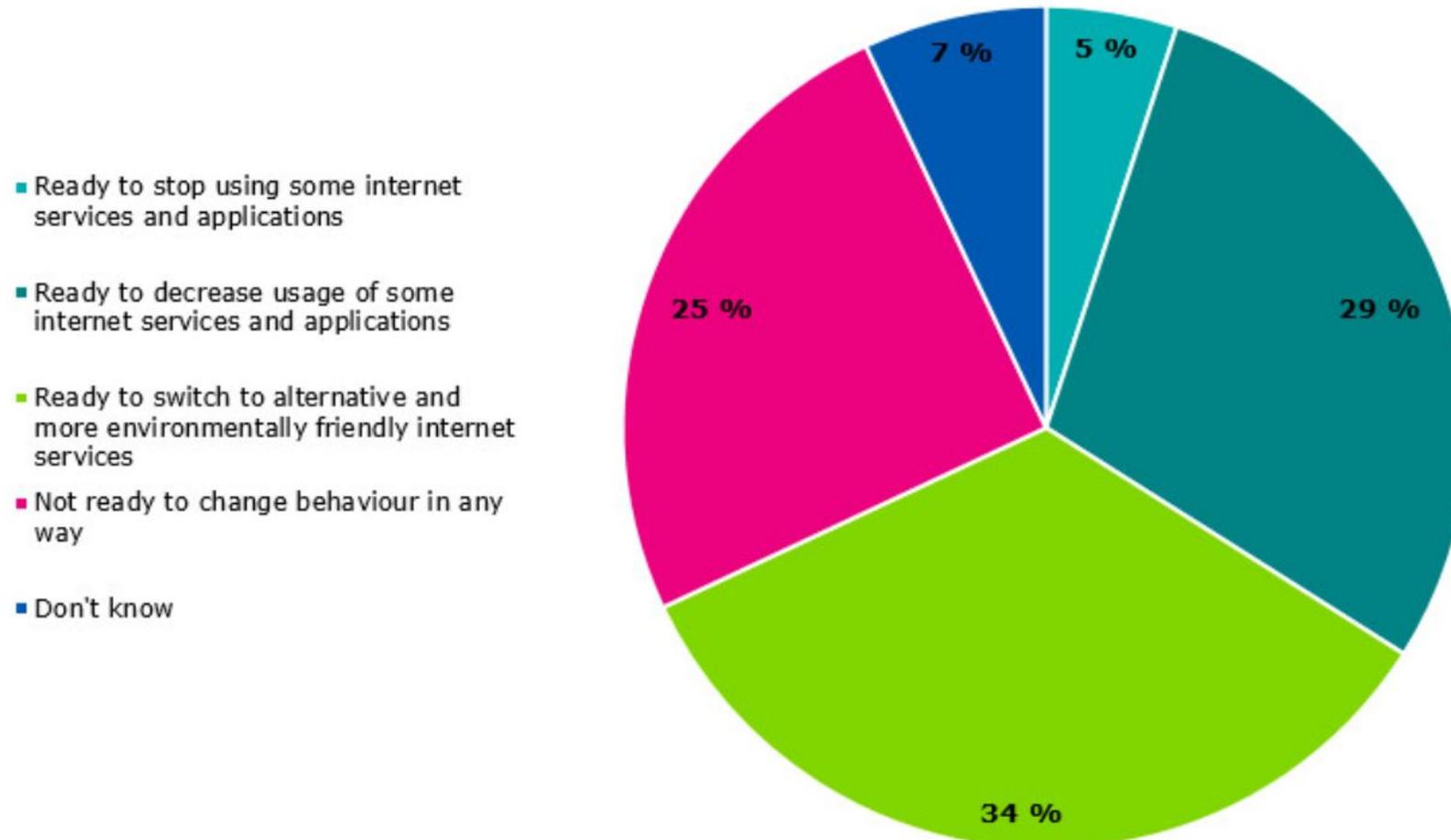
Finns' views on whether the choices made by consumers presented in the survey have positive environmental impacts.



IV. Survey by the Finnish Transport & Communication Agency Traficom



Finns' preparedness to change their internet service and application usage, if more reliable and clear information on the environmental impact of the use of these services were available.





Analysis of survey results

Survey Analysis



Social acceptability of technological advancements vary depending on various factors, like **cultural norms, individual beliefs, ethical considerations, and the perceived impact on society.**



Users are concerned about the **cost of advanced technology services.** Service coverage is not the same in all areas.



Public environmental awareness campaign can be launched to inform consumers that technology is environmentally friendly, does not have a considerable harmful impact on human health and will not affect the ecological system.

Environmental awareness, curiosity, facilitating conditions, and perceived satisfaction are the most influential factors behind technology adoption and usage behaviour.



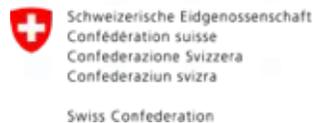
In EU, **privacy** is one of the major concerns of people towards accepting the technological advancements.



THANK YOU



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