



TV interfaces & vulnerable users

A summary report for Ofcom

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About this report

This document outlines the findings of a research project that was conducted by Projects by IF for Ofcom between February and May 2023.

It is accompanied by an annex with a more detailed set of research findings.

About IF

IF works with organisations that want to make trustworthy products and services easier to design, launch and maintain, while staying ahead of the market.

IF creates Responsible Technology by Design. Its team is multidisciplinary and works across the full stack of product and service design. Our multidisciplinary team includes, research and insight, policy, technology, product and design capabilities. We are as comfortable creating great user experiences as we are tech strategy.

Our work focuses on what could be, not just on what is. By doing this we ensure we're creating future proof visions and addressing the challenges of tomorrow not just today.

Project overview

Objectives

Ofcom commissioned Projects by IF to:

- Define what vulnerable means and how it manifests when thinking about how vulnerable customers receive and use TV (television) services.
- Understand:
 - which elements of traditional broadcast services are valued and might need protecting for vulnerable users;
 - and which elements of internet delivered services might meet their needs more fully.

Methodology

The research consisted of:

- 12 in-depth observational interviews conducted in participants' homes.
- 6 interviews with experts from the TV industry and in issues around accessibility, vulnerability.

This research was synthesised and analysed by experts from IF, in discussion with Ofcom, to develop:

- three core areas of vulnerability, each with three sub-areas;
- three key user personas;
- challenges with current TV interfaces;
- and five future trends that will affect vulnerable customers.

The research annex contains details of:

- the samples for participant research;
- the design of the observational interviews;
- limitations;
- and the full set of findings.

Summary of findings

Vulnerability framework

One of the primary objectives of the research was to understand how vulnerability might manifest in the specific context of TV use.

A framework was developed that identified three core areas of vulnerability, each with three sub-areas:

- **Demographic:** age, poverty and loneliness
- **Impairments:** sight/hearing, cognitive and dexterity issues
- **Literacy:** reading, digital and cultural

This research did not focus on TV 'Access Services' (sub-titling, audio description and signing), as these are already subject to research by Ofcom and others.

The research was not designed to quantify these areas, or understand how they are changing over time. We have included some existing statistics to provide an indication of the extent of vulnerability in the UK population.

Demographics

Within demographics the research identified three subareas: age, poverty and loneliness.

Age

In 2022 the UK population included 11.9 million people at or above pension age.¹

A person's age is a strong predictor of multiple other types of vulnerability. Older people were more likely to be lonely, to have age-related impairments and to have digital literacy issues.

¹ ONS 2022 National population projections: 2020-based interim
<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/nationalpopulationprojections/2020basedinterim>

When combined these issues often meant they were fearful of new technology and resistant to change.

Poverty

In 2022 the UK population included 11 million adults that were in low-income households before housing costs.²

In this subarea are people who are not working or struggle to afford television and other basic services.

People in poverty are more likely to have difficulty accessing digitally delivered TV because of the costs involved in buying compatible hardware, paying for broadband and subscription costs to paid-for streaming services.

Observed behaviours in the interviews included people who:

- Could not afford to pay for the internet, or chose a slower package because it is cheaper.
- Used jailbroken technology, i.e. a piece of technology with additional software that is not authorised by the manufacturer installed, to watch pirated material because it is cheaper.
- Were unable to pay for subscription services and therefore shared passwords with friends and family.

Loneliness

In 2023 4.2 million UK residents said that they often/always feel lonely.³ This feeling is not limited to people in social isolation, e.g. people who live in single occupancy households.

People in this subarea want more social contact and use television as a way of generating it.

Almost half the research participants in this study used the TV to reduce their loneliness and increase contact. They liked the 'feeling of company'.

Observed behaviours in the interviews included:

- TVs were often turned on and left on from morning until bedtime even if they were not being actively watched.

² DWP 2023 Households Below Average Income: an analysis of the UK income distribution: FYE 1995 to FYE 2022

<https://www.gov.uk/government/statistics/households-below-average-income-for-financial-years-ending-1995-to-2022/households-below-average-income-an-analysis-of-the-uk-income-distribution-fye-1995-to-fye-2022>

³ ONS 2023 Public opinions and social trends, Great Britain: personal well-being and loneliness

<https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/datasets/publicopinionsandsocialtrendsgreatbritainpersonalwellbeingandloneliness>

Impairments

Within impairments the research identified three subareas: sight/hearing, cognitive and dexterity.

Sight / hearing

People who have sensory impairments that affect how they can access television.

While this research did not focus on this user group observed behaviours in the interviews included people who:

- Couldn't read on-screen text.
- Were unaware they could use subtitles.

Cognitive

In 2023 2.1 million people had cognitive disabilities.⁴

Cognitive impairments can affect how people can access, use and understand TV interfaces.

As people get older they are more likely to experience cognitive issues, but age is not the only cause and cognitive impairments do not only exist in people who are old.

Observed behaviours in the interviews included people who:

- Found the cognitive load of 'busy' interfaces (typically paid for streaming services) taxing to navigate.
- Had difficulties tracking what they were watching on which platform.
- Struggled to use multiple remotes.

Dexterity

4 million people had dexterity disabilities in 2023.⁵

Physical impairments can affect whether people can use television devices.

Users with arthritis, tremors and amputated fingers found it difficult to use remote controls easily.

Observed behaviours in the interviews included people who:

⁴ DWP 2023 Family Resources Survey: financial year 2021 to 2022 <https://www.gov.uk/government/statistics/family-resources-survey-financial-year-2021-to-2022>

⁵ DWP 2023 Family Resources Survey: financial year 2021 to 2022 <https://www.gov.uk/government/statistics/family-resources-survey-financial-year-2021-to-2022>

- Lacked the fine motor skills to accurately press the button they wanted or accidentally pressed the wrong button.
- Had to focus on the remote when using it, often missing on-screen prompts.
- Struggled to grip smaller, narrower remotes.

Literacy

Within literacy the research identified three subareas: reading, digital and cultural.

Reading

8.1 million UK adults had very low literacy in 2016.⁶

Low literacy skills affect how people read text content in TV interfaces. People with lower literacy levels and/or English as a second language had difficulties navigating text-based EPGs (Electronic Programme Guides) and using search functions.

Observed behaviours in the interviews included people who:

- Struggled with older EPGs as they are often entirely text based, making it difficult to understand key information.
- Tended to prefer the more visual cues in non-text-based design patterns, for example recommendation rails, video previews and half page ads.
- Often misspelt words when typing into search reducing the likelihood of finding what they wanted.

Digital

In 2022, 14 million people had low or very low digital capabilities.⁷

Low digital skills affected how people could access, pay for and use television interfaces and content. A fear of making irreversible mistakes by 'clicking the wrong button' often exacerbated low levels of digital literacy.

Observed behaviours in the interviews included people who:

- Were unable to use a directional pad to navigate on-screen interface.
- Were unused to browsing large content libraries and found them overwhelming

⁶ National Literacy Trust 2022 Seldom-heard voices: Adult literacy in the UK <https://literacytrust.org.uk/research-services/research-reports/seldom-heard-voices-adult-literacy-in-the-uk/>

⁷ Lloyds 2023 UK Consumer Digital Index <https://www.lloydsbank.com/banking-with-us/whats-happening/consumer-digital-index.html>

- When things went wrong, such as accidentally changing picture resolution in a system settings menu, they did not know how to rectify a problem themselves making them reliant on others.

Cultural

There is no single statistic to indicate the extent of this vulnerability as there are a number of causal factors.

The cultural subarea includes people who are less familiar with British television culture and programming classifications.

EPGs often provide very little contextual information about individual programmes, while cultural assumptions can be encoded into navigational mechanisms, like the genres used in search functions. Some people, particularly from non-British backgrounds, can find this disenfranchising.

Three personas

These observed behaviours were grouped by IF into three key personas. Each is accompanied by a description, case study, a description of their predominant user interface navigational pattern, and their barriers to enjoying TV content. Below is a summary of these personas.

Schedule bound - Persona 01

Older users who structure their day using TV schedules. They watch DTT (Digital Terrestrial Television) exclusively, have a narrow range of sources, preferring traditional PSB (Public Sector Broadcasting) channels such as BBC, ITV, and Channel 4. They tend to focus on entertainment and news.

Needs

- Companionship. They are often housebound and do not see many people from day to day.
- A TV schedule to provide a way of structuring their day.
- Familiar programmes that are not too demanding.

Barriers

- Does not have internet.
- Is fearful of technology, and resistant to change.
- Find it hard to read text and use the remote.

- Do not use, nor know, about access services that may help.
- Struggles with costs.

DTT as library - Persona 02

Older people who use DTT as a library of content to watch at their convenience. They watch a broad range of channels and tend to focus on films and dramas.

Needs

- Like the previous persona, uses the TV for companionship.
- To find films, documentaries and drama series that are interesting and engaging.

Barriers

- Cannot afford new hardware or subscription services.
- Has issues navigating multiple pieces of hardware with multiple interfaces using multiple remotes.
- Finds streaming interfaces overwhelming.
- Not used to setting up profiles and signing into services and find this very off-putting.

Streaming explorer- Persona 03

Users who watch PSB (Public Sector Broadcasting) apps to 'catch-up' on TV they have missed and have treated themselves to a 'paid for' streaming service.

Needs

- Ability to watch TV when they want.
- Less fragmented hardware setup.
- Easier way to navigate between services.
- Stable internet connection.

Barriers

- Fragmentation of services makes it harder to keep track of what they are watching.
- A combination of hardware and interfaces decreases the usability of the overall system as users face a potentially confusing proliferation of options and choices, some of which may lead to different copies of the same content
- Old hardware means they cannot access some new services which are only compatible with newer hardware
- Cost may mean they watch pirated material or share passwords.

Challenges and opportunities

The research found a number of challenges and opportunities for vulnerable viewers in using and navigating TV interfaces.

Viewers particularly valued a channel-led EPG, including live channels and their catch-up content, and a single and simple remote for navigation. Some viewers with sensory impairments or lower literacy found that these EPGs can be hard to read and difficult to use.

Connected TVs were considered to have busier navigational interfaces, having to navigate multiple streaming services and EPGs and other forms (e.g. recommendation rails) to find content, and fewer common design patterns - i.e. each service and EPG may behave differently.

Connected devices bring further challenges with more on-screen interfaces that are accessed through different input buttons and remote controls. There is also a frequent need to create and select a user profile – potentially on a separate device – before a service can be used or content can be watched.

Connected TV interfaces were seen as potentially more versatile, and could be adapted to help meet these challenges. For example, EPG text can be customised for font size and can include richer programme information to help navigation, such as images and genre / favourite programme tags.

However, vulnerable viewers still wanted to be able to choose how they access and navigate services, and not lose the ways they were used to.

Trends

The current TV interface market is highly fragmented and increasingly componentised. Users have to interact with multiple components - remote controls, TVs, connected devices, and multiple applications - to reach the content they want to watch, and there is no single user interface or hardware that is used by the majority of users. It is not clear how this market will evolve and whether existing or new third party entrants will (re)consolidate the market. This makes it difficult to predict trends.

Based on IF's experience and learnings during this research five key trends can be expected to affect vulnerable customers and TV interfaces over a 5-10 year period. The effects may be beneficial and/or create new barriers.

These are trends that are likely to be driven by society and multiple industry sectors, rather than solely by the television sector and/or telecoms regulation. Activity by the sector and regulator will affect these trends.

Digital literacy

There will always be people who have low digital literacy.

The absolute numbers will decrease, but millions of people will still be unable to afford the costs or reluctant to use modern technology - perhaps because they are fearful of online threats, privacy issues, or simply do not see the benefit of using modern technology.

Some currently digitally literate people will experience reduced literacy over time, for example when technology advances beyond its current capabilities or due to cognitive decline.

Converged content

The lines between commissioned TV content, user-generated content, and AI-generated content will be increasingly blurred within interfaces.

Users with some impairment and literacy characteristics will face new navigational challenges as a result.

Multi-functional TVs

Televisions will become another internet-connected device with a large screen that is used for a multitude of functions and controllable by other devices, e.g. smartphones.

This will create new challenges and opportunities for vulnerable customers with impairments and literacy characteristics.

Simplification

Standard interface elements and patterns will be adopted for widely used features such as subtitles, fast forward, and search. If the TV sector does not develop its own standards then it may adopt those used by the most widely used or available services on smartphones and tablets.

User interfaces will become more personalised and responsive to individual user/household needs. This could help interfaces meet more needs.

New ways of navigating content and services

Voice interfaces will benefit from the increase in AI capabilities to both become more useable by customers and more capable of controlling other pieces of software, e.g. streaming services. This may reduce digital literacy barriers.

New ways of navigating content and services will emerge. For example messaging services, allow people to communicate through basic messaging and increasingly empower people to cooperate to complete more complex tasks. This way of navigating services and content may be imported into TV interfaces

These changes will create the possibilities for new types of interfaces and TV services. For example a friend may be able to help someone in a different location to find or pay for a piece of content.

Credits

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