A2. Measuring media plurality

A2.1   This annex aims to:

    a)   Explain the importance of measuring plurality for Ofcom's media plurality duties;

    b)   Explain how we currently measure plurality;

    c)   Highlight emerging challenges, with a particular focus on the role of online intermediaries; and

    d)   Consider steps that could be taken to improve our measurement approach and explain what we plan to update.

Why measuring media plurality is important

A2.2   We measure media plurality to discharge Ofcom's duties in relation to media plurality, including our specific duty to review the operation of the media ownership rules set by UK Parliament.[1] These duties are set out in Annex 1.

A2.3   The measurement of media plurality is particularly important in the context of our role in the media public interest test ("PIT").[2] The PIT enables the Secretary of State to intervene in media mergers involving a broadcaster and/or a print newspaper that meet the jurisdictional thresholds.[3] The Secretary of State may decide to issue an intervention notice identifying a relevant public interest consideration (including media plurality),[4] which triggers a review of whether the merger might result in harm to the public interest, in which Ofcom has an advisory role.

A2.4   Historically, we have relied on specific industry metrics and quantitative surveys, including our annual News Consumption Survey (NCS), in order to understand what news people are consuming and the significance and influence of different news sources.

A2.5   Since 2015, Ofcom has advised in relation to three PITs and conducted one additional evaluation following an application by News Corp UK and Ireland Limited to be released from undertakings from a merger dating back to 1981.[5]

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[1] Sections 3(2)(c), 3(2)(d) and 391 of the Communications Act 2003.
[2] Part 3 of the Enterprise Act 2002.
[3] A merger will meet these conditions if it creates a "relevant merger situation" or "special merger situation" in accordance with sections 23 and 59(3) of the Enterprise Act 2002.
[4] The media public interest considerations are set out in section 58 of the Enterprise Act 2002 and include, among others, the need for a "sufficient plurality" of views in print newspapers, and of persons with control of broadcasting and print newspaper enterprises.
[5] These were carried out in 2017, 2018, 2020 and 2021.

> **PIT Case Study: Acquisition by Daily Mail and General Trust (DMGT) of JPIMedia Publications Limited**
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> In 2020, we provided advice to the Secretary of State as to whether the acquisition of *JPIMedia Publications Limited* (including the *i* newspaper and website) by DMGT would be expected to operate against the public interest, in particular the need for, to the extent that it is reasonable and practicable, a sufficient plurality of views in newspapers in each market for newspapers in the United Kingdom or a part of the United Kingdom.
>
> In carrying out our PIT, we used our plurality measurement framework. We established the market context for the acquisition – that newspapers faced a challenging landscape involving declining print circulation and revenues which were not being offset by the growth of digital revenues. We concluded that:
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> - The transaction should be considered in the context of the challenges faced by newspapers in a changing news market.
> - We did not expect the transaction to reduce the plurality of views provided across newspaper groups in the UK, and we did not have material concerns about external plurality. Based on data from Ofcom's 2019 News Consumption Survey (NCS), we established that DMGT following the transaction would have a share of reference of 3.63%, compared to 3.57% before the transaction. Ofcom concluded that this increase did not substantially change the distribution of share of reference in the market, and the small increase in DGMT's share of reference did not indicate a meaningful reduction in plurality.
> - We considered that the *i* newspaper was likely to remain a distinct voice within the DMGT group, and we did not have material concerns about internal plurality.
> - We did not consider that a reference to the CMA was warranted on plurality grounds.

How do we currently measure media plurality?

A2.6   Our plurality measurement framework has remained unchanged since 2015. It consists of quantitative metrics as well as qualitative contextual factors. All forms of media including print, radio, TV and online are included, but we limit the type of content to be considered in the framework to news and current affairs.

A2.7   No single metric is used in isolation for any assessments of media plurality. We rely on a combination of measures in order to make the best assessment possible. Our framework looks at four different areas outlined below:

Figure 1: Summary of media plurality measurement framework

Category	Description
Availability of news	The number of news sources available to consumers.
Consumption of news	The number of people using news sources and the frequency with which they use it. We use this data to measure:

Category	Description
	• the reach of a news source (by platform and in total across all platforms), • a metric known as 'share of reference' (this is discussed in more detail below), and • the extent to which consumers are sourcing their news from one or a range of news sources (i.e. multi-sourcing).
Impact of news	These metrics help inform how news content can influence the formation of people's opinions. There is no perfect measure to assess impact, so we use a series of proxies to help us understand a news source's potential to influence, and the importance of a particular news source among its users.
Further contextual factors	We look at qualitative factors to add context, capture relevant information about different news organisations and help us interpret the quantitative metrics outlined above. This could include an organisation's internal policies and governance, regulatory requirements, market trends and future developments.

The general challenges of measuring media plurality

We primarily use survey data to measure news consumption – however this comes with important limitations

A2.8   News consumption on individual platforms can be measured using industry standard metrics such as BARB (TV), RAJAR (radio) and Ipsos Iris (online). However, these individual platform sources cannot be reconciled to provide cross-platform metrics for news diets. Therefore, we use the Ofcom's News Consumption Survey (NCS) to measure cross-platform news consumption. While we consider that the benefits of collecting data via surveys are significant, this type of measurement approach has a number of limitations:[6]

a)   **Recall issues**: This survey method is reliant on what is known as 'claimed recall', where we rely on individuals trying to remember what they have seen or used recently when it comes to their own news consumption. As with any consumer research, there are limitations to this approach, as individuals do not have perfect memory of their activities when recording them in surveys, and this also applies to news consumption.

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[6] Ofcom (2015), *Measurement framework for media plurality*, para 3.12.

b) **Lack of data on time spent**: Collecting data on time spent would have the benefit of providing an indication of the time users spend with each source. This is what industry metrics such as BARB collect. When filling out a survey, respondents often do not have an accurate sense of the amount of time they spend using each individual source. Therefore, we must rely on frequency of use (how many times they have accessed a news source within a given time period) as a substitute for this information.

c) **Other general limitations of survey methodology**: In addition to the main challenges of surveys presented in a) and b), we note that there are general limitations in using survey data, such as the fact that surveys can produce different data depending on how they are constructed.

New measurement challenges with the growth of online intermediaries

A2.9   In our November 2021 statement, we highlighted new challenges with respect to measuring consumption of news through online intermediaries. We said we would look at alternative approaches to understanding and measuring online news consumption, to see if there were better ways to understand people's behaviours, habits and engagement with news content.[7]

A2.10   We explain two key measurement challenges and possible steps to address these below. The challenges are:

a) People struggle to recall the news they consume online, and there are limitations to what we can track using non-survey methods; and

b) It is difficult to distinguish the news content people view online from the access method used to reach that content.

a) People struggle to recall the news they consume online, and there are limitations to what we can track using non-survey methods

A2.11   With the rise of OIs, it has become ever more difficult to measure accurately the news that people consume online, and to understand the significance and influence of different news sources. For instance, our latest research indicates that survey recall issues appear to be exacerbated in relation to online news consumption.

A2.12   Past qualitative research suggests that when people consume news on social media or news aggregators, they are less aware of the original source of the story they read or watch, especially as, when people access news incidentally through online sources, their

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[7] Ofcom (2021), *Statement: The future of media plurality in the UK*, para 3.48.

engagement is often more passive.[8] This makes it difficult for research respondents to accurately recall and report the news sources they engage with online in surveys.

> "Oh I read about that news story on Facebook… I don't know where it came from."[9]

A2.13   The impact of online news consumption is unclear. Online visits may be shorter than offline visits, and the presentation of online news, as part of a scrolling feed for example, may cause people to feel overloaded and/or absorb less information.[10]

> *"Sometimes it* can *get too much, it's a sensory overload and you can feel overwhelmed by it all."*[11]
>
> *"I used to be obsessed with the news. It was making me negative, I was getting depressed."*[12]

A2.14   However, other theoretical research highlights that even the less active forms of news consumption such as scanning headlines at least provide an awareness of key events and issues.[13]

What could we do to improve this?

A2.15   Obtaining more accurate data about people's online news consumption by tracking their actions would help improve our understanding by supplementing the survey data that suffers from recall issues. We currently have access to some anonymised 'passive tracking data', which is where an individual's online activity is recorded automatically by a computer tracker. The data, collected via Ipsos IRIS, comes from a panel of around 10,000 people who have consented to having their online data tracked on their personal devices.

A2.16   By tracking *actual* online activity, we can see how frequently people visit news sites, how long they spend there and, in some cases, the content they consume. We can also infer how they navigated to the site (via an OI or directly).[14] This data allows us to compare the frequency with which people arrive at news through different methods, for example whether they seek it directly via the news publisher's website or access news via a search engine, news aggregator or social media platform. This type of tracking can provide a

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[8] BBC News and Current Affairs review: Observing real news behaviours (2019), page 3. For more on news brand attribution online, please see: Kalogeropoulos, Fletcher and Nielsen (2019), News brand attribution in distributed environments: Do people know where they get their news?.

[9] Scrolling News: The changing face of online news consumption (ofcom.org.uk) p38.

[10] Erkel and Aelst (2020), Why Don't We Learn from Social Media? Studying Effects of and Mechanisms behind Social Media News Use on General Surveillance Political Knowledge.

[11] Scrolling News: The changing face of online news consumption (ofcom.org.uk) p34.

[12] Media Plurality Qualitative Research 2022

[13] News processing can take the form of automatic news processing (e.g. scrolling through newsfeed), incidental news processing (e.g. skimming of news snippets), and active news processing (e.g. engaging with full article). Each entails different forms of learning and different learning potentials (Wieland and Kleinen-von Königslöw (2020), Conceptualizing different forms of news processing following incidental news contact: A triple-path model).

[14] We infer the access method to a news site based on the sites visited, and apps used, before the news site visit on the same device.

useful insight into some aspects of people's news consumption online, with more accuracy than survey data.

A2.17   Our recent passive tracking analysis has reiterated that people underestimate their news consumption online. Passive tracking shows that more people visit online news websites than claim to visit them in surveys.[15]

A2.18   However, there are limitations to passive tracking data. Primarily, the data can be ambiguous in terms of whether someone has been *referred to* a news site from an OI, or if they simply made an independent choice to move their attention from one to the other. Users having multiple tabs, or multiple apps open at the same time can make establishing whether there was a referral difficult.[16]

A2.19   In addition, publicly available passive tracking datasets provide relatively limited insight into the content users see. As indicated above, they can track when participants access an OI, and for how long they stay there. However, for multi-use OIs like Facebook, people may be viewing a range of content such as news, entertainment or personal updates from friends. The data cannot always tell us how much time is spent on news, or what news content users are viewing. For news specific OIs like Apple News, we can be more confident that total time spent on the platform is on news as news is the majority of the content they show. For all OIs we cannot, currently, see what articles are being read, or who wrote them.

Figure 2: Functionality of passive tracking software

Online service	Can we see how long the person spends on the site?	Can we see how long the person spends consuming news?	Can we see what specific news content is consumed?
News website	✓	✓	✓
News aggregator	✓	✓	✗
Search engine	✓	✗	✗
Social media	✓	✗	✗

A2.20   Screen tracking tools do not suffer the same restrictions as passive tracking or survey data and can be used to record everything that a user scrolls over.[17,18] As long as the screen of

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[15] Please see Annex 7 for more detail on this passive tracking data analysis.

[16] This is explored in more detail in Annex 5.

[17] Levy (2021) used a browser extension that collected data on exposure to news in the Facebook feed as well as visits to news sites, demonstrating that data collection at this level of granularity is feasible. However, this only covered desktop use and had some other limitations [Levy, Online Appendix, A.3.2].

[18] We would consider using a minimum threshold for time spent with news content on screen to capture engagement with news content, as well as separately capturing exposure (which would include all news content that appears on screen, even if immediately scrolled past).

every device a respondent uses is recorded, then every site and everything they see is recorded. However, this type of research is expensive and time-consuming to undertake, as it can involve reviewing and categorizing every action someone makes. This is not something we could commission at scale on a routine basis.

A2.21   Other tools that benefit from a more automated approach include machine learning techniques, for example, which categorise news stories when measuring the diversity of news seen by a user;[19] or use automated content analysis to detect the sentiment or topic of news.[20] These techniques are in a relatively early stage of development and we are open to exploring similar techniques in future research, although their effectiveness would rely on the data that is available.

b) It is difficult to distinguish the news content people view online from the access method used to reach that content

A2.22   News organisations have traditionally often been both the originators of individual news items, and also provided the final consumer product that people use to access the news content (i.e. a newspaper, TV broadcast or website). As discussed in section 2 of the main document, OIs do not produce news content, but are an increasingly important way for people to access news content.

A2.23   Currently, Ofcom's NCS asks people to list the sources that they use for news nowadays. It does not distinguish between the content creator and the service used to access that content. For example, respondents are asked which social media platforms they use to access news, and which other internet sources[21] they use for news. The way the data is used, in share of reference for example (a metric which is discussed in more detail below), treats OIs and news creators as though they perform the same role in the news supply chain.

A2.24   This raises a question over how attention should be attributed. For example, if an individual visits Apple News and reads a BBC article, should that be counted as one visit to Apple News or one visit to the BBC? Currently this allocation is determined subjectively by the respondent in their survey response. This may result in BBC News content accessed via Apple News being logged as either BBC, Apple News, or both and double counted.

A2.25   This has some important potential consequences for our understanding of online news consumption and impact:

- We may underestimate the amount of news consumed from individual publishers, for example, if people attribute a BBC article read on Apple News to Apple News.
- We may understate the influence OIs have over how people access news, for example, if people attribute a BBC article read on Apple News to the BBC.

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[19] Bakshy (2015), Exposure to ideologically diverse news and opinion on Facebook used a machine learning method to classify news stories as content such as national news, politics or world affairs, or content such as sports, entertainment or travel.

[20] D'Amico (2022), Online Political Debates used content analysis to categorise user comments on Reddit.

[21] News websites/news aggregators/search engines.

- We may overestimate total online consumption, for example, if people attribute a BBC article read on Apple News to both BBC and Apple News.

What could we do to improve this?

A2.26   Ideally, we would like to collect more accurate data on:

a) how much of each news publisher's online content is consumed (accessed both on the publisher's website and on or via OIs), and

b) how much each OI is used as an access point/gateway to news.

A2.27   In light of this, we have considered and assessed two options for more accurately collecting data and estimating the relative size and influence of publishers and OIs through the NCS. Our assessment of each of these options is set out below.

1) Replace NCS online consumption questions with new ones[22]

A2.28   As explained above, our current NCS online consumption data provides us with consumption shares of news publishers and OIs set relative to each other, as though they carry out the same function.

A2.29   We could change these questions to reflect the distinct roles that news publishers and OIs play in the delivery of online news. Potential new questions and outputs are set out in the table below.

Figure 3: Potential new NCS question descriptions

Output	Type of question[23]	How would BBC news content accessed via Apple News be treated?
Consumption shares for news publishers online	Ask respondents: a) which news creator's content they read/watch/listen to online, with the focus on the organisation that wrote the news content rather than where they saw it i.e. if they consumed BBC News content directly, or accessed it via an OI such as Apple News, we would want respondents to specify it as 'BBC' consumption in this question. and b) how often they tend to read/watch/listen to that news creator e.g. BBC News content	Consumption of BBC News
Access shares for OIs vs direct access	Ask respondents:	Access via Apple News

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[22] The current questions are D7a, D7b, D8a and D8b found here.
[23] This is a description of the questions we would ask rather than precise wording of any questions.

Output	Type of question[23]	How would BBC news content accessed via Apple News be treated?
	a) which platforms from the following categories they use to access news: (i) social media platforms (e.g. Facebook), (ii) search engines (e.g. Google Search), and (iii) news aggregators (e.g. Apple News) i.e. if they accessed BBC News or any other news creator content via an OI like Apple News, we would want respondents to specify it as access via 'Apple News' in this question. and b) how often they tend to use each platform e.g. Apple News (where they end up reading/watching/listening to any news content) (c) We would also ask a separate question to measure the extent to which respondents seek news directly via news publisher websites.	

A2.30   We consider that these questions may produce more accurate data for publisher consumption shares, given that we ask the respondent to attribute news publisher content to that publisher, regardless of how it was accessed; as well as more accurate data on the amount of news that is accessed via each OI. This would also allow us to see shares of access for each OI, relative to direct access.

A2.31   It is important to highlight that this option involves a significant change to how we currently estimate consumption shares given that OIs would no longer be included in the consumption data.

A2.32   In addition, these questions may prove to be more challenging for respondents, compared to the existing ones. The new questions require respondents to specify their news consumption in more detail which may compound the pre-existing recall issues associated with surveys.[24] Research by the Reuters Institute has found that less than half of online users remember the name of the news brand for a particular story when coming from search or social media and that people are more likely to remember the brand of a particular story when it is produced by their main source of news.[25]

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[24] Respondents would not be required to remember which news publisher content they saw on specific OIs. Instead, we would ask for the frequency with which they tend to see content from a particular news publisher, no matter whereabouts they see it online.

[25] Kalogeropoulos and Newman, Reuters (2017), "I saw the News on Facebook" – Brand Attribution from Distributed Environments.

A2.33   We consider it to be beneficial that respondents would need to think more carefully about their online media habits but if the questions proved to be too challenging, this could possibly lead to inaccurate data. Therefore, further consideration and cognitive testing of these questions, along with a pilot phase, would be required before proceeding with changes to the NCS.

2) Retain existing NCS online consumption questions and include an additional question on how people access news online

A2.34   Another option is to retain the existing NCS online consumption questions that do not distinguish between the content creator and the service used to access that content, while adding a simple question to the NCS which asks respondents additional questions about how they tend to come across news stories, such as the Reuters Institute did in 2021, with a choice between direct access, social media, search, aggregators, mobile alerts and email.[26]

A2.35   This would provide useful information about which online access methods people tend to use, but it would not give us more accurate data on how much of each news publisher's content is consumed, given that we would retain the original online consumption questions that conflate the content creator and the service used to access that content.

Use other sources of data to complement data collected via the NCS[27]:

1) Use a passive tracking element to collect more online consumption data

A2.36   One option, which could complement one of the options above, is to include passive tracking of online users' news activity as part of future NCS rounds. Passive tracking data, and its limitations, are described above.

A2.37   If we use tracking software alongside a survey for the same respondents, then it is possible to observe the difference between people's claimed and actual usage of some online news services. As explained previously, we can compare stated vs actual visits to news publisher websites and news specific OIs like Apple News. This year's comparison of survey and passive tracking data shows that people significantly underestimate their online news use. However, it is not currently possible to compare claimed and actual usage for services which are used for news but also used for other activities (e.g. Facebook) because we can't currently distinguish news visits from visits for other purposes.

A2.38   Passive tracking data can also provide insight into how intermediaries function as access points through which people reach news; for example, our recent analysis of 13,000 passively tracked users from the Ipsos Iris panel over the period from 15 September to 15 October 2021 indicates that 49% of their visits to news articles were direct visits and 28% were accessed via intermediaries.[28]

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[26] The Reuters Institute Digital News Report 2021, page 25.
[27] These other options cannot be used as a substitute for NCS data, but could instead provide some data relating to online news consumption where we otherwise have limited insight.
[28] Annex 5.

A2.39   Tracking this data over time would provide a more robust insight into the amount of news consumed by individuals on some online news services.

2) Analyse data from intermediaries

A2.40   Intermediaries are the primary holders of information about users of their services and their consumption habits. Some intermediaries already make a selection of this data available via their Application Programming Interfaces or APIs. Ofcom recently carried out an analysis of Twitter data, detailed in the Economics Discussion paper "News consumption and Media Plurality on Twitter in the UK", to explore what it could tell us about media plurality. The analysis has shown that the data can be used to measure some aspects of news consumption on Twitter. There are, however, important limitations – in particular, it is not currently possible to see what content actually viewed by users. More generally, our ability to measure news consumption online may be substantially improved if we were able to access certain categories of data from OIs that are not in the public domain. This is discussed further in section 6 of our discussion document 'Media Plurality and Online News'.

Conclusion

A2.41   We have explained the limitations of the data produced by our existing NCS online consumption questions, particularly given the rise in online news consumption. It is important that consumption of online news content is attributed to the creator of that content, while also accurately capturing the influence that OIs have as a way to access news. In addition, it is important, where using a survey methodology, that we ensure the data we obtain is accurate and reliable; and that, where possible, we make use of other tools and data available to ensure we have the most accurate picture of online consumption possible.

> **Discussion question:**
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> What are your views on the presented options to update how we collect survey data on access to, and consumption of, online news and whether this should be supplemented with tracking or other data?

Measuring influence of news sources

Adding share of attention to the toolbox

A2.42   There is no single measure for media plurality. As outlined above, our plurality measurement framework relies on a combination of quantitative and qualitative measures for understanding different aspects of plurality, including availability, consumption and impact. One of these measures is called share of reference (SOR). SOR is a news outlet's share of total consumption across all forms of media, based on how frequently individuals say they use that outlet in our NCS. It uses frequency rather than the actual time an individual spends with that source because of the difficulty for respondents in accurately recalling the latter from memory. It provides a single-source, consistent way to measure

news outlets' consumption shares across different media types. We have used it in our media PIT reports to estimate how large an influence a particular company might have over the UK news market following a media merger.

A2.43 Moving forward, we think other measures may offer a different perspective of this influence which can be used to complement the SOR measure. We have developed a new 'share of attention' (SOA) measure, based on Andrea Prat's attention share model, which measures individuals' attention to a specific news source, as a share of their total engagement with all of the news sources they use.[29] This measure allows us to estimate the potential influence of a particular news source over individuals, specific demographic groups and wider society.

A2.44 SOA is calculated with the same data used to calculate SOR, and therefore have similar limitations as a result of being based on survey recall data. However, SOR and SOA measure different things:

Share of reference is an estimate of a news source's share of total news consumption. It treats each reference[30] to a news source as being worth the same, regardless of whether it is the only source that an individual uses, or one of many they use.

Share of attention is an estimate of the relative attention given to a news source. It is first calculated at the individual level before being aggregated across all users, to produce the news source's overall share of attention. This means that it places more weight on the use of a news source by someone using few sources, compared to that of someone using many.

Figure 4: Illustrative example of SOR and SOA
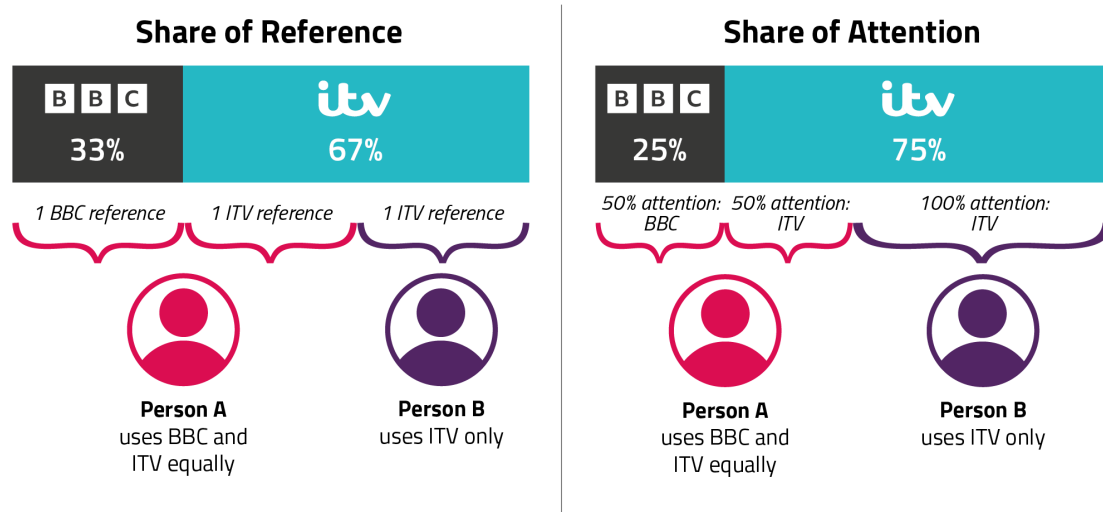
Figure 4 description: This diagram demonstrates the different calculations used for each measure. Person A uses BBC once a week and ITV once a week for news, person B only uses ITV once a week. Under SOR, each of these references (the amount of times that BBC or ITV is used) is summed in total. ITV makes up two out of three references, and therefore has a share of reference of 67%. Under SOA, attention is calculated at the individual level. Person A, using each source equally, devotes 50% of their attention to each while person B, using only ITV, devotes 100% of their attention to it. Therefore, ITV's share of attention is 75% (the average of 50% and 100%).

A2.45   We anticipate that these tools, and the others in our 'basket', would be complimentary. SOR will continue to be important to understand, for example, a source's share of total news consumption, or its share of consumption in a specific news market e.g. newspapers. SOA would add to this, by using people's relative attention given to a news source to build another measure of potential influence that it may have over society. In addition, it could help to identify the users of a source who give it the majority or all of their attention, meaning it can be used to assess who is most likely to be influenced by a specific news provider.

A2.46   In addition, we will continue to use other traditional indicators of impact, such as trust, in conjunction with these measures to ensure we have as full a picture as possible when making any decision.

A2.47   As outlined in the main document, we welcome the views of stakeholders on this new measure.

> **Discussion question:**
>
> Do you agree with our proposal to use the share of attention metric as a complementary measure of news consumption?