THE VIEWING REPORT

Our annual exploration of the UK's viewing habits

MAY 2018

BARB
BROADCASTERS' AUDIENCE RESEARCH BOARD

Objective information is critical for the UK's television and advertising industry. Each year, £7.5 billion is spent by broadcasters and advertisers on the production and distribution of programme and commercial content. BARB provides an independent, joint-industry currency that is trusted to assess the return on this investment.

Dealing with audience fragmentation has been a constant aspect of BARB's work since our formation in 1981. Fragmentation today is driven by the rise of programmes and commercials being delivered online and on-demand.

We constantly develop our measurement techniques to meet the needs of the industry with high-quality data. In recent years we have developed techniques for tracking live and on-demand audiences across TV sets, tablets, PCs and smartphones. We have also pioneered the reporting of dynamically inserted advertising.

The Viewing Report brings to life the latest insights from BARB. We hope you enjoy reading it.

MEET OUR CONTRIBUTORS

Tim Harford
Tim is an author, columnist for the Financial Times and presenter of Radio 4's More or Less. In an article originally published in the Financial Times, Tim offers a guide to statistics in a misleading age.

Ed Shedd
Ed Shedd leads Deloitte's North West Europe Technology, Media & Telecoms (TMT) industry team, as well as the UK TMT industry team. He looks into the future to ask: what kind of video measurement will the industry need in 2022?

Neil Mortensen
Neil Mortensen is Director of Audiences, ITV, where he has responsibility for ITV's research and planning teams and sits on the BARB board. Neil gets 'extra' on BARB, discussing the importance of the data for broadcasters and explaining why the future is bright for audience insight.

* Please let us know if the centrefold has already been removed and you would like another.

HELLO,

Welcome to the 2018 edition of The Viewing Report.

When I wrote my introduction for last year's edition, the speech given by Marc Pritchard, Procter & Gamble's global marketing chief, was still ringing in the ears of the industry. It was the catalyst for many things, not least a renewed scrutiny on audience measurement. We like scrutiny at BARB; it's part of our DNA.

Here in the UK, the IPA and ISBA published A Matter of Fact which reinforced the importance of having accountable media audience data. It emphasised how the principles that underpin BARB and other joint industry currencies are the best-in-class approach; independence, objectivity and transparency are enshrined in these principles.

BARB has delivered a trusted currency since 1981 and is committed to delivering relevant audience measurement in an ever-changing world. This is why we now have techniques to report audiences for online TV, on-demand programmes and dynamically-served advertising.

You'll find a bucketful of new insight from our new techniques in this annual report.

We bring to life how on-demand viewing drove audience levels for programmes such as The Tunnel: Vengeance and Top of the Lake, both before and after they were broadcast as part of a linear schedule. We showcase the most watched non-linear programmes on TV sets, and also the programmes that were most popular on tablets, PCs and smartphones. We look at when people watch online TV on these devices and find out who is watching, taking The Great British Bake Off final as an example. And we keep an eye on the growth of SVOD services such as Netflix, Amazon Prime Video and Now TV.

2018 is the year we will deliver the next stage of Project Dovetail. Building on the successful beta phase that reports the number of devices being used to watch online TV programmes, we will publish the number of people watching programmes across four screens. In BARB Explained, you can read how we are delivering a trusted source of viewing behaviour across TV sets, tablets, PCs and smartphones.

In a guest essay, ITV's Neil Mortensen uses Love Island as a case study to demonstrate why a trusted currency is still relevant in an era of proliferating data sources. BARB viewing figures are the catalyst for blending insight from different sources in a way that amplifies the strengths of each dataset.

Deloitte's Ed Shedd looks further ahead in his essay and considers what our industry will need in 2022. Not all data are equal and we face choices on what to measure, from screen size and audio quality to video visibility, prominence and adjacent content.

Returning to the need for trusted data, we feature Tim Harford's guide to statistics in a misleading age. You might know Tim as the Undercover Economist; this article first appeared in the Financial Times. He provides practical tips on how to decipher the barrage of statistical propaganda that increasingly fills our lives. Tim wasn't writing with audience measurement in mind, although his advice is very pertinent in our world.

There's much for you to read, so let me get out of your way.

Happy reading.

Justin Sampson
Chief Executive
BARB

BARB NOW HAS TECHNIQUES TO REPORT AUDIENCES FOR ONLINE TV, ON-DEMAND PROGRAMMES AND DYNAMICALLY-SERVED ADVERTISING

A GUIDE TO STATISTICS IN A MISLEADING AGE

"The best financial advice for most people would fit on an index card." That's the gist of an off-hand comment in 2013 by Harold Pollack, a professor at the University of Chicago.

When I heard about Pollack's notion, I asked myself: would this work for statistics, too? There are some obvious parallels. In each case, common sense goes a surprisingly long way; in each case, dizzying numbers and impenetrable jargon loom; in each case, there are stubborn technical details that matter; and, in each case, there are people with a sharp incentive to lead us astray.

The case for everyday practical numeracy has never been more urgent. Statistical claims fill our newspapers and social media feeds, unfiltered by expert judgment and often designed as a political weapon. We do not necessarily trust the experts - or more precisely, we may have our own distinctive view of who counts as an expert and who does not.

Nor are we passive consumers of statistical propaganda; we are the medium through which the propaganda spreads. We are arbiters of what others will see: what we retweet, like or share online determines whether a claim goes viral or vanishes. If we fall for lies, we become unwittingly complicit in deceiving others. On the bright side, we have more tools than ever to help weigh up what we see before we share it - if we are able and willing to use them.

My statistical postcard begins with advice about emotion rather than logic. When you encounter a new statistical claim, **observe your feelings**. Yes, it sounds like a line from Star Wars, but we rarely believe anything because we're compelled to do so by pure deduction or irrefutable evidence. We have feelings about many of the claims we might read - anything from "inequality is rising" to "chocolate prevents dementia". If we don't notice and pay attention to those feelings, we're off to a shaky start.

What sort of feelings? Defensiveness. Triumphalism. Righteous anger. Evangelical fervour. Or, when it comes to chocolate and dementia, relief. It's fine to have an emotional response to a chart or shocking statistic - but we should not be led astray by it.

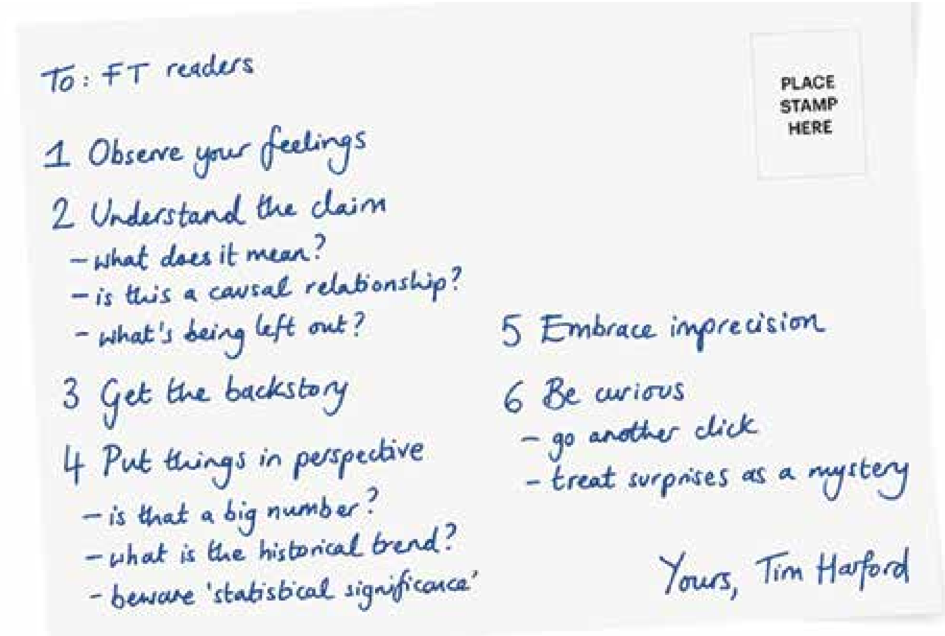
There are certain claims we rush to tell the world, others we use to rally like-minded people, still others we refuse to believe. Our belief or disbelief in these claims is part of who we feel we are. If we don't at least acknowledge that we may be bringing some emotional baggage along with us, we have little chance of discerning what's true.

The second crucial piece of advice is to **understand the claim**. That seems obvious. But all too often we leap to disbelieve or believe (and repeat) a claim without pausing to ask whether we really understand what the claim is. To quote Douglas Adams's philosophical supercomputer, Deep Thought, "once you know what the question actually is, you'll know what the answer means".

For example, take the claim "inequality of income before taxes is rising" (and you should be asking yourself, since when?), there are several different ways to measure this. One approach is to compare the income of people at the 90th percentile and the 10th percentile, but that tells us nothing about the super-rich, nor the ordinary people in the middle. An alternative is to examine the income share of the top 1 per cent - but this approach has the opposite weakness, telling us nothing about how the poorest fare relative to the majority.

There is no single right answer. In fact, there are many true statements that one can make about inequality. It may be worth figuring out which one is being made before retweeting it.

IF WE FALL FOR LIES, WE BECOME UNWITTINGLY COMPLICIT IN DECEIVING OTHERS



All this can seem like pedantry - or worse, a cynical attempt to muddy the waters and suggest that you can prove anything with statistics. But there is little point in trying to evaluate whether a claim is true if one is unclear what the claim even means.

One particular obstacle to our understanding is the question of causation. "Taller children have a higher reading age", goes the headline. This may summarise the results of a careful study about nutrition and cognition. Or it may simply reflect the obvious point that eight-year-olds read better than four-year-olds - and are taller. Causation is philosophically and technically a knotty business but, for the casual consumer of statistics, the question is not so complicated: just ask whether a causal claim is being made, and whether it might be justified.

We should never forget, either, that statistics are a summary of a more complicated truth. For example, what's happening to wages? We might look at the median increase in wages, which isn't the same thing as the increase in the median wage - not at all. Sir Andrew Dilnot, former chair of the UK Statistics Authority, warns that an average can never convey the whole of a complex story. "It's like trying to see what's in a room by peering through the keyhole," he tells me.

In short, "you need to ask yourself what's being left out," says Mona Chalabi, data editor for The Guardian US. There is no shame in leaving something out. No chart, table or tweet can contain everything. But what is missing can matter.

Channel the spirit of film noir: **get the backstory**. Of all the statistical claims in the world, this particular stat fatale appeared in your newspaper or social media feed, dressed to impress. Why? Where did it come from? Why are you seeing it? →

→ Sometimes the answer is little short of a conspiracy: a PR company wanted to sell ice cream, so paid a penny-ante academic to put together the equation for the perfect summer afternoon, pushed out a press release on a quiet news day, and won attention in a media environment hungry for clicks.

Just as often, the answer is innocent but unedifying: publication bias. A study confirming what we already knew is unlikely to make news. But a study with a surprising result - maybe smoking doesn't cause cancer after all - is worth a headline. The new study may have been rigorously conducted but is probably wrong: one must weigh it up against decades of contrary evidence.

Publication bias is an even bigger problem in the media – and perhaps bigger yet in social media. Increasingly, we see a statistical claim because people like us thought it was worth a Like on Facebook.

OK. You've noted your own emotions, checked the backstory and understood the claim being made. Now you need to **put things in perspective**. A few months ago, a horrified citizen asked me on Twitter whether it could be true that in the UK, seven million disposable coffee cups were thrown away every day. I didn't have an answer. But I did have an alternative question: is that a big number? The population of the UK is 65 million. If one person in 10 used a disposable cup each day, that would do the job.

Many numbers mean little until we can compare them with a more familiar quantity. How big is the number compared with other things I might intuitively understand? How big is it compared with last year, or five years ago, or 30?

Finally, beware statistical significance. The simplest point to appreciate is that a number can be statistically significant while being of no practical importance. Particularly in the age of big data, it's possible for an effect to clear the technical hurdle of statistical significance while being tiny.

One study was able to demonstrate that unborn children exposed to a heatwave while in the womb went on to earn less as adults. The finding was statistically significant. But the impact was trivial: $30 in lost income per year. Just because a finding is statistically robust does not mean it matters.

"It is better to be vaguely right than exactly wrong", wrote Carveth Read in Logic (1898), and excessive precision can lead people astray. It makes numbers needlessly cumbersome to remember and to handle. So, **embrace imprecision**. The budget of the NHS in the UK is about £10bn a month. One can be much more precise about these things, but carrying the approximate number around in my head lets me judge pretty quickly when - say - a £50m spending boost is noteworthy, or a rounding error.

Be curious. Curiosity is a cardinal virtue because it encourages us to work a little harder to understand what we are being told, and to enjoy the surprises along the way.

This is partly because almost any statistical statement raises questions: who claims this? Why? What does this number mean? What's missing? If a statistic is worth sharing, isn't it worth understanding first? The digital age is full of informational snares - but it also makes it easier to look a little deeper before our minds snap shut on an answer.

While curiosity gives us the motivation to ask another question, it gives us something else, too: a willingness to change our minds. If we treat statistical surprises as mysteries to be resolved, we are more likely to spot statistical foul play, but we are also more open-minded when faced with rigorous new evidence.

Isaac Asimov is thought to have said, "The most exciting phrase in science isn't 'Eureka!', but 'That's funny…'" The quip points to an important truth: if we treat the open question as more interesting than the neat answer, we're on the road to becoming wiser.

In the end, my postcard has 50-ish words and six commandments. Simple enough, I hope, for someone who is willing to make an honest effort to evaluate – even briefly – the statistical claims that appear in front of them. That willingness, I fear, is what most in question.

Tim Harford
Author, journalist and broadcaster

CURIOSITY IS A CARDINAL VIRTUE BECAUSE IT ENCOURAGES US TO WORK A LITTLE HARDER TO UNDERSTAND WHAT WE ARE BEING TOLD

Source: Tim Harford 2018 Tim Harford's guide to statistics in a misleading age FT.com 8th February. Used under licence from the Financial Times. All Rights Reserved. Broadcasters' Audience Research Board Ltd is solely responsible for providing this abridged version of the original article and The Financial Times Limited does not accept any liability for the accuracy or quality of the abridged version.

A MATTER OF FACT

The IPA and ISBA joined together in June 2017 to call upon the media industry to demand and provide objective and independent data to underpin the accountability of all media and their respective trading markets.

A Matter of Fact highlighted that the long-term health and prosperity of the media industry is reliant on objectivity and confidence. This can only be maintained if trading data is understood and trusted. Audience data is a cornerstone of the industry; it is fundamental to decision-making and monetary transactions.

Media data needs to deliver a trusted assessment of the size and composition of a campaign's audience. This is vital to calculate a campaign's return on investment, whether the objective is driving sales, building brand awareness or any other goals.

The need for consistent measurement of media exposure across channels can't be underestimated; advertising campaigns benefit from the multiplier effect, which comes from using a variety of media channels. The IPA Effectiveness Awards show that the average number of media channels used in a successful ad campaign continues to grow each year.

Data users are concerned, specifically when it comes to data collection and reporting techniques. These concerns are fuelled by a number of specific issues around the provision of online and proprietary data sets; are these sufficiently objective for advertisers?

Data transparency is challenging in an increasingly connected world where intellectual property is fiercely guarded, speed to market is essential and data privacy is paramount. Media companies should understand the commercial benefits of building a relationship with advertisers based on trust. Proven media metrics are vital in demonstrating the effectiveness of any media channel.

The principle of joint industry oversight of the research underpinning media is fundamental to confidence in advertising. Joint Industry Currencies (JICs) have provided the advertising industry with objective inputs into the calculation of marketing effectiveness for many years; their metrics are derived from independent data-collection methodologies.

The JICs are increasingly moving to hybrid measurement systems that combine proven, people-based research techniques with connected online data. It is vital that the industry is reassured about the quality and veracity of any proprietary data that is absorbed into these industry-owned currencies.

The IPA and ISBA have called on their respective members to uphold the following standards.

- Ensure the audience data used for trading is based on metrics and methods that comply with agreed and open industry standards.
- Insist those standards are upheld by independent auditing.
- Hold proprietary data sets to the same level of accountability as industry-owned trading currencies.
- Support the principles of the Joint Industry Currency (JIC) model as the best-in-class approach to providing objective and comparable audience data and metrics.
- Encourage all media owners and platforms to engage with the Joint Industry Currencies (JICs), not to the exclusion of their own data sets, but to enhance their credibility with advertisers.

The full report can be downloaded from *www.ipa.co.uk/matter-of-fact*

WHAT WILL VIDEO MEASUREMENT LOOK LIKE IN 2022?

Measurement is a fascinating, oft-overlooked topic, which doesn't get enough attention. This matters as measurement is vital to the television industry, and to the media sector more generally.

The TV advertising market is worth billions of pounds in the UK, tens of billions of dollars in the US, and hundreds of billions globally.

This means that getting measurement right for a digital age is critical: trusted measurement is fundamental to the industry, but the job is far from done – video content remains in a state of metamorphosis, and advertisers are arguably befuddled.

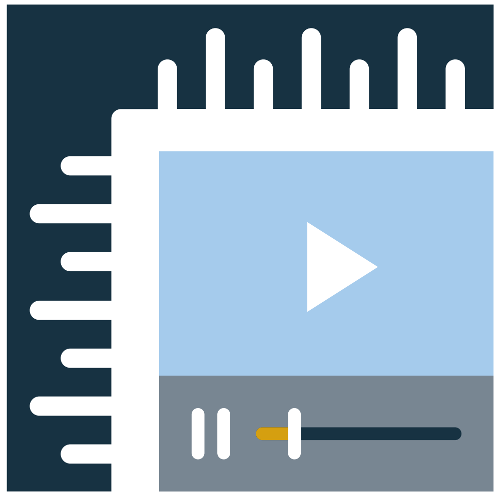
How is video consumption likely to look by 2022, and what will the imperatives for measurement be then? 2022 is just four years away, so it's tangible enough to influence industry decision-making today.

Video consumption in 2022
Firstly, what will video consumption look like in 2022? We anticipate that it will have reached a new peak in terms of minutes of viewing per person per day. This viewing will be more atomised than ever, spread across an ever-widening array of devices.

One reason for this new peak will be better mobile networks, with improvements to 4G and the introduction of 5G, and better smartphone screens, both of which will make it even easier to watch video on the go.

However, while smartphones will be the default for short-form content, TV sets will likely remain the dominant device for watching long-form content.

In Deloitte's Mobile Consumer Survey 2017, we asked interviewees in the UK which was their preferred device for certain activities. Smartphones were the preferred device for many activities, including short-form video, but the TV set was the preferred screen among all age groups for watching long-form content, be it live, catch-up or on-demand. In 2022, TV sets will still be in 90% of homes and television will continue to deliver the watercooler moments that advertisers crave.



Despite this, over the next four years, the amount of traditional television viewing is likely to fall. Research from Thinkbox on video consumption in 2016 showed that 16-24-year-olds are watching less traditional television than the UK population as a whole, in favour of consuming video content via other methods such as SVOD and social media platforms. Our Mobile Consumer Survey indicates that the behaviour of young people is replicated by all ages around five to eight years later.

This means that while there will be more video consumption in 2022, less than half of it may be accounted for by live television. There will be a huge increase in the range of SVOD services available.

Broadcasters in the UK and worldwide are currently looking at the success of SVOD services and the reduced technology costs and deciding to follow suit and go direct to consumers. Disney is launching an ESPN SVOD service this year and a Disney branded SVOD offering in 2019. We predict many content creators will similarly be diversifying into SVOD, often as a complementary offering.

We must also consider that video is utterly heterogeneous which in turn means that all video impacts aren't necessarily equal, so we need to think about the types of thing we measure and why.

> IN 2022, TV SETS WILL STILL BE IN 90% OF HOMES AND TELEVISION WILL CONTINUE TO DELIVER THE WATERCOOLER MOMENTS THAT ADVERTISERS CRAVE

There are many hundreds of millions of screens that can show video around the world, but each video format has different attributes. A video watched on a smartphone screen will have a different impact to one seen on a 50-inch screen. In turn, there is a question about the size of the screen and the effectiveness of the advertising message. There is ample research showing the differential impact of content watched on screens of different sizes. For me this says that they are of different value and measuring the audiences needs to recognise these differences.

We are unlikely to have a consistent methodology for measuring everything by 2022, so we need to start making choices on what to measure, from screen size and audio quality to video visibility and prominence and adjacent content.

Video measurement in 2022
Measurement is likely to be as important in 2022 as it is today, if not more. There will be more data, richer data and more data sets than ever before, but these will be owned by multiple parties, and they may not be inclined to share.

By 2022 we will be able to collect more data sets than ever. It's technically possible that the entirety of a purchase journey could be tracked from view to action to transaction across multiple channels, devices and networks, even if the purchase was weeks, months or even years after the first view. The problem is that these data sets are in different silos. Data sets could be merged, but will the various companies that own these data permit it? Unless we change the conversation, there will be few collective data sets, which will impinge on the effectiveness of audience measurement and businesses that depends on it.

Regulation may also thwart data sharing. Our Mobile Consumer Survey indicated a lack of understanding by consumers about the data they are sharing with services. Three quarters of UK adults claimed that they know their data are being used by companies and they are aware of the risks. However, half said they never share their email address online, yet they are on social networks. Two thirds said they don't share their phone numbers but they are on WhatsApp.

The advent of GDPR this year will also have a big impact on how we collect data. It will necessitate a different approach: greater consent, awareness and collaboration around the data sets you are collecting and this will have an impact on audience measurement and the data sets we can expect to see in 2022.

Imperatives for measurement
In conclusion, what are the imperatives for measurement in 2022 for the industry as a whole? It is important to recognise the significance of measurement today and in the medium term, and to understand what advertisers expect and the digital platforms currently deliver. We must then evaluate the consequences if television measurement fails to match what digital platforms offer.

Data sets are proliferating, but not all data are equally important, and not all sets will be available to access or link together. This lack of collective agreement will mean people will have to identify which data sets and combinations are really important for the success of their businesses, and then have collaborative conversations with their owners. Finally, we must establish the available technologies for delivering measurement and execute it. These imperatives will hopefully stimulate us to have more collective conversations and get much further in audience measurement.

> ALL VIDEO IMPACTS AREN'T NECESSARILY EQUAL, SO WE NEED TO THINK ABOUT THE TYPES OF THING WE MEASURE AND WHY

Ed Shedd, Managing Partner, North West Europe TMT Practice at Deloitte UK

GETTING ‘EXTRA’ OVER BARB

I’m hoping that there is a decent overlap between readers of BARB’s Viewing Report and devotees of Love Island; I can imagine the Venn diagram. I love a good Venn diagram.

If you are still reading on and aren’t in in my sub group don’t worry, I’ll explain. I’m about to get ‘extra’ over BARB. Which in Love Island parlance means I’m pushing things, perhaps taking something too far, by being over-the-top.

So, why am I getting ‘extra’? I sit on BARB’s board, so I must declare an interest, but I want to address two points.

The first is to reveal just how fundamental BARB data are to a broadcaster/producer like ITV, using Love Island as a case study; and the second is to illustrate how exciting the future is for those of us working in audience data and insight, as we build brands on the back of this strong currency.

To explain the importance of BARB to a broadcaster, let’s start with the obvious. You know that BARB data come in overnight; what you may not appreciate is how that early morning email can change the whole temperature of the company and the workload on that day. You get hooked on a rush of endorphins when a show launches with a bang or grows week-on-week; I won’t mention how it feels when a hit misses!

BARB DATA OFFER US THE SPRINGBOARD TO MIX AND MATCH THE APPROPRIATE DATA AND INSIGHT TO CREATE A WHOLE BIGGER THAN THE SUM OF ITS PARTS

Our audience insight process follows the full life of a programme, from development, commission, production and broadcast through to recommission, advertising impact and international distribution. The lifecycle of a programme doesn’t always follow a linear process like this, but we work on every show at some point in its life, even if it is simply measuring how many viewers came to it (which isn’t so simple!).

So, how did this research process work on a show like Love Island? At the beginning, our network wanted a new reality show for ITV2, so we held brainstorms to stimulate ideas. We pulled huge stacks of BARB data together, mapping the gaps in the market and sprinkling on qualitative insights from our youth panel. When the decision was made to commission a re-booted Love Island, we tested the brand with our BARB-derived target audience and then fed this insight into the marketing campaign. We also made sure that the press team had all the important facts so they could brief journalists quickly when the ratings started to flood in.

We were able to do some of our most effective work when the show was on air, combining minute-by-minute BARB data with insights from our viewer panel and online ITV community, to help our commissioning and production teams tweak aspects of the show, from format and pace to set and presentation. This really helped the show to engage with and grow its audience. At the end of the series, we got together with all key stakeholders to review the performance data in tandem with qualitative insight in order to gauge viewer perceptions and expectations for the next series.

Naturally, we did lots of research to ensure we got the maximum value from the show and to prove to our clients the great benefits they received from being associated with the brand and advertising within it. And of course, we wanted to make sure we had the best information to help ITV’s international distribution team sell the format all over the world. Results from BARB data formed the basis of this pitch and helped us to demonstrate how well the format had launched.

The other major part of the picture we deliver is the overall programme performance for this and every show. Love Island is one of

Loveitbetter

Left: ITV’s Love Island
© ITV plc

22% OF ALL VIEWING TO EACH EPISODE WAS THROUGH A NON-TV DEVICE

those unique shows that has high device-based online viewing. In the latest series, live and on-demand viewing via devices added an average of 700k viewers per episode. This means that 22% of all viewing to each episode was through a non-TV device. At present, we combine BARB data with our own ITV Hub statistics to find out how many people watched on all of our platforms. Soon we will have Dovetail in place to make this much easier.

Online viewing through the ITV Hub is clearly very important to Love Island, and as we match our registered user data with ITV Hub viewing we can get really granular detail on who is watching online. This is where things get really interesting, as we can start to hyper-target audiences for advertisers and for marketing our new shows.

Audiences of all ages are not just embracing new platforms, they are demanding them; the ITV Hub is on 30 platforms and we have over 21 million registered users of the service, as well as 10 million downloads of companion apps for our biggest shows.

Broadcasters now have a multitude of opportunities to capture data from interactions with their audience. ITV is becoming increasingly data-rich as it moves its shows online, leverages social media, deploys apps and other interactive solutions and explores advanced advertising technology.

We clearly have an exciting opportunity to take media research and consumer insight to the next level, enhancing – and potentially even revolutionising – our understanding of audiences and their interactions with messages and brands. For example, understanding the relationship between media exposure and consumer behaviour via data overlays, described as the holy grail of single source with large sample sizes, is now a reality.

We will continue to have BARB data at the heart of any of these new opportunities. As in the Love Island case study, the BARB data offer us the springboard to mix and match the appropriate data and insight to create something that amplifies the strengths of all datasets to create a whole bigger than the sum of its parts.

My hope is that this goes some way to explaining why it feels odd to anyone working in a broadcaster to hear media experts talking about BARB not being relevant or as important as it once was. I have been in many a meeting or conference when media people say that they don’t believe in it. My response is that it isn’t a belief system, it’s mathematics.

If you don’t believe in maths, that’s up to you, but – to use a final bit of Love Island lingo – you may find things a little ‘muggy’ without it!

Neil Mortensen, Director of Audiences, ITV

TRACKING NON-LINEAR VIEWING

These days, viewing on-demand isn't just about catching up on programmes that have already been shown in the linear schedule. Increasingly, broadcasters are making the whole series of a show available on-demand on the day the first episode is transmitted – so people can get ahead with a series, viewing episodes prior to their appearance in the linear schedule. This is a practice sometimes referred to as stacking.

BARB can now track these new patterns of TV set viewing behaviour that combine on-demand, live broadcast viewing and catch-up – perhaps predictive of the shape of viewing in an on-demand world.

The Tunnel: Vengeance is the third series of the British-French crime drama The Tunnel. It aired on Sky Atlantic in December 2017, with all six episodes released on-demand on the day of the broadcast debut of episode one.

Fans of the first two series of The Tunnel were no doubt looking forward to the debut episode of series three. Of course, they couldn't watch episode one in advance, but hardly anyone viewed it live, depending on timeshift or on-demand to catch up afterwards instead.

And that tiny proportion of episode one viewed live was characteristic of the whole series, with even smaller percentages for the later episodes, leading to a series aggregate of only 3% viewed live.

That's because the series was viewed almost entirely on-demand, whether pre- or post-broadcast (70% of total series viewing) or timeshifted via PVR (27%).

But while the small proportion viewed live was consistent across the series, the difference between viewing in advance of broadcast and catch-up afterwards saw a complete shift across the life of the series. Two thirds of viewing to the final two episodes was accounted for by people watching those shows pre-broadcast.

Drama series generally have a slight skew (55%) to upscale ABC1 audiences but looking at the demographic profile of total TV set viewing to The Tunnel: Vengeance, we see that over 70% of viewing was ABC1, with a 50/50 gender split.

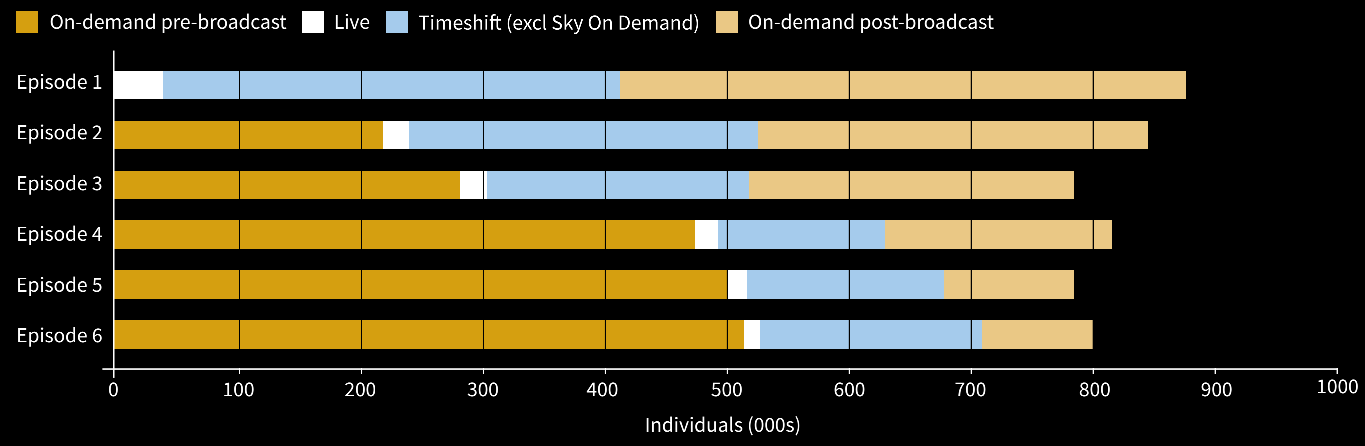
Indeed, the pronounced middle-aged bulge would also be typical of traditional TV viewing to drama series, but clearly those viewers are making the most of new technologies, with more than half of on-demand pre-broadcast viewing to the series accounted for by the 45-64 age range.

We can also now examine the demographics of online viewing on tablets and PCs because we have installed software meters on our panel members' devices. This information can be combined with the census-level data we have for viewing on these devices. →

Above: Sky Atlantic's The Tunnel: Vengeance
© Sky UK Limited

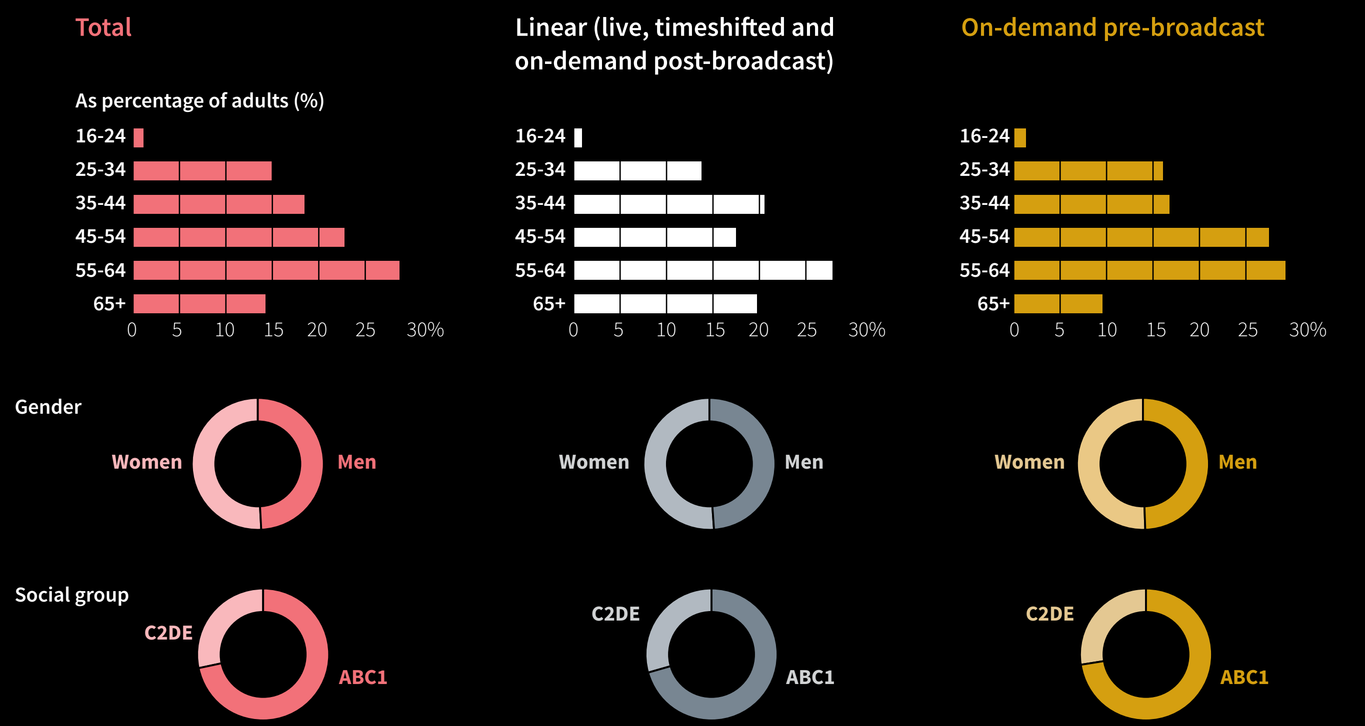
BARB CAN NOW TRACK THESE NEW PATTERNS OF TV SET VIEWING BEHAVIOUR THAT COMBINE ON-DEMAND, LIVE BROADCAST VIEWING AND CATCH-UP

THE TUNNEL: VENGEANCE (SKY ATLANTIC) – VIEWING VIA TV SETS



Source: BARB panel, 2017/18. Timeshift (excl Sky On Demand) and on-demand post-broadcast to 28 January 2018

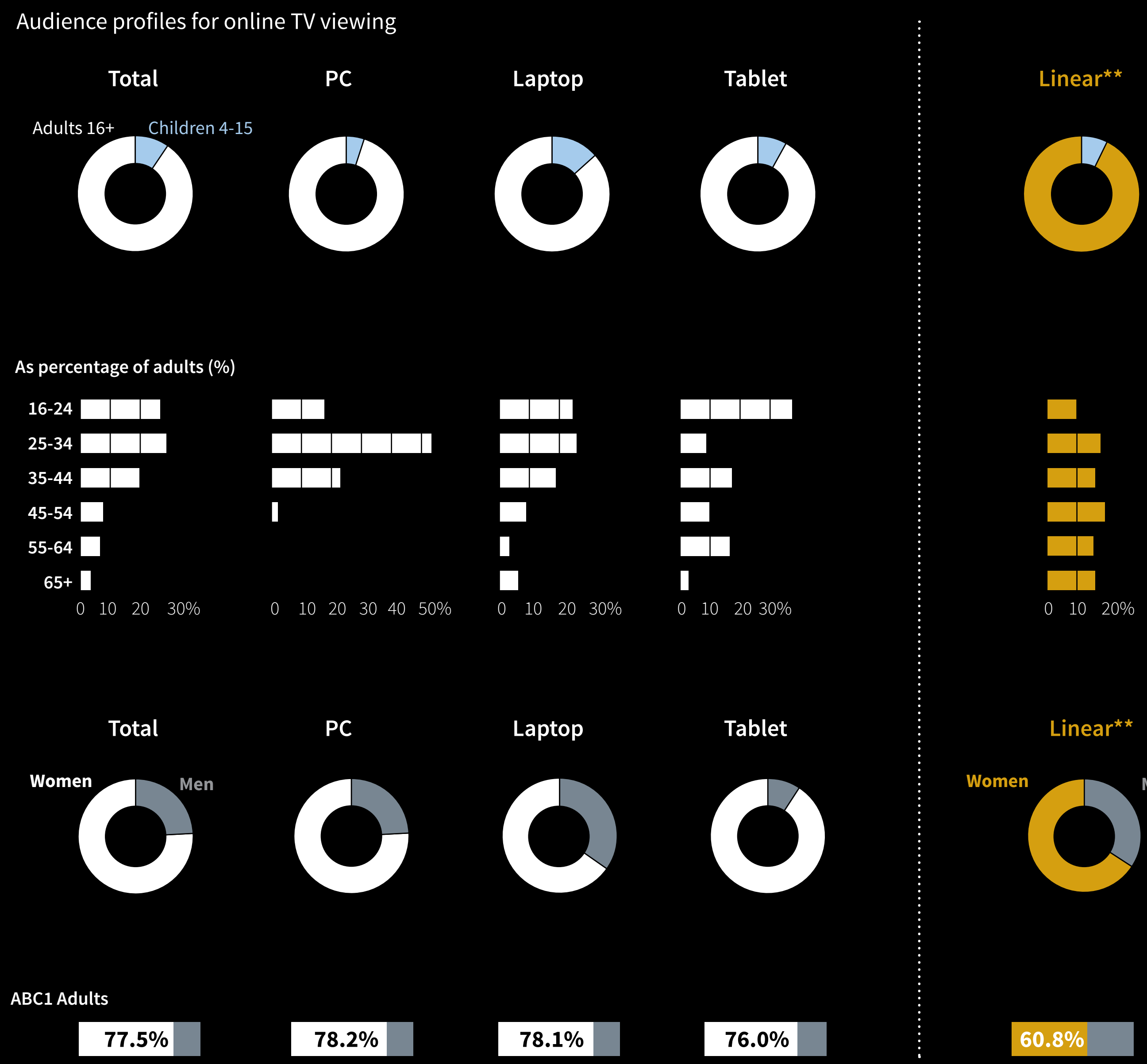
PROFILE OF TV SET VIEWING TO THE TUNNEL: VENGEANCE



Source: BARB panel, 2017/18

THE GREAT BRITISH BAKE OFF FINAL (CHANNEL 4) – AUDIENCE PROFILES

Online viewing profiles* vs linear viewing profile**



*Panel data from software meters, 2017 – currently unpublished
**Consolidated linear TV set viewing (live + timeshift up to 7 days)

Source: BARB panel, 2017

Left: Channel 4's The Great British Bake Off
© Mark Bourdillon / Love Productions / Channel 4

→ To give an example, census data tell us that the 2017 final of The Great British Bake Off on Channel 4 achieved 311,000 average programme streams, but without BARB panel data, we don't know how many people that was or who they were. BARB panel data tell us that this represented 397,000 people viewing that episode, which – when combined with the panel's demographic profile of online TV viewing – can give us the demographic breakdown we see in the chart.

The Great British Bake Off has long been credited with boosting the popularity of baking amongst younger audiences, and this was reflected with a healthy 27% of linear viewing to the final accounted for by young adults 16-34. Clearly, for lots of these younger viewers, linear viewing wasn't an option as they were responsible more than half (53.8%) of all online viewing on devices.

And when we say young, it's clear that viewing this show online was a big hit for our youngest viewing segment of children aged 4-15, accounting for nearly 10% of minutes. With over 46% of its online viewing in the 25-44 segment, it looks clear that the final of Bake Off was a big family online viewing hit.

There are perhaps no surprises in the gender skew – online device viewing was much higher amongst women, who accounted for almost 76% of total viewing minutes. And while linear viewing to this show was skewed strongly to upmarket viewers (60.8%), the proportion of online TV viewing by those viewers (77.5%) reminds us that this typically time-poor audience was determined not to miss out on the Bake Off final.

Looking at the age and gender profile of those using each device to watch this particular show, we can see that a disproportionate amount of viewing on tablets is accounted for by younger viewers (16-24s represented 36.8% of tablet viewing to Bake Off); whilst viewing on laptops was also high amongst 16-34s and children 4-15; and more than half of viewing on PCs was by 25-34s – no doubt driven by workplace catch-up.

The reporting of non-linear viewing on TV sets like in The Tunnel: Vengeance example is a core BARB panel capability. This is likely to become increasingly important as more broadcasters decide to make entire series available on-demand on the first day of linear transmission.

Meanwhile, The Great British Bake Off final demographic insights are a preview of the type of learnings that will come from the next stage of Project Dovetail.

EXAMINING THE DEMOGRAPHICS OF ONLINE VIEWING IS POSSIBLE BECAUSE PANEL MEMBERS ALLOW US TO MONITOR THEIR VIEWING ON TABLETS AND PCS

BRING ON THE BOX SETS

We're all used to hearing industry chatter about the decline of TV viewing; and it's true that traditional TV viewing declined from 212 minutes daily for the average person in 2016 to 203 minutes in 2017. Yet the total amount of time spent in front of the TV set is only marginally down, dropping by just two minutes a day.

The reason for that apparent disconnect is what's called unmatched viewing, which has grown fast in recent years, accounting for 14% of all TV set activity in 2016, growing to 16% in 2017.

BARB defines unmatched viewing as when the TV is on but the content wasn't broadcast as part of a linear schedule in the last 28 days. This includes gaming, viewing to SVOD services and shows that haven't been broadcast in the previous four weeks. However, BARB can now identify the last of these and take it out of unmatched, if broadcasters provide us with their non-linear programme assets.

The table shows the top 50 most viewed non-linear programmes of 2017. We can begin to examine the patterns of behaviour when viewers access libraries of on-demand content, including box-sets.

The table features multiple appearances of classic children's programmes like The Gruffalo's Child and Stick Man. These programmes made the top 50 for 2017 after being made available alongside a range of other BBC content via the BBC iPlayer over Christmas. It's easy to picture the scene with little ones, parents and grandparents all enjoying these timeless classics. But the top 50 helps to illustrate the characteristics of on-demand, box-set viewing behaviour across the year too.

As we'd expect from what we've long known about timeshift behaviour, the rankings are dominated by drama series. In top place is Gunpowder, which premiered on BBC One in the autumn, and was highly acclaimed by critics and popular with audiences.

Multiple episodes of Top of the Lake (series two – China Girl) dominate the top of the chart, perhaps not surprising given its overall popularity and critical acclaim following the series two debut in 2017. Box set viewing seems to be baked into this programme – the first series launched at The Sundance Film Festival 2013 with a seven-hour screening of the whole series. Here in the top 50 we're seeing what happened when the whole series was released on-demand on the day of its first broadcast.

This show illustrates a pattern over the lifetime of a series that has both a linear broadcast and on-demand availability. The later episodes accrue the bigger numbers, a consequence of viewers having more time to see the programme on-demand pre-broadcast and less patience to wait for the linear broadcast to find out how it ends.

A similar pattern is also in evidence for older series like Bad Education. Later episodes still capture the biggest views on-demand, perhaps because they were missed last time.

The online-only BBC Three also delivers some shows with on-demand audiences not far behind those for shows that have also had a broadcast airing. Here we see bold, hard-hitting, factual content that captured big audiences for one-off documentaries like Stacey Dooley investigates and I Shot My Parents.

This evidence of shifting viewer behaviour supports BARB's development of techniques that enable the comprehensive measurement of viewing across all devices. We welcome working with broadcasters and rights owners on the reporting of non-linear viewing.

BARB CAN REPORT VIEWING TO SHOWS THAT HAVEN'T BEEN BROADCAST IN THE PREVIOUS FOUR WEEKS

NON-LINEAR VIEWING VIA TV SETS IN 2017*

	Programme	Average audience – individuals (000s)
1	**Gunpowder** Series 1 Episode 2	925.4
2	**Top of the Lake China Girl** Episode 6	860.4
3	**Top of the Lake China Girl** Episode 4	843.3
4	**Top of the Lake China Girl** Episode 5	817.0
5	**Motherland** Series 1 Episode 6	811.1
6	**Top of the Lake China Girl** Episode 2	802.7
7	**Top of the Lake China Girl** Episode 3	760.0
8	**Motherland** Series 1 Episode 5	759.1
9	**Motherland** Series 1 Episode 4	677.2
10	**Motherland** Series 1 Episode 3	666.9
11	**Top of the Lake China Girl** Episode 1	523.8
12	**Motherland** Series 1 Episode 2	518.4
13	**Room on the Broom**	489.4
14	**Bad Education** Series 3 Episode 4	462.4
15	**Bad Education** Series 3 Episode 2	444.4
16	**Bad Education** Series 3 Episode 3	413.7
17	**Clique** Series 1 Episode 5	393.0
18	**Stacey Dooley Investigates** Series 1 Episode 8	376.2
19	**Bad Education** Series 3 Episode 5	371.0
20	**Clique** Series 1 Episode 6	367.5
21	**Stick Man**	360.2
22	**The Tunnel: Vengeance** Series 3 Episode 6	360.1
23	**The Gruffalo**	355.3
24	**Stacey Dooley Investigates** Series 1 Episode 8	353.0
25	**Bad Education** Series 3 Episode 1	351.8
26	**The Tunnel: Vengeance** Series 3 Episode 4	349.7
27	**The Gruffalo's Child**	339.2
28	**Quacks** Series 1 Episode 2	337.9
29	**Clique** Series 1 Episode 3	336.8
30	**Murdered for Being Different**	330.8
31	**Clique** Series 1 Episode 4	329.9
32	**The Tunnel: Vengeance** Series 3 Episode 5	328.5
33	**Reggie Yates: Hidden Australia** Series 1 Episode 1	322.1
34	**Little Britain** Series 1 Episode 3	305.7
35	**Quacks** Series 1 Episode 6	302.1
36	**Love and Drugs on the Street: Girls Sleeping Rough** Series 1 Episode 1	296.1
37	**Quacks** Series 1 Episode 1	294.9
38	**Sex, Drugs & Murder: Life in the Red Light Zone** Series 1 Episode 4	293.4
39	**The Tunnel: Vengeance** Series 3 Episode 3	286.6
40	**Stacey Dooley Investigates** Series 1 Episode 0	284.7
41	**I Shot My Parents**	281.6
42	**Quacks** Series 1 Episode 3	281.1
43	**This Country** Series 1 Episode 1	280.9
44	**People Just Do Nothing** Series 1 Episode 1	269.9
45	**W1A** Series 3 Episode 6	269.8
46	**Jamie Johnson** Series 1 Episode 3	267.3
47	**Bad Education** Series 3 Episode 6	267.1
48	**W1A** Series 3 Episode 2	265.9
49	**Billionaire Boy** Series 1 Episode 1	261.0
50	**Gangsta Granny** Series 1 Episode 1	257.3

Source: BARB panel, non-linear viewing via TV sets to programmes 10 minutes+ in duration, 1 January - 31 December 2017
*Table includes content from rights owners that have provided their programme assets for measurement by BARB

TOP ON-DEMAND PROGRAMMES*

Programme	Broadcaster	Average Programme Streams (000s)
1 **Three Girls** Series 1 Episode 1	BBC	611
2 **Love Island** Series 3 Episode 29	ITV	541
3 **Doctor Foster** Series 2 Episode 4	BBC	478
4 **EastEnders** 26/12/2017	BBC	420
5 **The Apprentice** Series 13 Episode 8	BBC	386
6 **Blue Planet II** Series 1 Episode 1	BBC	383
7 **The Replacement** Series 1 Episode 3	BBC	344
8 **Line Of Duty** Series 4 Episode 6	BBC	344
9 **Rio Ferdinand: Being Mum And Dad**	BBC	315
10 **The Great British Bake-Off** Series 1 Episode 1	Channel 4	291
11 **Liar** Series 1 Episode 6	ITV	280
12 **Louis Theroux Dark States** Episode 1	BBC	280
13 **Peaky Blinders** Series 4 Episode 5	BBC	277
14 **I'm A Celebrity... Get Me Out Of Here!** Series 17 Episode 2	ITV	270
15 **The X Factor** Series 14 Episode 1	ITV	256
16 **Love Island: The Reunion** Series 1 Episode 1	ITV	251
17 **Strike - The Cuckoo's Calling** Series 1 Episode 1	BBC	223
18 **Our Girl** Series 5 Episode 4	BBC	223
19 **The Only Way Is Essex** Series 21 Episode 15	ITV	214
20 **Trust Me** Series 1 Episode 4	BBC	214
21 **Made In Chelsea** Series 13 Episode 11	Channel 4	207
22 **The Apprentice** Meet The Candidates: Series 13	BBC	205
23 **Call The Midwife** Series 1 Episode 13	BBC	196
24 **Mrs Brown's Boys** Series 11 Episode 1	BBC	194
25 **Made In Chelsea: Ibiza** Series 1 Episode 5	Channel 4	194

*Table only includes single highest rated episode per programme title and sporting event

Viewing to personal computers, tablets and smartphones
Source: BARB TV Player Report 2017 - weekly data

TOP LIVE PROGRAMMES*

Programme	Channel	Average Programme Streams (000s)
1 **Love Island** 24/07/2017	ITV2	249
2 **I'm A Celebrity - Get Me Out Of Here!** 19/11/2017	ITV	182
3 **Election 2017** 08/06/2017	BBC1	158
4 **Love Island: The Reunion** 30/07/2017	ITV2	124
5 **Live Pl: Liverpool v Everton** 10/12/2017	Sky Sports ME	122
6 **Love Island: Aftersun** 25/06/2017	ITV2	121
7 **One Love Manchester** 04/06/2017	BBC1	111
8 **World Cup 2018 Qualifier: England v Slovakia** 04/09/2017	ITV	100
9 **England Friendlies: England v Brazil** 14/11/2017	ITV	94
10 **Doctor Foster** 03/10/2017	BBC1	85
11 **Match Of The Day** 08/12/2017	BBC1	82
12 **Weather** 12/08/2017	BBC1	75
13 **Live Mexican GP: Race** 29/10/2017	Sky Sports ME	71
14 **Live Nissan Super Sunday: Chelsea v Arsenal** 17/09/2017	Sky Sports 1	68
15 **The Apprentice** 04/10/2017	BBC1	68
16 **Live British & Irish Lions Tour** 08/07/2017	Sky Sports 1	66
17 **Live WCQ: Wales v ROI** 09/10/2017	Sky Sports ME	64
18 **Live Bristol City v Man Utd Carabao Cup** 20/12/2017	Sky Sports ME	62
19 **The BBC Election Debate** 31/05/2017	BBC1	62
20 **The Great British Bake-Off** 31/10/2017	Channel 4	61
21 **BBC News** 12/08/2017	BBC1	59
22 **Match Of The Day 2** 13/08/2017	BBC1	57
23 **Ten O'Clock News** 03/10/2017	BBC1	55
24 **Liar** 16/10/2017	ITV	50
25 **Blue Planet II** 12/11/2017	BBC1	46

*Table only includes single highest rated episode per programme title and sporting event

Viewing to personal computers, tablets and smartphones
Source: BARB TV Player Report 2017 - weekly data

ON-DEMAND v LIVE STREAMING

BARB's TV Player Report is the UK's first joint-industry, audited measure of viewing to online TV and reports on the consumption of TV content on PCs, tablets and mobile phones from data generated by software code embedded in TV player apps. These are census data, not panel data – providing a measure of total viewing across devices by all users of the players, not just by BARB panel members.

Viewing on devices has been much talked about in our industry and is conspicuous because it's often being done in public or on the move, leading to a belief that it might be higher than it actually is. In fact, the vast majority of viewing time is still happening on the TV set; our data show that total viewing time on devices adds approximately 1.3% to total TV set viewing levels.

Looking specifically at the share of online TV viewing by devices, we can distinguish between BBC iPlayer viewing via smartphone apps, browser-based access and via the iPlayer app on connected TVs. Our data show that 50% of all iPlayer viewing in 2017 was via connected TVs and this proportion appears to be steadily growing. With connected TVs now available for 63% of individuals in TV homes (according to BARB's Establishment Survey, Q4 2017), it makes sense that people will view online TV content on the biggest and best available screen.

The iPlayer data on viewing behaviour are consistent with data about which devices people prefer for certain activities. In Deloitte's Mobile Consumer Survey 2017 (see Ed Shedd's essay on pages 10-11) , the TV set was the preferred screen among all age groups for watching long-form content.

The chart breaks down total viewing to distinguish live streaming from on-demand. It shows that viewing on-demand accounts for the vast majority, but particular events, such as the UK general election, drive spikes in live streaming.

Because on-demand represents people having total control over what, when and where they watch, it's not surprising that the biggest programmes are the most popular, talked-about ones, across genres (see Top On-Demand Programmes and Top Live Programmes, pages 20-21).

Drama (Three Girls, EastEnders, Doctor Foster, etc) dominates the top on-demand rankings along with event TV (The Apprentice, I'm a Celebrity and the Channel 4 debut of The Great British Bake Off); with big numbers also for one-off documentaries (Rio Ferdinand: Being Mum and Dad), natural history (the Blue Planet II debut) and entertainment reality (Love Island, Made in Chelsea, The Only Way is Essex). In fact, Love Island would have dominated the on-demand and live charts if every episode had been treated separately.

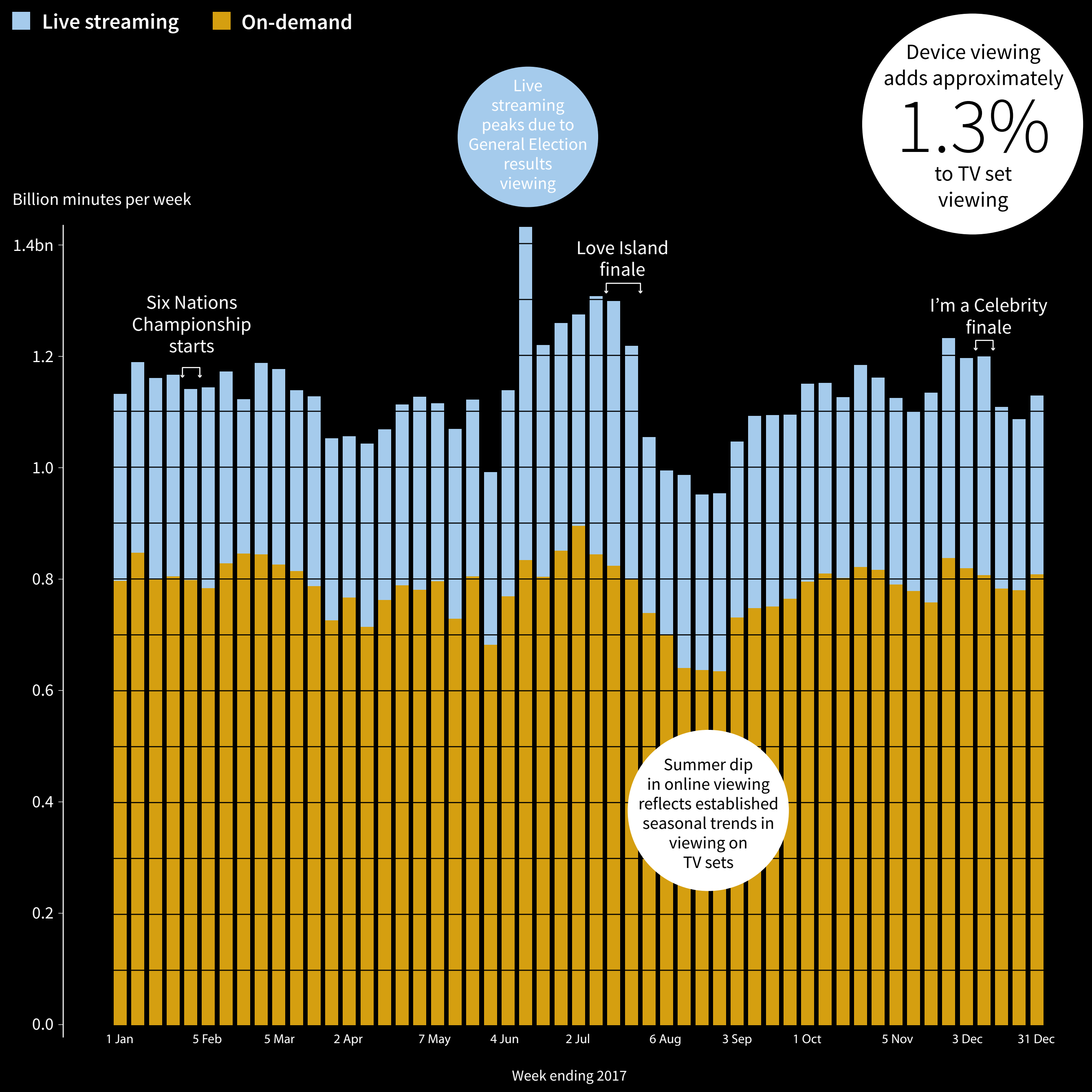
If the top on-demand programmes table represents the content that people can't bear to have missed, the top live programmes table tells us what they'll make an absolute priority for. Dominated by big football games, rugby and Grand Prix racing, it's again not surprising to see Love Island and I'm a Celebrity in the top 10.

We see that exceptional drama series like Doctor Foster and Liar can command a live streaming audience too – as well as a different kind of unmissable live drama in the form of the General Election exit poll, which commanded big live-streaming numbers from 10pm on election night.

So online viewing seems to reflect two need-states that TV satisfies in us: the edge-of-the-seat live experience and the sit-back-and-relax personal viewing appointment. Let's now see what we can discover about when and how people are doing this online viewing.

TOTAL VIEWING TIME ON DEVICES ADDS APPROXIMATELY 1.3% TO TV SET VIEWING LEVELS

HOW BIG IS TV VIEWING ON TABLETS, PCS AND SMARTPHONES?



See pages 20-21 for 2017's top on-demand and live programmes

Source: BARB TV Player Report, 2017

PC, TABLET OR SMARTPHONE?

BARB's TV Player Report can tell us more than total viewing levels for online TV – we can also build a picture of when and how people are viewing.

In the top chart, aggregated data for the whole of 2017 show us the pattern of viewing throughout the day on PCs, tablets and smartphones. Broadly speaking, it shows an evening viewing peak, just like TV – although the viewing peak for devices (8-11pm) is later than TV's peak (around 7-10pm).

Looking in detail at share of viewing by device at different times of the day, we see a picture that's consistent overall (tablets ranking first, PC second and smartphones in third place), but with some interesting peaks and troughs.

Tablets peak in the morning – and it's clear that tablet viewing dominates breakfast time and the morning commute, peaking at 7am with 58% of device viewing, and dominating all the clock hours from 6-9am with more than 50% share. It's tempting to put this down solely to viewing while commuting, but from what we also know about the popularity of tablets amongst children, perhaps there is also an element of tablets as breakfast-time childminders.

PCs get their highest share of device viewing in the middle of the day between 12-3pm, no doubt driven by workplace viewing in the lunch hour (but perhaps not just in the lunch hour!), peaking with 40% share at 2pm. By contrast, share of viewing on tablets slumps at lunchtime (from 12-2pm) – with a share of 41% at 1pm (just fighting off PC to retain top place). In fact, in the second chart, we see that the share of tablet viewing and PC viewing are inversely related to one another over the day.

Meanwhile, smartphones get their highest share (23%) at 2am and throughout the early hours of the morning from 1-5am – reminding us that while smartphones are always within reach, they are rarely first-choice device for viewing TV content.

So, device usage grows throughout the day and tablets are the device of choice; but has that been changing over time? In short, not really. The TV Player Report has been gathering data since 2015 and in the third chart we show the trend for the past six quarters.

Since Q3 2016 (and indeed consistently since 2015), tablets have been the nation's favourite device for viewing TV content away from the TV set – taking around 45% of viewing time on non-TV devices. This first-choice position for tablets looks to be pretty unassailable, as viewing on PCs, the next most popular device, has declined 4.3 percentage points year-on-year from Q4 2016 to Q4 2017.

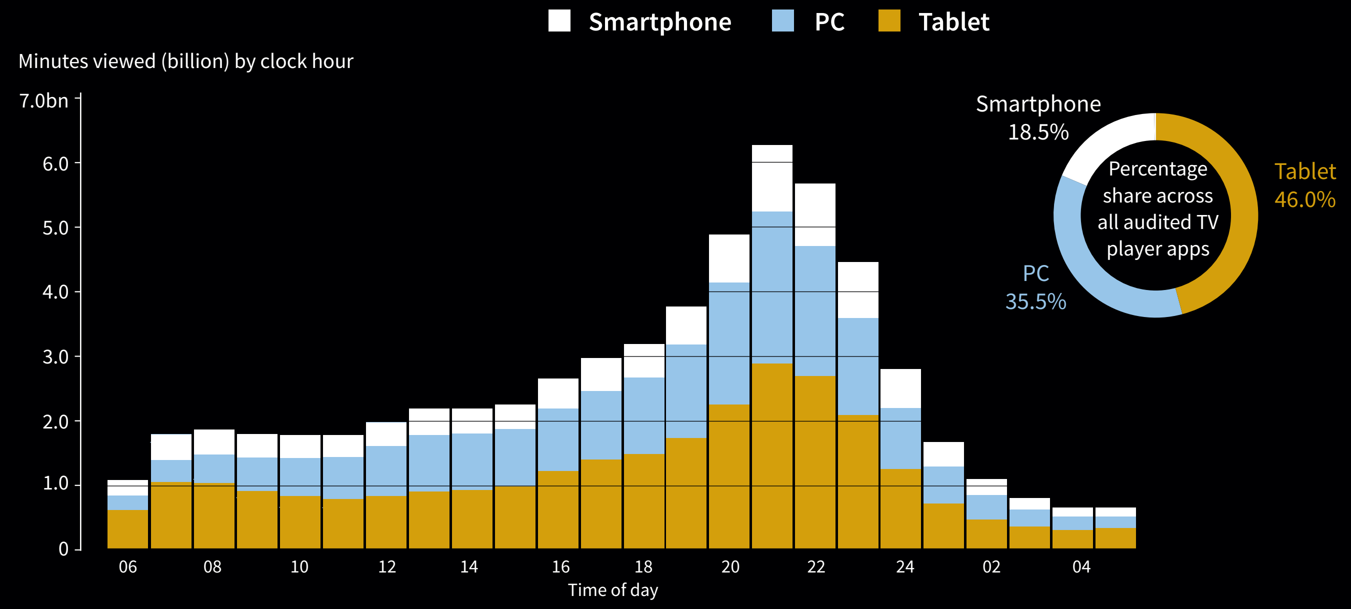
In contrast to this, viewing via smartphones has been on the increase – climbing more than three percentage points year-on-year - most likely due to a combination of the ubiquity of smartphones, the trend towards larger handset screens and cheaper data packages.

Nevertheless, the ranking of devices seems to reflect what we'd expect by way of the quality of the television viewing experience – larger screen sizes winning out over smaller and PCs losing out to the more personal devices of tablets and smartphones.

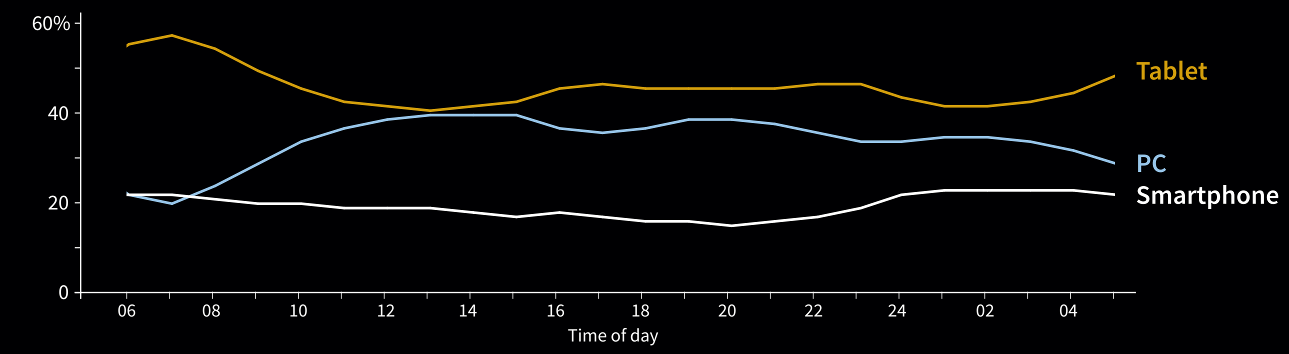
But overall, it's clear that we love watching TV around the clock on whichever device we can get our hands on; and, if we can, having prime time all the time. Let's take a look next at who's doing this online viewing.

DEVICE USAGE GROWS THROUGHOUT THE DAY AND TABLETS ARE THE DEVICE OF CHOICE

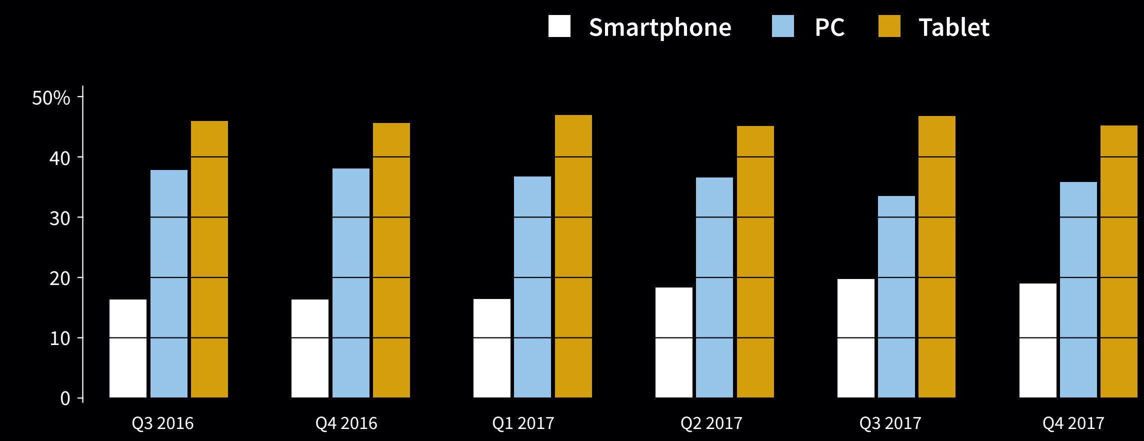
ONLINE TV VIEWING BY TIME OF DAY BY DEVICE



SHARE OF ONLINE TV VIEWING BY TIME OF DAY AND DEVICE TYPE



SHARE OF ONLINE TV VIEWING OVER TIME BY DEVICE



Source: BARB TV Player Report, 2017

WHO IS DOING THE VIEWING?

BARB's TV Player Report has been providing device-based census data about online viewing since 2015 – from the UK population at large. From 2018, BARB will tell us exactly who is doing this online TV viewing.

This is the outcome of Project Dovetail, which links the device-based census data to BARB's people-based panel data to provide the UK's only authoritative source of the demographic profile of online TV viewing. While BARB hasn't yet been reporting this information, we have been gathering it for some time and so we can share some findings from the BARB panel on just who it is that is viewing on PCs and tablets (we don't yet record viewing via smartphones for the BARB panel). These data are taken from the whole of 2017.

The top chart shows the gender and age profiles of online TV viewing. Looking at total online TV viewing, we can see that it skews to women more than men (perhaps challenging the convention that men, as TV's lighter viewers, might have been more likely to turn to online viewing), and to older audiences too. However, when compared with traditional TV set viewing profiles, the online picture is more as we might expect.

Children's share of online viewing by device (8.4%) leads their share of traditional TV set viewing (6.5%), while 16-34s take a far higher share of device viewing at 24%, compared to 15% of that via a TV set. Figures match more closely for 35-54s (taking 33% of device viewing and 28% of TV set viewing), while the over 55s take 51% of TV set viewing, compared to 35% of device viewing. Adults in the prime of their working lives, possibly pre-parental responsibility, and most likely to be out and about, appear to be the group whose online viewing behaviour is diverging from their TV set behaviour most sharply.

But age does seem to drive different viewing patterns – we see that older people are more inclined to view live, while viewing on-demand satisfies the desire among younger people to view when (and where) they want.

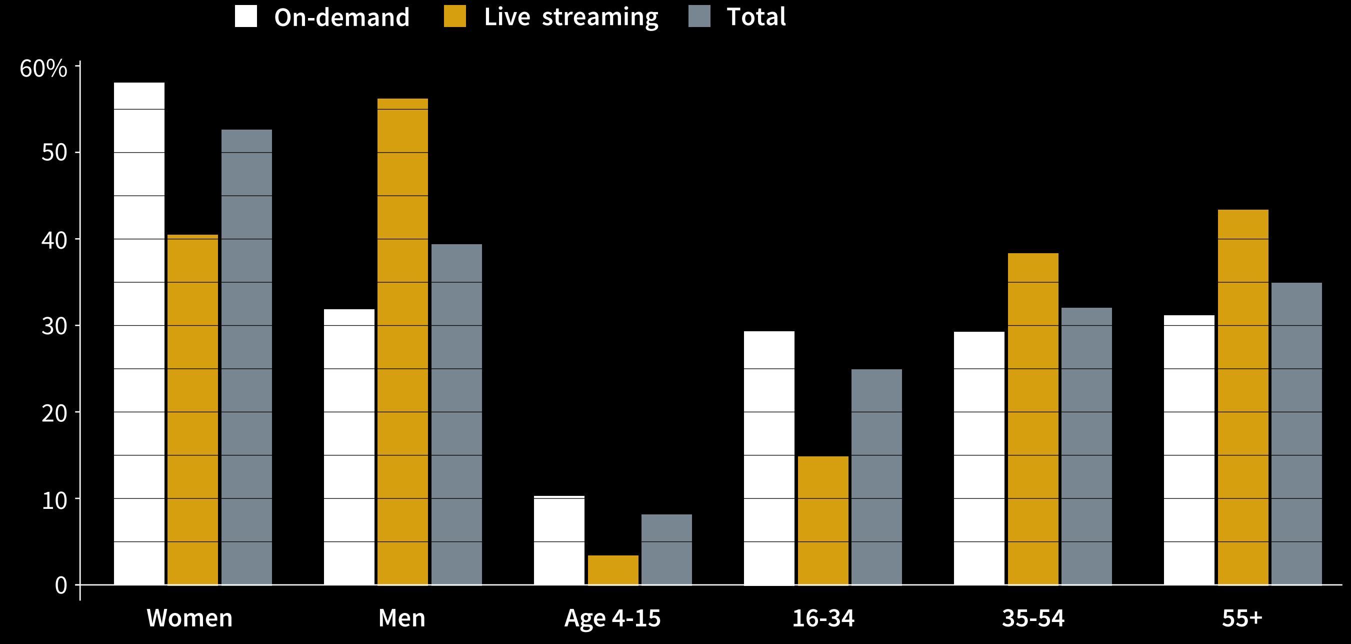
We can see a gender difference too between on-demand viewing and live streaming, with men much more likely to view live – largely driven by their interest in sports programming – and women more likely to catch up with their chosen programming on-demand. This is in keeping with long-established genre differences between live and timeshifted viewing.

Patterns of online TV viewing over the day bear a strong resemblance to the shape of TV set viewing generally – dominated by evening viewing, although a little later than traditional TV. The peak in online TV viewing for adult audiences is between 9-11pm, which builds earlier (from around 8pm) for older audiences (55+), but is concentrated into a shorter, earlier peak (9-10pm) for younger adults (16-34). This 9-10pm spike in young adult viewing (followed by a sharp drop) is accounted for by live streaming to Love Island (in June and July) and I'm a Celebrity (in November and December). With fear of missing out (and of spoilers on social media), these reality series are clearly something you have to see live.

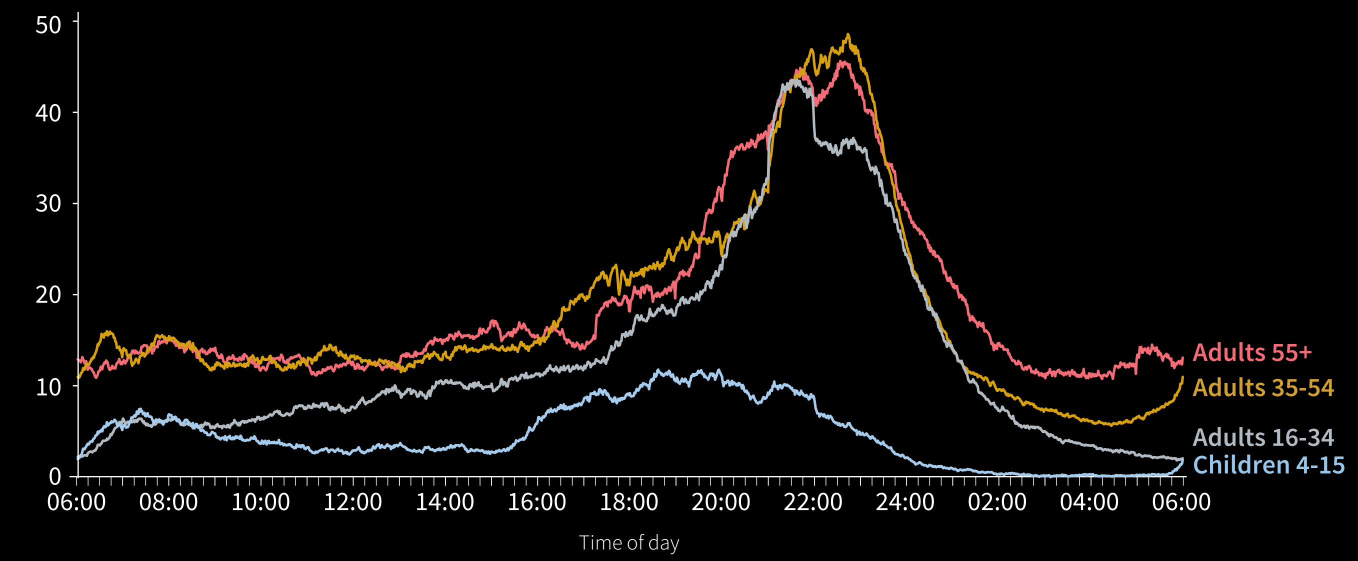
These articles on online TV viewing have given us a glimpse into the new insights that Project Dovetail will bring in 2018. Soon we'll be able to compare - across on-demand, live-streaming and linear - the viewer profiles of schedule stalwarts like EastEnders and Coronation Street that dominate the rankings in all environments, and see who's viewing what.

ADULTS IN THE PRIME OF THEIR WORKING LIVES APPEAR TO BE THE GROUP WHOSE ONLINE VIEWING BEHAVIOUR IS DIVERGING FROM THEIR TV SET BEHAVIOUR MOST SHARPLY

AUDIENCE PROFILES BY GENDER AND AGE – PC AND TABLET VIEWING



TIME OF DAY VIEWING BY AGE – PC AND TABLET VIEWING
Average viewing (000s)



Source: BARB panel – PCs & tablets, 2017

SVOD NATION

In *Bring on the box sets* (pages 18-19), we highlighted the fast-growing area of activity called unmatched viewing, which includes viewing more than 28 days after linear broadcast and non-broadcast viewing. Viewing to subscription video-on-demand (SVOD) services like Netflix and Amazon is part of unmatched viewing and is likely a significant contributor to this growth.

Unmatched viewing accounted for 16.4% of all TV set activity in 2017 and continues to grow. For example, during the spell of snowy weather this March, total TV viewing (live and seven-day catch-up) increased by 8.4% year-on-year in the week ending 4th March 2018. However, total screen time increased by 14.8% during this time. This led to unmatched content accounting for 19.5% of TV set usage. For under 25s, unmatched content accounted for nearly 43% of TV set usage in that week.

While we aren't yet able to measure actual viewing to SVOD services without the cooperation of the service providers, we can get a sense of the popularity of these services from our Establishment Survey, which has been asking questions about SVOD service take-up since 2014.

The SVOD market is enjoying a sustained period of growth in the UK; the number of households that subscribe to at least one SVOD service surpassed 10 million in Q4 2017, a 23% increase on Q4 2016. When you take into account homes that have more than one service, we can project that there are at least 14 million subscriptions to SVOD services. This is in addition to any pay-TV packages to which homes are committed; indeed, our data show that there is significant overlap between households that choose to pay for television and those that also choose to pay for SVOD services. Many households subscribe to both to get access to all of the content they want.

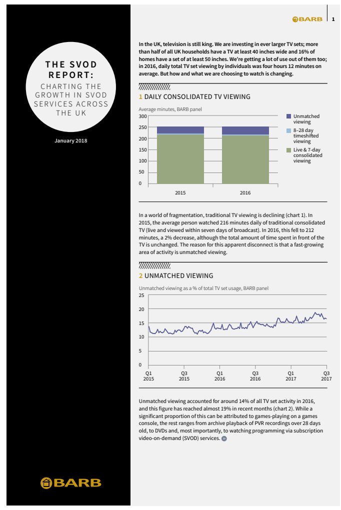
We can also compare the SVOD services by their total annual subscription growth. Netflix, still the dominant SVOD player in the UK, grew at the slowest rate of the three main services, with a 25% annual growth rate, but added the most subscribers in the year, rising by 1.6 million to a total of 8.2 million households. Amazon and Now TV were neck-and-neck in their annual subscription growth. Amazon grew 41%, adding 1.3 million subscribers to reach a subscription base of 4.3 million households, while Now TV grew by 40%, adding 0.4 million subscribers to reach a base of 1.5 million households.

Looking at SVOD access by age group, 55% of all children in the UK have access to one of the SVOD services. For young adults aged 16-24, 62% have access to one of the SVOD services, while the figure is 56% and 52% for 25-34s and 35-44s respectively. Deloitte's Mobile Consumer Survey indicates that the behaviour of young people is replicated by all ages five to eight years later (see Ed Shedd's guest article, pages 10-11), so SVOD access by older groups is likely to increase over this time too.

With SVOD services in 36% of UK households and continuing to grow, it's clear that SVOD isn't a new entrant or optional; it is a staple service. Far from being niche, SVOD services are now an established part of the television ecosystem.

To read BARB's recent SVOD report, featuring further analysis of SVOD access in the UK, visit: **http://www.barb.co.uk/news/the-svod-report-charting-the-growth-in-svod-services-across-the-uk/**

To see the latest data on SVOD household subscriptions, visit: **http://www.barb.co.uk/tv-landscape-reports/tracker-svod/**



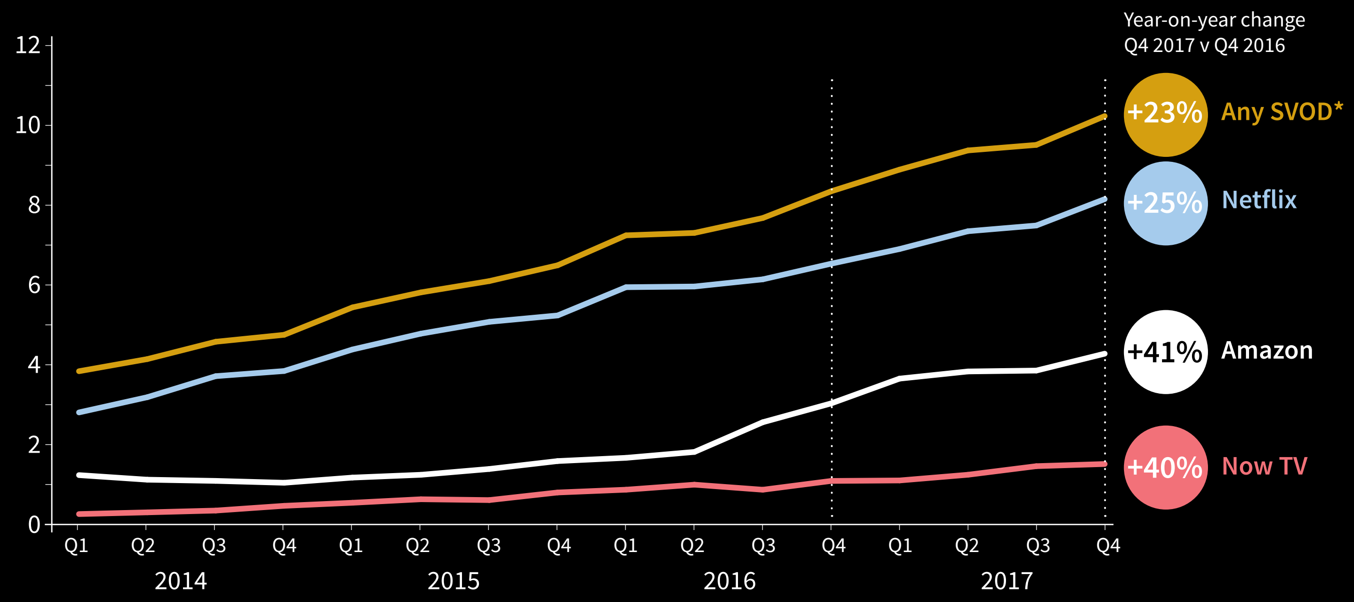
Above: BARB SVOD Report

WITH SVOD SERVICES IN 36% OF UK HOUSEHOLDS AND CONTINUING TO GROW, IT'S CLEAR THAT SVOD IS A STAPLE SERVICE

THE VIEWING REPORT
NEW INSIGHT

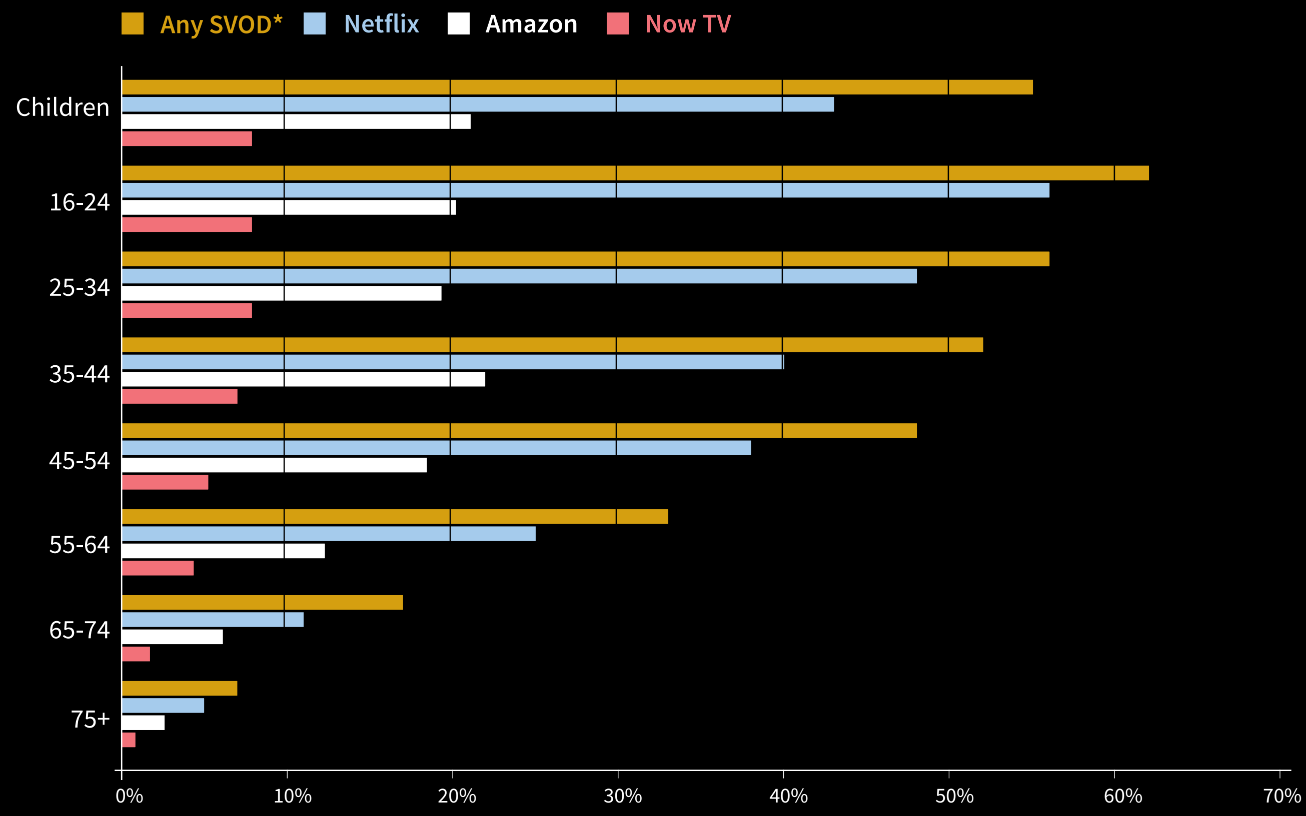
HOUSEHOLD SVOD TAKE-UP

Households with at least one subscription (millions)



Source: BARB Establishment Survey
*Any SVOD = any of Netflix, Amazon or Now TV

SVOD ACCESS BY AGE GROUP



Source: BARB Establishment Survey, Q4 2017
*Any SVOD = any of Netflix, Amazon or Now TV

BARB EXPLAINED

1 How we measure viewing to non-linear programmes

In the cold and dark days of winter, it's tempting to forgo an evening out in favour of curling up on the sofa and getting stuck into a box set. In December, the BBC brought back a host of programming to iPlayer for the holiday period, ranging from classic dramas and comedies through to natural history and family programming, while Sky offers hundreds of drama box sets to its customers.

At BARB, we are able to measure non-linear viewing on a TV set like this in the same way that we measure traditional broadcast television viewing, by using an audio-matching process. The software meters attached to the TV sets in BARB panel households take an audio sample of the programme, which is then turned into a digital fingerprint and matched to a reference library of programmes.

Normally, BARB builds its reference library of programmes by monitoring the linear schedules. In the case of these non-linear programmes, we rely on the rights owners providing us with a copy of the programme assets before they are made available through an on-demand player app. The BBC has been working with BARB to measure programmes in this way for nearly two years, while Sky has recently started to use this technique to understand how people are watching its box sets, providing programme assets for its crime thriller The Tunnel: Vengeance over Christmas.

Looking at the most watched non-linear programmes for which the rights owners had provided assets over the festive period, half of the top ten were children's titles on BBC iPlayer. Room on the Broom and Stick Man, the animated adaptations of writer Julia Donaldson and illustrator Axel Scheffler's picture books, topped the chart with average audiences of 328,000 and 295,000 respectively. The top ten also includes three entries for The Tunnel: Vengeance, while the top 30 is dominated by dramas on iPlayer, from the sole newly-released title, Feud: Bette and Joan, through to previously broadcast programming such as Sherlock, Line of Duty and Happy Valley.

One caveat to note is that if any of the titles were available on another service at the same time, we cannot distinguish which service viewing took place on; for example, Line of Duty was available to watch on Netflix as well as on iPlayer in this period.

But whether it's adults catching up on a recent drama or the kids enjoying an animated film, we can track which non-linear programme is being viewed, and who's doing the watching.

2 How we collect online TV viewing data

Did you know that if you, or anyone in the UK, watch television through a broadcaster's online TV player app, we can capture these viewing data? BARB's TV Player Report is the UK's only fully-audited, joint industry measure of online TV viewing on PCs, tablets and smartphones. It currently reports total viewing time on PCs, tablets and smartphones, and also programme-level audiences for online platforms such as All 4, BBC iPlayer, ITV Hub, My5, SkyGo and UKTV Play.

How does this work? We generate online TV viewing data from software code that has been added to 40 different online platforms; these have been audited by ABC to ensure the data meet our standards. Whenever someone in the UK watches a programme through a TV player app, be it live or on-demand, the embedded software creates viewing statements detailing what has been watched, and, to the second, for how long.

Above: BBC1's McMafia – the most-watched on-demand TV programme in January 2018
© BBC Worldwide

WE MEASURE NON-LINEAR VIEWING ON A TV SET IN THE SAME WAY THAT WE MEASURE BROADCAST TELEVISION VIEWING

Kantar Media collect these data for BARB so that we can publish data on the number of PC, tablet and smartphone devices that are being used to watch programmes, both on-demand and live streamed. Importantly, these are census-based figures; they represent total viewing levels for participating online platforms on these devices.

The TV Player Report data can be viewed in a number of ways. You can compare the aggregate viewing time or live streaming by TV player/channel or broadcaster group, examine these viewing levels over time or look at the top 100 programmes across all platforms or by TV player or broadcaster. So, you can find out that the most-watched live programme in January was the Premier League clash between Liverpool and Manchester City on Sky Go, and top of the on-demand chart for the month was the first episode of crime drama McMafia on BBC iPlayer.

You can also now look at viewing levels over time by device. This shows a spike in viewing on tablets and PCs during the week of last year's general election, 5th – 11th June. If we were to look at these data day-by-day, no doubt we'd find this peak on Thursday evening/Friday morning, driven by night owls keeping up with the twists and turns of another unpredictable night of politics.

If this has whetted your appetite for more online viewing data, you can explore the TV Player Report on our website, visit **http://www.barb.co.uk/project-dovetail/tv-player-report-2/**

3 Understanding how people watch on PCs and tablets

Previously, we looked at how we collect the online TV viewing census data that go into our TV Player Report. These data represent total viewing across PCs, tablets and smartphones, but they don't tell us about the people doing the viewing. How do we know who they are and how many people are watching? To find this out, we must go to BARB's nationally-representative panel of homes.

Many European countries use several panels to monitor viewing on different devices. In contrast, BARB's strategy is to have a single-source for how people watch on different devices. This has the advantage of generating better inputs, as BARB meets the need for deduplicated reporting of programme and commercial audiences across multiple screens. We also have to consider that combining data from multiple panels is likely to result in less precise demographic profiles, which are key for our customers.

This is why the majority of the 5,100 homes on our panel have software meters attached to their PCs and tablets which track their online TV viewing; panel members must register who, and how many people, are in front of the device.

The panel data provide valuable demographic context for the TV Player Report's census data. For example, we can look at the age profile for total viewing time to BARB-measured TV player apps via PCs and tablets in 2017. This shows that for all viewing via computer devices, around a quarter came from 16-34s – who only account for 15% of all TV set viewing. For All4, this →

figure was even higher, at 41% of all viewing, highlighting the demographic differences between the online players.

We don't yet track panel homes' viewing on smartphones. Smartphone users are selective about which apps they download, so they may not wish to have software meters installed on their phones to monitor their viewing in this way. We believe that the risk of panel homes deciding to leave due to the perceived intrusiveness of a smartphone measurement system is not matched by the reward in collecting these data, as smartphone viewing makes up a tiny percentage of total television viewing. PC, tablet and smartphone viewing as a whole add just under 1.5% to TV set viewing, and we know that less than one-fifth of this is on a smartphone.

We are exploring the use of router meters as a method of monitoring a household's viewing across all devices, including smartphones.

4 How we report dynamically served advertising

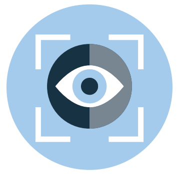
BARB reports viewing to commercials, known as commercial impacts, in the same way that we report viewing to programming. These data are relied upon by advertisers and agencies looking to assess the return on investment of their advertising campaigns. But how do we report dynamically served advertising?

Dynamically served advertising is the ability to swap one ad in a television programme for another, in order to replace an ad seen by linear television viewers with one that is targeted to a specific audience. BARB was the first television industry currency in the world to deliver a measurement of dynamically served advertising; we have been delivering a solution for Sky Ad Smart since 2013.

How does it work? Working with Sky, the advertiser chooses the target audience for their dynamically served ad, based on factors such as location, demography and lifestyle. Sky then flags when an ad that was due to air in the linear broadcast is replaced by a dynamically served ad in households matching the advertiser's target audience. This substitution is picked up by the meter attached to the TV sets in BARB panel homes, so we know an ad has been switched. This means we can ensure the commercial impacts are not attributed to advertisers whose ads have been swapped out for the dynamically served ads.

Our measurement system gives all BARB customers the ability to see the extent to which commercial impacts have moved into this new commercial format. For example, our data show that Sky AdSmart impacts increased by 92% year-on-year, based on all individuals for the calendar month of January in 2017 and 2018. In January 2018, Sky AdSmart ads accounted for 1.15% of all impacts sold by Sky.

We report the commercial impacts for dynamically served ads at an aggregate level; we don't provide a verification service for individual Sky AdSmart campaigns. We are also in conversations with other platforms and broadcasters with the objective of delivering equivalent reporting for their dynamically served advertising propositions.



5 Our approach to viewability

It's natural that advertisers would only want to pay for an ad that has had the opportunity to be seen by a person. This is why viewability is an essential part of any media measurement system.

At BARB, we consider a television programme or commercial to have been viewed on a TV set when it is watched at normal speed, and at least one panel member is registered as being in the room. We deliver duration-based metrics because our television ratings (TVRs) are based on a technique that estimates the average number of people present across the duration of the ad.

The principles in this approach are important as we start to report viewing to online TV commercials. This is because the industry is asking us to apply these conventions, rather than using viewability standards based on the video content being partially in view for a minimum number of seconds.

Our reporting of online TV viewing relies on two data sources. Firstly, we collect data from software meters that are installed on tablets and PCs in our nationally-representative panel of UK homes: this provides evidence of who is in front of the screen. Secondly, we collect census-level streaming data from viewing apps that have been enabled by their owners to deliver duration-based information on viewing sessions.

BARB WAS THE FIRST TELEVISION AUDIENCE CURRENCY IN THE WORLD TO DELIVER A MEASUREMENT OF DYNAMICALLY-SERVED ADVERTISING

So how do we approach viewability in the context of these inputs?

The first point is that our online TV metrics are duration-based. Our metric reports the average number of streams for both programmes and commercials; this takes into account the total amount of time that a programme or commercial has been seen and is analogous to established TV metrics such as average audience and TVRs. These metrics have been ratified by JICWEBS, the industry-owned body responsible for the development of online measurement standards.

The next point is we only collect census-level streaming data from tablets and smartphones if the app is fully viewable on the screen. In 2017 these devices accounted for 64.5% of time spent watching online TV, excluding the TV set; all of this is fully viewable.

There is a potential issue when online TV is viewed on PCs; last year this was 35.5% of online TV viewing on devices other than the TV set. An issue can arise when someone interacts with content in multiple browser windows or opens another application over the top of their web browser.

Commercial broadcasters are working with industry-ratified vendors of viewability products, that can help to identify when PC-based viewing of television programmes and ads is in the top window. BARB will work with commercial broadcasters with the intention of building these viewability measures into our reported viewing figures for online TV commercials.

We are working on producing multiple screen viewing data for commercials using the Dovetail Fusion methodology and will have an update on this later in the year.

6 Why duration-based metrics are important

Previously we explained why duration-based metrics are key to BARB's approach to viewability. However, duration-based metrics are important for other reasons.

The chief alternative to duration-based metrics is the reach measurement. Reach is the net number or percentage of people who have seen a specified amount of a particular piece of content; for television, this might be a programme, channel or advertising campaign. The amount of viewing that an individual must have done in order to be counted as having been reached varies by medium. The BARB definition is for this to be at least three consecutive minutes.

This means that the reach figure for a television programme is often much higher than the average audience figure, but arguably less meaningful. Reach provides an indication of the number of people that watched at least three minutes of a show – but they may have not liked the show and so switched off, or they may have just caught three minutes of the middle of a programme while channel-surfing. By contrast, average audience represents the total amount of time viewed, which is a more reliable indicator of popularity; after all, if you enjoy a show you are likely to watch more of it. We can see a number of examples of this if we look at the reach compared to the average audience for various programmes that aired in January/February 2018.

It is logical that average audience figures are considerably different to reach figures for certain programmes. Match of the Day has a higher reach than average audience, as fans may tune in just to catch their team's game. By contrast, a film like Batman Begins on Channel 5 has a slightly higher average audience, as viewers are engaged by the narrative and so likely to watch the whole broadcast. The ITV weather has a high reach thanks to inheriting an audience from the news, but a lower average audience, perhaps because viewers start switching off when they remember that forecasts are unreliable! Why the average audience for The Graham Norton Show is so much lower than the reach is a little harder to unpick, but given that 28% of viewing to this episode was timeshifted, it may be that viewers are fast-forwarding though the show to get to their favourite guest, be it Jamie Dornan or Dame Helen Mirren.

Nonetheless, advertisers come to television to build reach; television is widely acknowledged to be one of the most effective media for addressing a large number of people. That said, the frequency of seeing an ad is also important for brand-building and this is where duration-based commercial impacts are used alongside reach metrics. And when it comes to determining the cost of a campaign, the latter naturally takes priority.

DURATION-BASED METRICS ARE A MORE RELIABLE INDICATOR OF POPULARITY AND ENGAGEMENT

TRENDSPOTTING

Every year in The Viewing Report, BARB examines UK television viewing behaviour in the previous year from three key angles:

Timeshift – how much timeshifted television did UK viewers watch? When and why did timeshifted viewing peak and dip? Which genre was the most timeshifted? And which demographic and region were responsible for the most timeshifted viewing?

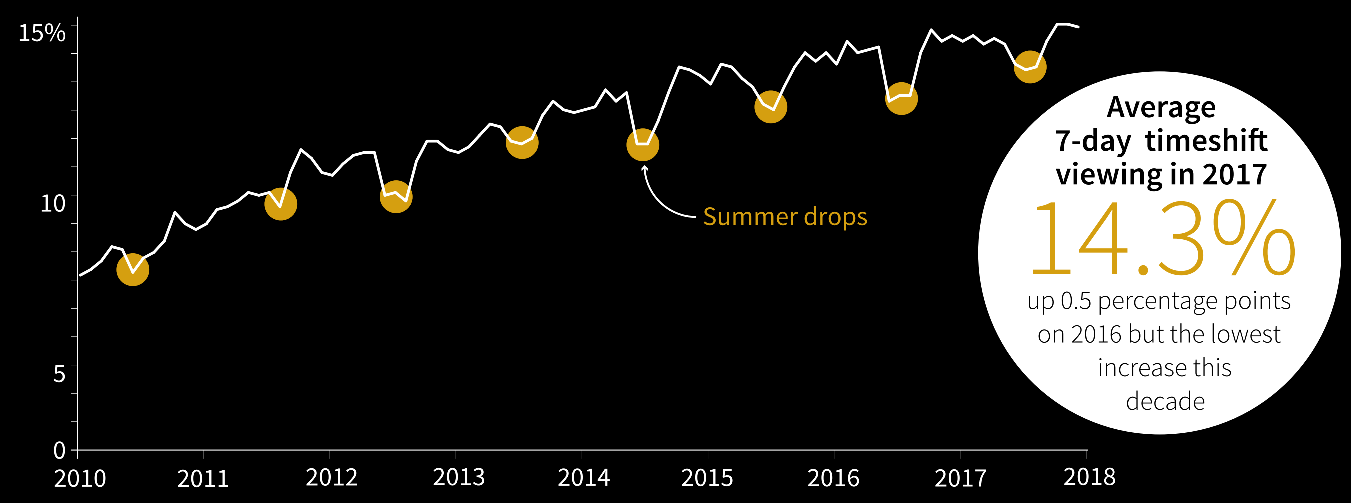
Share by genre – How did the genres rank by share of total TV viewing? Which genres saw significant increases or decreases in their share, and why?

Share by broadcaster – How did the major broadcaster groups rank by share of audience? Which of their channels had the highest share?

Over the next three pages, we'll find out the answers to these questions for 2017 viewing.

For further updates on viewing trends, check out the Trendspotting tab on the BARB website, which features quarterly trackers of metrics such as device access, SVOD households and UK households by TV platform.

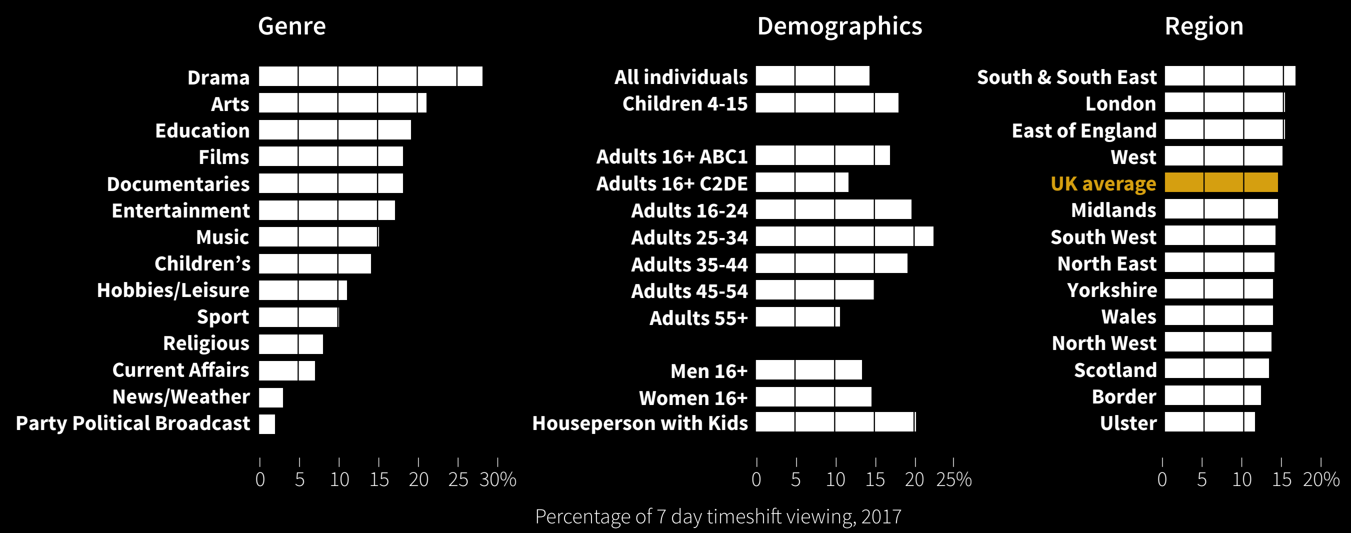
WE CONTINUE TO WATCH MORE TIMESHIFTED TV



We continue to watch more timeshifted TV. Average 7-day timeshift viewing in 2017 was 14.3%, an increase of 0.5 percentage points on 2016 – but this was the lowest increase this decade.

As usual, the summer months saw a dip in timeshifting, although with the absence of a major international football tournament or Olympic Games this dip was smaller than in previous years. With timeshifting more stable across the year, it is possible that audiences are turning their attention elsewhere. We know that unmatched viewing is growing and can surmise that SVOD services account for a large part of that. Netflix, Amazon and Now TV may be impacting timeshifted as well as live viewing.

TIMESHIFTING BY...



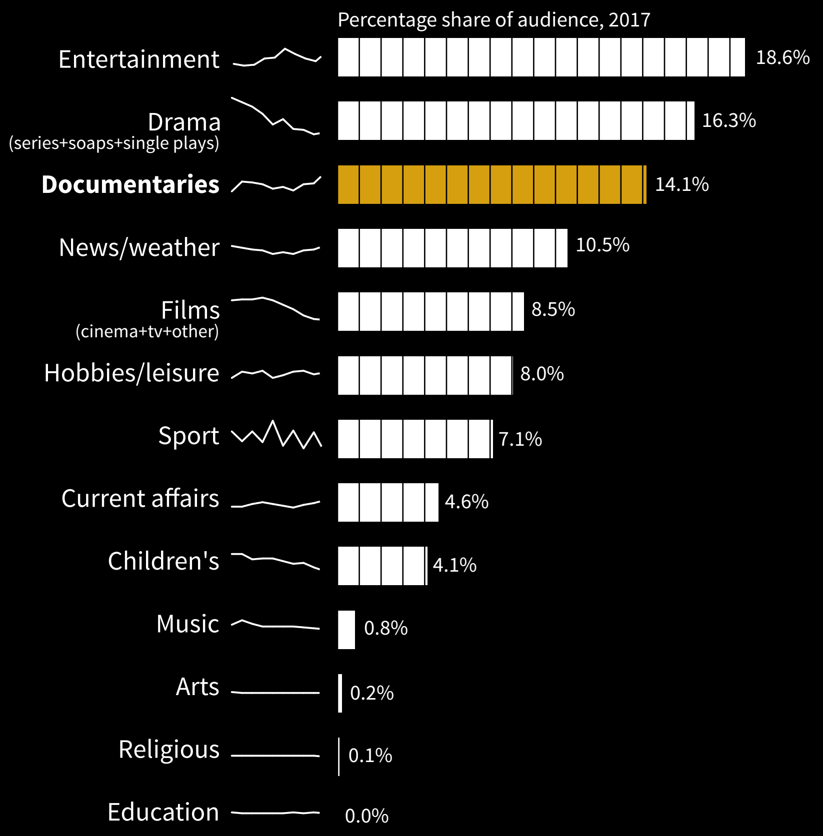
Percentage of 7 day timeshift viewing, 2017

In 2017, drama retained its place as the most timeshifted genre. Adults 25-34 and the South & South East and London continued to be the demographic and regions doing the most timeshift viewing, likely a reflection of time-poor professionals with young kids and long commutes using timeshift to catch up on their favourite shows.

Source: BARB

THE GENRE RANKINGS

Trend in % share of audience, 2008–2017



In 2017, four unlikely characters have come together to influence our viewing habits: President Donald Trump, David Davis MP, Syrian President Bashar al-Assad and Prue Leith. They are all central characters in helping the factual television genres (documentaries, news/weather and current affairs) reach a 29.3% share of viewing – more than a four-point increase since 2014.

Sport's share of viewing fell, as expected in an odd-numbered year, while the children's television market continues to struggle, with the genre dropping another 0.4% to follow the 0.5% fall in 2016. As children's unmatched viewing grows (reaching a daily average of 53 minutes in 2017 from 43 minutes in 2016) we may be witnessing the impact of SVOD services, such as Netflix, exerting downward pressure on viewing to linear children's programming. The FIFA World Cup will undoubtedly see sport bounce back in 2018, but another genre showing strong growth in 2017 was entertainment. Strictly Come Dancing, I'm a Celebrity and a plethora of reality entertainment shows have driven the genre forward in 2017.

DOCUMENTARY STATS

Documentaries cover a wide spectrum of interests, and attract significant audiences*

Documentaries were the fastest growing factual genre, increasing their share by 1.1 percentage points to reach 14.1% – the highest level this decade. This was in no small part down to BBC One's Blue Planet II. Below we take a look at who these viewers were compared to the next biggest show broadly defined as a documentary – Channel 4's The Great British Bake Off.

Blue Planet II reached

38.0m

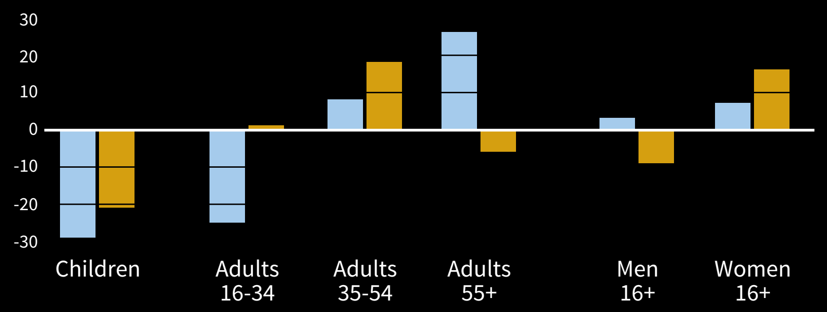
The Great British Bake Off reached

29.7m

* All individuals aged 4+ that viewed for at least three consecutive minutes

Blue Planet II skewed older, while The Great British Bake Off appealed more strongly to women

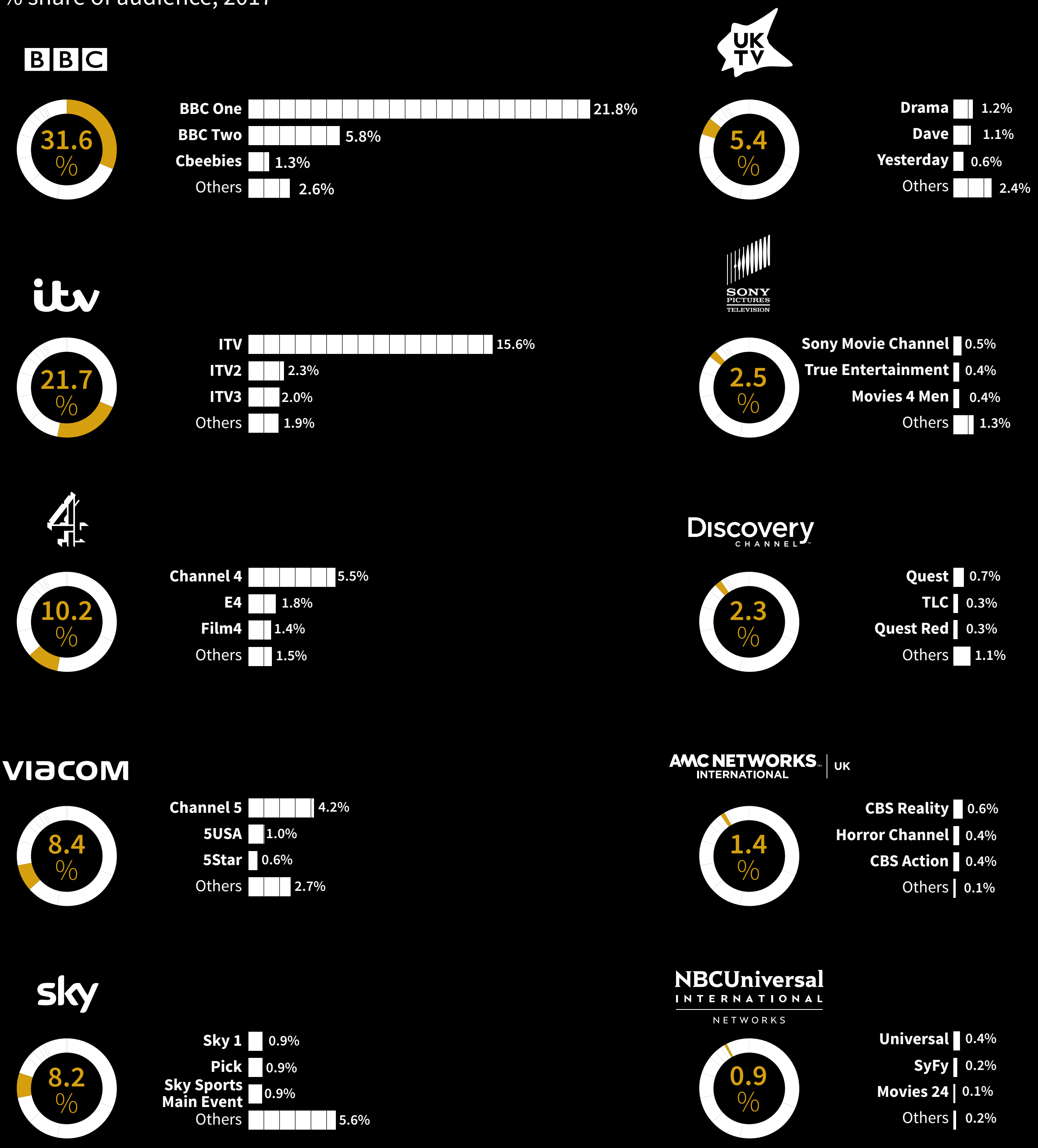
Viewer index (against total universe)



Source: BARB

TOP TEN BROADCASTER GROUPS

% share of audience, 2017



Looking at the top ten broadcaster groups by share of viewing in 2017, the top nine remain unchanged on 2016, with Viacom and Sky swapping places as Viacom moved up to fourth place. The two remain very close in share, separated by just 0.2 percentage points. The main change sees NBCUniversal International Networks claim the tenth spot in the share ranking, with 0.9%, displacing Turner which held tenth place in 2016.

BARB runs two free training sessions for subscribers at its offices in central London, to help the media and advertising industry better understand how we deliver a trusted audience measurement currency.

Boot Camp is designed to support the emerging generation of media agency, broadcaster and advertiser talent. It gives an introduction to BARB and what we do: how the BARB panel is formed, how we measure viewing from panel households and how we collect census data from TV player apps. It also offers an insight into our plans for the future. This session is for those who are new to the industry or want a refresher on the basics of how we measure and report audiences.

To book a Boot Camp session, please contact Client Services Manager, Sarah Mowbray: **sarah.mowbray@barb.co.uk**

Reboot is designed to advance the skills of those who are already established in the industry and use BARB data but are curious to find out what more they can do. These sessions help to explain the potential of the data, including how new developments will shape the future of the BARB service. It focuses on the following topics and questions:

- What demographics do we collect from our panel?
- How are the BARB data structured and how can they help you analyse TV viewing?
- Tips on segmenting and creating dynamic audiences.
- How the technology behind the panel is adapting to keep up with changing viewing habits.
- Using the BARB Establishment Survey to understand your potential audience and size.
- How are SVOD services growing and overlapping with TV platforms?
- Project Dovetail: How will it work and what will you get?

To book a Reboot session, please contact Insights Manager, Douglas Whelpdale: **doug.whelpdale@barb.co.uk**

If you have any questions or would like to know more about other reports from BARB, please contact **jessica.bromley@barb.co.uk**.

There is also plenty of information on our website, which includes further details about our plans for the future. In the About us section of our website you can also find contact details for all members of the BARB team.

To keep up to date with BARB and the latest reports, follow us on Twitter and LinkedIn or request to be added to our *What's new from BARB* mailing list.

We hope you have enjoyed reading this report and we look forward to your feedback.

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