It’s About Time: Measuring Media Impact
Andrew Green
Overview

“Time is what we want most, but what we use worst.”
William Penn

- Advertisers need cross-platform and cross-media metrics. Reach and frequency have long been at the heart of media trading and media evaluation. Yet the link between these metrics and potential exposure and cut through varies between and across media. So what other metrics should be considered?

- Measurement of reach differs between media: in most countries, somebody reached by a television ad is defined as being in a room in front of the screen at the moment a commercial airs. A press ad, in contrast, simply has to be placed anywhere in a publication which somebody has read any part of to be counted as ‘reach.’ A digital display ad needs to have initiated a load onto a user’s device to be counted in the reach calculation.

- Reach is clearly not the same as impact. Quite apart from the differences between media, somebody reading an entire magazine they subscribe to every month is given the same value as somebody glancing through it in a waiting room. Somebody browsing past a web page for a few seconds is treated as equivalent to somebody staying on the page for ten minutes to read the content.

- How can we move beyond reach? Time can be considered as one quantifiable measure of people’s attention. It is already incorporated directly into television audience measurement and, to a lesser extent, into radio measurement. A handful of newspaper and magazine publishers are trialling time-based metrics to market their online advertising inventory.

- Softer engagement measures, such as what people say they feel about particular programmes or magazines, tend to be more subjective, changeable over time and place and harder to compare between different media.

- Eye-tracking, which offers a measure of eye ‘fixations’ for screen-based media could be considered as an even closer measure of attention than time spent. It has become more scalable in recent years, but it is still too soon to apply such a measure across the board.

- But time is not a panacea, any more than audience reach is. It too has flaws and limitations as a measure. One minute spent ‘watching’ a TV commercial is unlikely to have the same impact as one minute browsing a website where a banner ad is sitting on the page or one minute spent with a newspaper where an ad is buried in the middle.

- Advertisers certainly don’t value time in the same way between media. Data comparing the amount of money they spend with the various media and the amount of time people spend exposed to advertising are not correlated. But despite this, they give us clues as to likely future trends in advertising expenditure.
Time is built into the measurement of television audiences. A ‘rating’ or GRP - the traditional measuring stick applied to a programme - comprises the % of people tuning into each minute of a programme and the number of minutes they view.

The same calculation can be applied to an entire commercial break or to an individual commercial.

But television is unique. Radio also has a time dimension, but the calculation of its audience is slightly different: here, people claiming to tune in during a given quarter hour are assumed to be listening to any commercial aired during that period.

Time spent listening is usually a sum of all the quarter hour periods people have listened to for at least five minutes (this calculation is used even where actual minutes are now tracked passively via a handful of electronic measurement systems).

For newspapers and magazines, the measure of advertising opportunity is the number of people who claimed to have read or looked into any part of a publication over a given period (e.g. a day for daily newspapers, a week for weekly magazines etc.).

For Out of Home media, anybody passing within an area where a poster can be seen counts as an audience (although often a ‘visibility’ factor is applies to the raw numbers). Time is not an integral part of the measurement.

For digital media, the definition of ‘audience’ also has limitations: a ‘Page View’, for example, is simply the initiation of a page load by a user clicking on a link. Within a Page View, users generate ‘Hits’ for every file they request (a web page usually contains multiple images, each of which is a separate file).

Once initiated, there are a series of steps which occur, from an ad being sent, delivered and then actually rendered on the user’s screen. As with print, time spent can be measured, but it is not incorporated into the Page View metric.
Time is of the Essence

Time can, though – at least technically - be incorporated into many of these measures. Apart from television and radio, where it is already a consideration, readers of newspapers and magazines are often asked in studies about how much time they spend reading. On average, in the United Kingdom, readers of the 250 or so printed publications that are measured spend around 18 minutes every day reading them. In the United States, adults spend around 28 minutes a day with printed publications.

Both these estimates come from eMarketer, and are based on people's memory of how much time they spent reading, not on a passive record such as the TV meter provides. Only reading of major titles is captured in the measurement.

For digital media, the Media Ratings Council in the United States has introduced a time dimension into the audience data, ruling in 2014 that a ‘viewable impression’ (an ad that can physically be seen by a user) should be one where a minimum of 50% of the ad’s pixels are in view for a minimum of one continuous second. Many have argued that this is a far from sufficient guarantee of an ‘opportunity’ to see an ad comparable with other media. But it’s a start.

Analysis by comScore found that, in the first quarter of 2016, less than half of the digital display ads monitored by them internationally were actually viewable on even this rather loose definition of viewability. Work by Eye-Tracking company Lumen in the UK found that, even when an ad was technically viewable, it was unlikely to be looked at.

About half of the digital display advertising ‘served’ (sent to a web page being loaded by a user) is not seen. This may be because it appears below the active screen being looked at, because users click past before it loads or a host of other reasons.

Only 9% of the ads served are actually seen (eyes fixed on the ad) for more than a second.

This compared unfavourably with advertising appearing in traditional newspapers (although these were shown to respondents on large computer screens), where 40% of ads served were looked at.

Technology has enabled a handful of publishers to incorporate time more formally into their sales equation. It is possible to track the amount of time any given web page is in the active browser of a device. The Financial Times, for example, saw advantage in selling advertising on their website based on the amount of time spent with their content (and the advertiser’s content), rather than simply looking at reach.

It was a metric where they knew they could compete. Despite relatively lower numbers of readers, they have readers who tend to spend more time with the content. Their Cost Per Hour package was introduced in 2015 and, one year on, boasted more than 30 campaigns based around it.
The Trouble with Time

According to eMarketer, based on a range of sources, the average American spends 12 hours and 5 minutes using media every day, while the average UK adult spends 9 hours and 47 minutes doing so.

On the face of it, these are rather meaningless numbers. But they do serve to show that there is a lot of multi-tasking going on. People play with their phones or tablets while ‘watching’ television. They may read (or surf the Internet) while ‘listening’ to the radio. If they were not multi-tasking, there would be little time for work or sleep.

And the level of multi-tasking is just one reason why, just as reach is an imperfect metric on its own for comparing different media, so too is time. Who can say whether a viewer’s attention is on the TV ad or his Facebook friends during a commercial break? Which ad is most prominent if somebody is reading the morning paper while the radio is on in the background? Or can both be taken in?

The questions continue. Even without multi-tasking, can we really compare a minute searching for something on Google (lean forward, full attention) with a minute watching television (in the room with the set on, mostly attentive) and a minute browsing the Internet (hundreds of ads, many non-viewable or, even when they are, not looked at)?

How much time does it take before an ad has ‘cut-through’ or somehow registered in the conscious (or sub-conscious) of the reader or viewer? To what extent is this dependent on a person’s mood, surroundings or motivations? And how important is the creative impact of the ad itself in this equation? Factors like attention, engagement, cut-through and so on are not taken into account here.

As noted earlier, Eye-Tracking data suggest that around 40% of ads shown to people looking through a newspaper on screen were looked at for one or more second - more than four times as many as the 9% “seen” on digital sites generally. We don’t have comparable data for other media, but this reinforces the message that time people spend on a page with advertising on it is not the only thing that counts.

In other words, time is a useful complement to reach in assessing the value of different media opportunities to advertisers. But it is not sufficient. Which brings us to Mary...
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Mitigating Mary

It is often said that if you repeat something enough times, everybody will believe it.

Mary Meeker is well known in the advertising and marketing community. Forbes voted her the 86th most powerful woman on the world in its annual rankings for 2016. She is particularly well known for her annual Internet Trends Report, where she reports on all the shiny new digital trends and toys hitting the world.

A regular feature of the report is a slide which compares the share of advertising expenditure in the United States going to each medium with the share of time spent using these media. The underlying assumption of the chart is that advertisers will follow the people. The share of ad spend, it says, will inevitably tend towards matching the share of time people spend with a medium. The title of the chart presented in 2016 was clear about this: ‘Advertisers Remain Over-Indexed to Legacy Media.’

In other words, if people are spending 5% of their time with a medium and advertisers spend 10% of their budgets in that medium, ad spend shares are likely to decline – and vice versa. The obvious standouts are Print (with a share of time spent just a quarter of its share of ad spend) and mobile (where the share of ad spend is half the share of time spent).

On the face of it, this seems to make sense. The number of people (and therefore the amount of time) spent with printed newspapers or magazines is declining. The amount of time spent online and using mobile devices is rising. Advertisers are likely to follow suit.

But is it really that simple? Are all minutes created equal?

@ MARGIN... ADVERTISERS REMAIN OVER-INDEXED TO LEGACY MEDIA

% of Time Spend in Media vs % of Advertising Spending, USA, 2015
Are the numbers even right or comparable?

As discussed earlier, time spent is not the only thing that matters – though it is something that is, on the face of it, common between platforms.

As also noted, time spent is not calculated in the same way across the different media. For television and the Internet, it is pretty much a metered measure; other media use recall data of one sort or another. Time spent with print is certainly under-estimated due to several thousand smaller magazines and newspapers where ad spend is counted, but not the time spent reading them.

There are other niggles with the data. Online or mobile access to TV, radio or newspaper content is included in the digital figures but not in the ‘legacy’ numbers. GlobalWebIndex figures (based on recall) suggest that this accounts for around a third of online time. Some of this online content will contain the same ads which aired offline (e.g. for ‘catch-up’ TV).

We have validated eMarketer’s estimates of time spent watching commercial TV and listening to the radio, but believe the digital time spent numbers to be lower than those published (we estimate the average US adult spends approximately 3 hours and 27 minutes a day using the Internet – based on comScore/IAB data), while the average UK adult spends 3 hours 9 minutes online.

Out of Home media are not included in Meeker’s US analysis. It is possible for the UK, where journeys are metered, to calculate the amount of time people spend out of their homes and within sight of a poster frame. We estimated for ROUTE that the daily figure was around 16 minutes per person. We are not aware of a comparable figure for the USA. Advertising expenditure data is taken from WARC.

We have taken Meeker’s analysis a little further, by focusing in on the time spent potentially exposed to advertising, rather than total time spent with each medium (and we have used the UK as our example).

In the UK, roughly 12% of commercial TV time and 18% of commercial radio time consists of advertising. It is relatively easy to transform time spent with these two media into time spent potentially exposed to advertising, as advertising is all that they will see or hear when it airs (unless they are multi-tasking…).

It is more challenging for other media. For example, almost all newspaper and magazine spreads contain advertising, as do all poster sites. So, while we can say that 20 minutes exposed to (e.g.) newspapers, is potentially 20 minutes exposed to advertising, the advertising is mixed with the articles people are reading and there are often several appearing in the same spread. TV commercials are shown separately to the programmes and each one occupies all of the screen when it airs.

In other words, when comparing media, the likelihood of somebody seeing a particular advertisement during a given minute is lower than the likelihood they will see any advertising. Readers will have more ads placed in front of them than viewers and so each individual message is likely to be seen for less time.

Although reliable figures are hard to find, it is also worth mentioning that perhaps one third of total Internet time is spent on largely advertising-free activities such as email and banking or other apps. This is very much an estimate (we have not seen any definitive research on this). When online, users may see ads ‘in-stream’ (equivalent to TV advertising) or as one of multiple messages appearing on the screen around other content (like newspapers and magazines).
With all these caveats in mind, the following is our version of Mary Meeker’s chart for the UK:

**MARY MEEKER REVISITED: UK TIME SPENT* VS ADVERTISING SHARES**

<table>
<thead>
<tr>
<th>Medium</th>
<th>Time Spent (Mins)</th>
<th>Estimated Adv. Mins</th>
<th>Ad Spend (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>188</td>
<td>23</td>
<td>7,663</td>
</tr>
<tr>
<td>Radio</td>
<td>83</td>
<td>15</td>
<td>905</td>
</tr>
<tr>
<td>Print</td>
<td>18</td>
<td>18</td>
<td>4,031</td>
</tr>
<tr>
<td>Digital</td>
<td>189</td>
<td>126</td>
<td>13,148</td>
</tr>
<tr>
<td>OOH</td>
<td>16</td>
<td>16</td>
<td>1,617</td>
</tr>
<tr>
<td>TOTAL</td>
<td>494</td>
<td>198</td>
<td>27,364</td>
</tr>
</tbody>
</table>

For the UK, looking at the data in this way suggests that television lags behind its ‘natural’ share on Meeker’s total time spent measure – but is ahead of its share of advertising impressions. As noted above though, each minute exposed to a television ad is mostly time only exposed to one ad, without competing content on the television itself.

Radio looks to be underinvested, even allowing for the fact that its time spent calculation is fairly generous towards the medium. Out of Home is also underinvested on this measure.

Print still looks overinvested in the UK though by less than Meeker’s US analysis indicated. Digital advertising looks like it will continue to grow.
Conclusions

- Reach is a necessary, but far from sufficient measure of media impact. Definitions of media reach vary between and amongst media types. All measure ‘opportunities’ to see an advertising message rather than actual exposure.

- But opportunities to see advertising vary in their likely closeness to actual exposure.

- Time is a metric that can, in principle, be used across all media. It is already built into the measurement of television and radio audiences and is available from many digital audience measurement systems. Time spent reading is also asked about in a number of readership studies.

- Time spent is a ‘hard’ metric, in contrast to softer measures such as people’s subjective opinions on their ‘connection’ or relationship to the media they use. These can vary over time and between different contexts.

- But if time spent can be a useful surrogate for attention, it has limitations. Methods of calculating time spent vary between media. The number of ads in view in any given minute and the context in which they can be seen also differ by medium. As a result, the value of every minute is different for an advertiser. That said, every ad still has an opportunity to break through in whichever medium it appears.

- A simplistic comparison of the share of time spent and the share of advertising expenditure by medium – often cited in media reports - is a flawed one, even when the data suggest the future trajectory of media spending accurately.

- What is clear is that advertisers need to consider a range of measures (reach, frequency, time spent, attentiveness) when deciding where to invest their marketing budgets.
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