

The value of media environment in engaging digital display audiences

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1. Introduction

At the 2015 PDRF conference, along with Andrew Green (IPSOS), I presented findings on attention to print advertising from our paper *Engagement as visual attention: A new story for publishers*. Drawing on eye-tracking data collected from Lumen's weekly press omnibus, we presented statistics on the typical levels of attention press ads achieve, highlighted the role editorial plays in delivering attention for advertisers, and went on to argue that the emerging scalability of eye-tracking provides a good option for measuring the thorny concept of reader engagement.

In this year's paper, I am going to update the conference with some new data Lumen has collected on attention to digital advertising together with our partners Aimia. The data we have collected has already produced many fascinating insights, and provides a rich data source that we feel we have only just begun mining. As the data accumulates though there is one overwhelming conclusion, of pivotal significance for both publishers and advertisers: media environment is critical to engaging audiences with advertising - and to an extent often overlooked and undervalued by current media markets.

This paper has four sections. The first outlines the data collection methodology and sample sizes. The second presents the overall findings on typical attention levels to digital display advertising and highlights the large variation in attention levels we see for different kinds of ad impressions. There is no avoiding some bad news here - attention to digital display is generally very low - but the variation in performance shows what is possible. The third section then discusses how media environment impacts attention to advertising. The findings will be intuitive to most quality publishers; a good environment is one that facilitates communication between advertisers and their audiences. It's about getting the mood right, and creating the time and space for branded messages to land. Finally, we shall make some concluding remarks about the implications of our findings for advertisers, publishers, their agencies, and ad platforms.

2. The Lumen|Nectar panel

As trailed at the last PDRF conference in London, since January 2016 Lumen has operated a small eye-tracking desktop digital panel, which collects data from 500 households in the UK, of which about 300 are usually active in any given week. The panellists have all been sourced from Aimia's database of Nectar¹ card holders, and have been selected to be broadly demographically and geographically nationally representative.

The panellists have all been supplied with an infra-red eye-tracking device. This attaches to their desktop or laptop via a USB cable. Data is then collected from the device using Lumen's software, which records data through Google's Chrome browser from Windows PCs. Unlike other eye-tracking data collection software, Lumen's software records data on html webpages. Other eye-tracking systems typically convert a user browsing session into a screen grabbed pdf or video, which is then supplied to respondents to see what they look at. This limits data collection to somewhat artificial controlled tests, and means the rich variety in real browsing behaviour is neglected. In contrast, our system allows users to browse pages freely, with their gaze data being associated with the actual html elements on the page in real time.

Our technology allows us to collect both active and passive data. Our panellists "actively" record data during weekly tasks. In these, we invite panellists to view specific webpages that we have created to run controlled experiments such as creative AB tests. Additionally, we record passive "natural browsing data", where panellists simply turn on their eye tracking devices and our software while they are going about their everyday browsing². These two data types allow us to address specific research questions through experiments, and also collect highly naturalistic passive data on real browsing behaviour.

¹ Nectar is a large loyalty scheme in the UK that includes c. 15m households.

² Naturally, in collecting passive natural browsing data we have been cautious and judicious to avoid recording sensitive personally identifiable information. To achieve this, we at first limited our natural browsing recording to a limited site list, mainly made up of newsbrand sites, aggregators and online utilities (e.g. dictionary.com), excluding any webmail, social, banking, adult or retail sites. More recently we have

In addition to recording gaze data, our software also records the viewability of advertising, allowing us to understand the relationship between viewability and actual attention.

So far, our systems are primarily set up to record data on standard desktop banner formats - whether static images, animated or video. Other, more premium formats, including pre-, mid- and post-roll video, as well as social and mobile formats, are in development. The data we present below all concerns standard desktop banner formats, including MPUs (300x250), Leaderboards (728x90), Skyscrapers (160x600), DMPUs (300x600) and Billboards (970x250).

We have now been operating the panel for 20 months. The key facts and figures of the amount of data collected are shown in figure 1.

Figure 1: The Nectar|Lumen panel in numbers

Total panellists since Jan-16	780
Active panellists per month	c. 250-300
Tasks	121
Task completions	14026
Dwell time minutes collected in controlled experimental tasks	52551
Ad impressions in controlled experimental tasks	17046
Dwell time minutes in natural browsing	213694
Ad impressions tracked in natural browsing	90927

3. The reality of digital ad attention: cutting through is tough

The headline stats on attention to display advertising are sobering. It's well known that digital advertising has viewability issues, with only around 50% of banner ads meeting the IAB standard of 50% of the ad being in view for at least 1 second³. What is less well appreciated is that viewability far from guarantees attention. Over all the ad impressions we have recorded among our panellists, 66% of them were "viewable". But among these, only 18% were noticed at all; 82% were completely missed, not recording a single moment when the user's eyes were fixated on them. Overall, that means only 12% of all impressions are actually seen.

Figure 2: Headline digital display attention stats from the Lumen|Nectar panel

Impressions	90927
Viewable impressions	59794
% Viewable	66%
Average viewable time (seconds)	21.9
Seen impressions	10605
% of viewable impression seen	18%
% of all impressions seen	12%

It's worth contrasting this with our data on press. Here, we see much higher levels of attention, with 73% of "viewable" ads being seen (in the sense that 73% of ads are seen when people are reading the double page spread with the ad on).

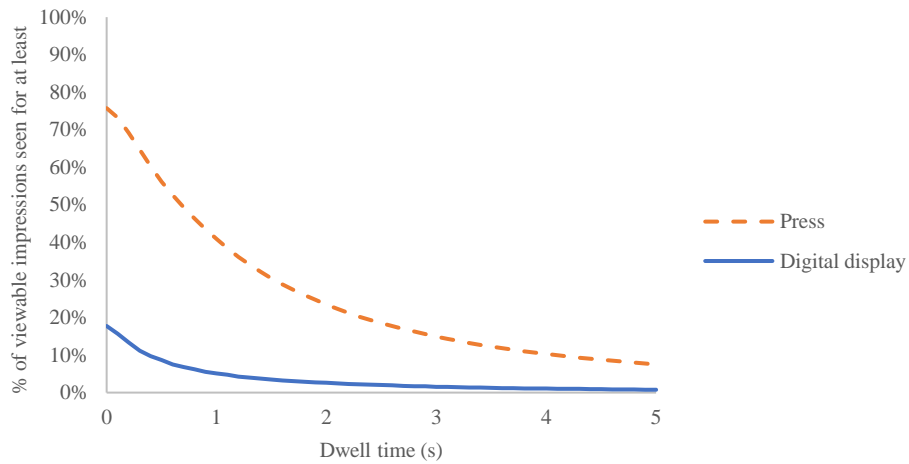
Not only are digital display impressions less likely to be viewed than press, but the dwell times people spend with the advertising is also lower. Our newspaper data shows that on average people spend 2.2 seconds looking at press ads, around which there is a large variation. 41% of viewable press ads are seen for a least a second, with 7% seen for more than 5 seconds. That might not sound like a huge amount but it is much higher than we see for digital display, where the average dwell time

extended collection to webmail, social and retail sites by restricting the collection on these sensitive sites to only record and store data on the advertising, ignoring all the other web content.

³ <https://www.meetrics.com/en/benchmarks-uk/>

is just 1.2 seconds. Again, this is an average; most views are for less than a second (5% of viewable impressions are seen for more than 1 second), with a small fraction (1% of viewable impressions) reaching beyond 5 seconds.

Figure 3: Dwell times with press and digital display



Mean average dwell time

Digital display	1.2"
Press	2.2"

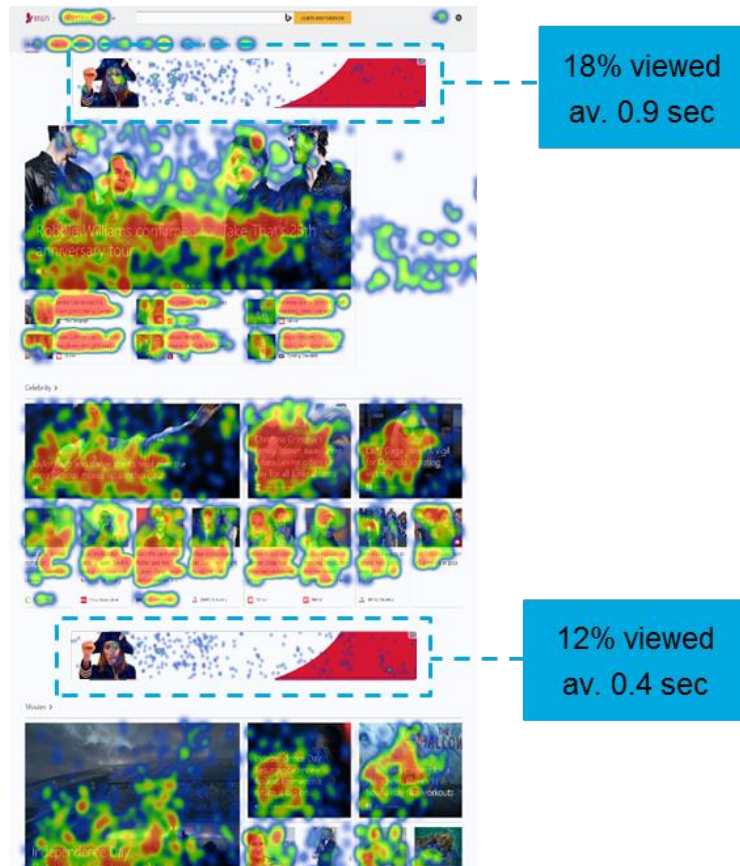
Why is there such a wide difference in the amount of attention ads receive in different media? A good starting point comes from Herbert Simon, father of behavioural economics, who in 1978 remarked that “*in an information-rich world, the wealth of information means a dearth of something else... What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention*”⁴. In this light, the relatively low level of attention going to digital display is quite easy to understand – the competition for attention on the internet is much fiercer as the amount of information available is so vast, creating this “poverty of attention” to advertising.

A quick look at advertising in context across these channels is also instructive. Compare the following images and it’s easy to see why digital display advertising is usually less noticed than press. Press ads are just much bigger things, and not so easy to put out of view. Another factor is less obvious: press ads “load” at the same time as the content, whereas digital ads experience latency.

⁴ Simon, H. A. (1971) "Designing Organizations for an Information-Rich World" in: Martin Greenberger, Computers, Communication, and the Public Interest, Baltimore, MD: The Johns Hopkins Press. pp. 40–41

Figure 4: Heatmaps of attention to advertising in context: press vs digital

Typical webpage attention (from Lumen|Nectar panel)

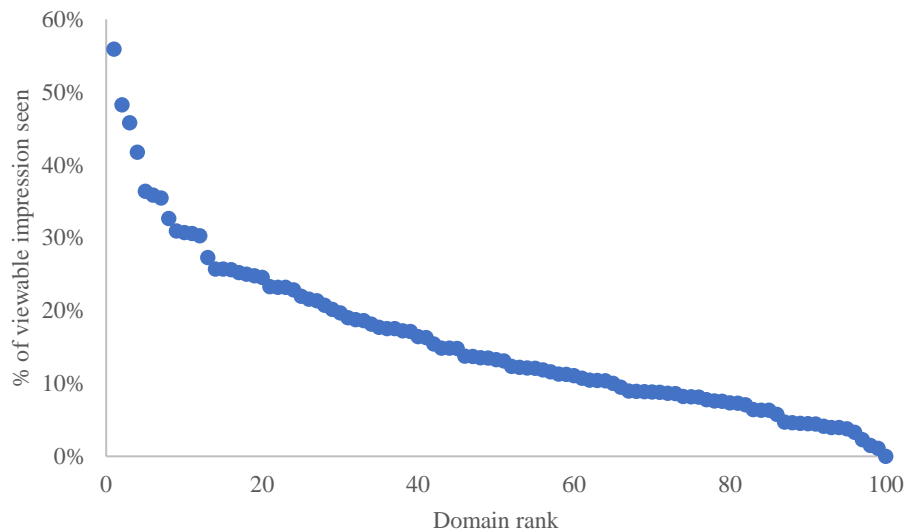


Typical attention to a press double page spread (from Lumen press omnibus)



So that's the bad news. Cutting through to consumers with digital display advertising is extremely tough. The better news is that there are wide variations in how different media performs – some sites and ad formats are much better than others. Figure 5 below shows the % of viewable ads that are seen for the top 100 sites visited by our panellists. The variation in performance is quite dramatic. The best sites do a much better job of delivering attention for advertisers than the average, with as much as 56% of viewable impressions being noticed. There are some real stinkers though. On some sites, as few as 3% of viewable ads are noticed at all.

Figure 5: Variation of attention across top 100 sites on Lumen/Nectar panel (by number of impressions)



Given this variation, it's clear a media-neutral programmatic approach that just aims to deliver impressions to the right person is going to be highly problematic. If some ads are over 10 times as likely to be seen than others – even if they are all technically “viewable” – they are clearly much more valuable.

4. How media environment affects attention to digital display

The competition for digital attention means publishers have an important role to play creating good environments for advertisers to talk to their audiences in. Our data shows that **the best ad inventory facilitates communication with consumers when they are in the right mood to be receptive to advertising messages, and then creates the time and space to enable advertisers to get their messages across.**

Let's unpack that a bit.

4.a Getting the mood right

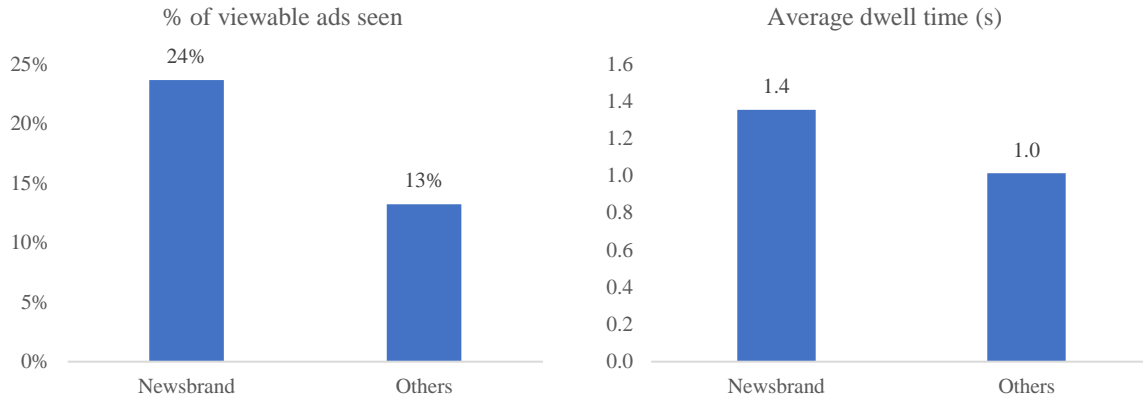
The web is an extremely varied place. At times, it seems like nearly all of life is now to some extent digital. The web is a space where we chat, shop, pay our bills, watch videos, read about current affairs, and even find love. In many of these different environments, ad units blink at us and ask for our attention. Unsurprisingly, what we are doing at the time matters a great deal to whether we pay any attention to it.

On some sites, people just aren't naturally open to advertising messages. These tend to be sites we go to for very specific information, such as the weather, the spelling of a word, or the time for the next train to Milton Keynes. Attention on these sorts of sites is extremely focused, quickly landing on the information required, before moving on to something else. As a result, sites such as dictionary.com (8% of viewable ads seen), or accuweather.com (14%) are below average.

Other sites are more conducive to opening communication between an advertiser and audience. These tend to be sites where people are in a more “lean back” mood, browsing more casually and leisurely on the lookout for things of interest, in a way

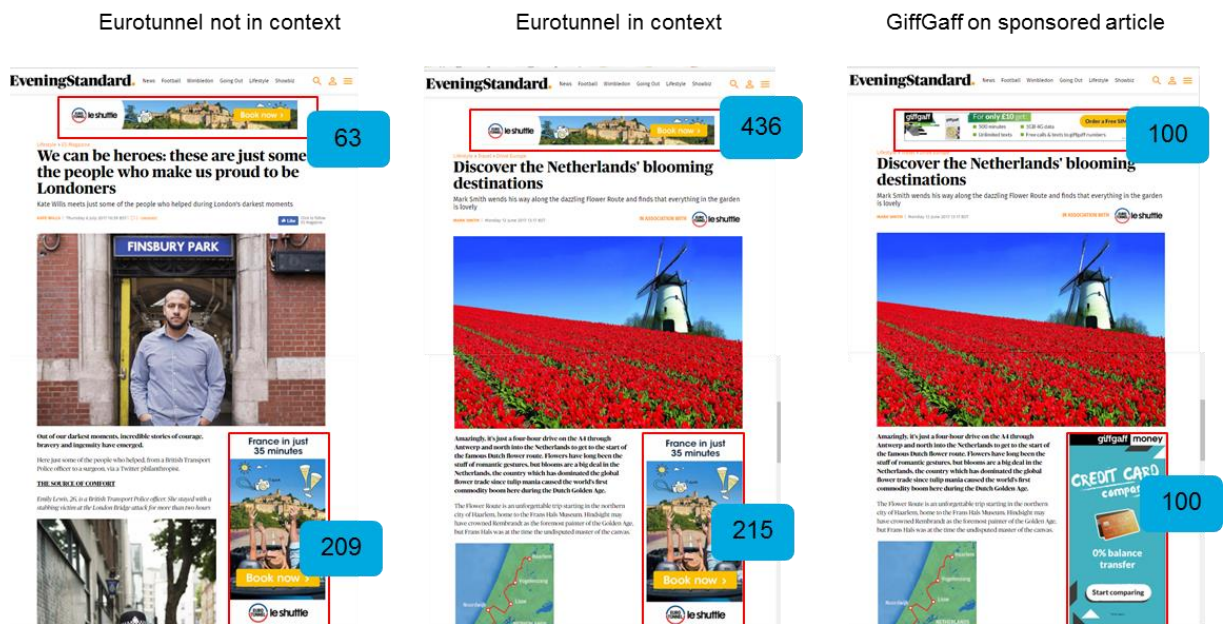
that is more inviting of brand messages. Newsbrand sites are particularly good in this regard (see figure 6); on average ads on these sites are almost twice as likely to be seen than others, and receive higher levels of dwell time.

Figure 6: Ads on Newsbrand sites are almost twice as likely to be seen



Alignment between the advertising and the content also helps facilitate ad attention. Experimental studies have found that placing ads in a contextually relevant environment can boost attention dramatically. Figure 7 shows the results of experiment where ads for Eurotunnel were tested in a relevant context, another page of no particular relevance, with results benchmarked against another ad (in this case giffgaff). The Eurotunnel ad at the top of the in context page received 436x the attention of the giffgaff ad in the same placement, and 692x versus the placement that wasn't in context. Priming readers to be open to brands with relevant content is a winning strategy.

Figure 7: A relevant context enhances ad impact

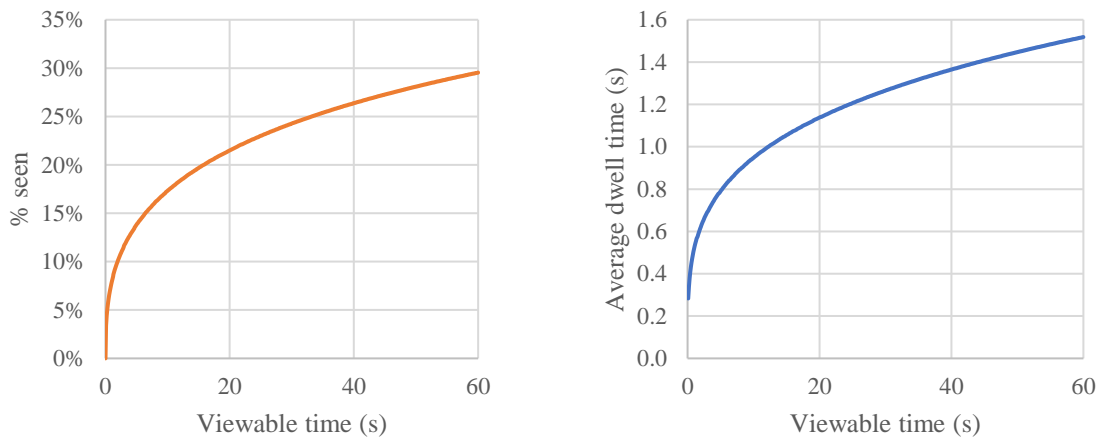


Engagement with GiffGaff ads has been re-based to 100

4.b Making time

One of the most important factors influencing attention to digital ads is time in view. Viewability has primarily been thought of as an either/or, with an ad given IAB's stamp of approval as "viewable" if 50% of the pixels are in view for at least a second. Many advertisers now routinely setting viewable CPM (vCPM) targets for campaigns to minimise wastage of advertising that could not be seen. Naturally, this is an essential starting point, but it is also a pretty low bar. Our data shows that the importance of viewability is not simple an either/or; rather, greater amounts of viewable time lead the ad to be more likely to seen, and for longer dwell times.

Figure 8: Longer viewable time leads to higher attention



This insight supports initiatives made by some publishers to charge for viewable time, such as *The Financial Times*, or to market stronger viewability guarantees, such as *The Telegraph's* 100% in view 10" ad units.

Once again, the key insight is that targeting an impression to the right person is only part of story. A more engaging environment where users spend time with the content, is critical to successful digital display advertising.

The amount of viewable time ads receive also has creative implications. Many digital ads are animations that proceed through several frames to tell a simple story or highlight different offers. Often, the branding is only in view for a fraction of the total ad length. A good media environment provides the time in view for digital ads to tell their whole message.

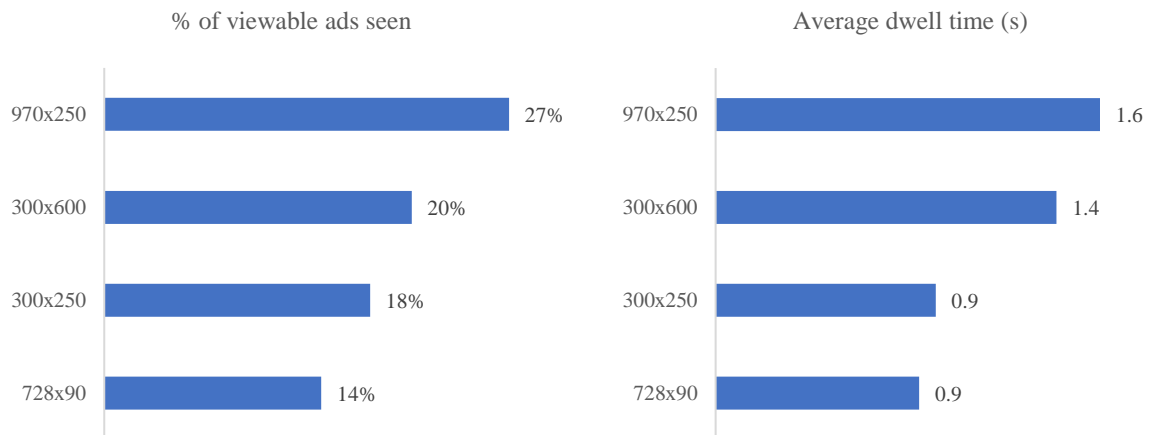
4.c Making space

So far, we have seen how good media environments provide advertisers with audiences who are in an open mood to receive brand messages, create the time in view for the creative to attract the eye, and engage viewers for long enough for a brand to get its message across. Another critical ingredient of a good media environment is about creating a good *space* for advertising to be noticed and engaged with.

There are three main elements to creating a good space: the size of the ad, the layout of the page, and the amount of clutter on the page (including ad load).

The effect of ad size is simple enough: larger ads get more attention. For example, 27% of viewable Billboard ads (970x250 pixels) are seen, compared to just 14% of Leaderboards (728x90 pixels). Dwell times are also higher, reaching an average of 1.6 seconds for Billboards, compared to just 0.9" for Leaderboards.

Figure 9: Attention for different ad unit sizes



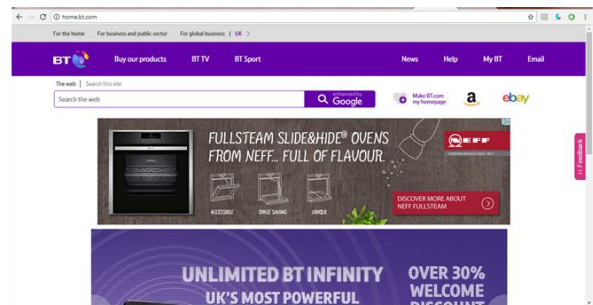
As well as sheer size, positioning is important. Consistently we find that ad units that are in line with content are the most successful at getting attention. Relatedly, ads that appear immediately below the navigation bar outperform those above (see figure 10). After this, the next most successful ads tend to be above or to the side of content. The least successful are those that come below the content, as people are very disposed to ignore these.

Figure 10: Ad positioning in relation to navigation and content impacts ad attention

home.bt.com:

Billboard is *below* navigation bar

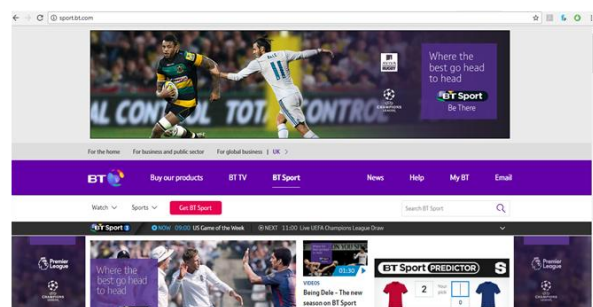
Average viewable time on lumen panel: 27"
% of ads seen: 49%



sport.bt.com:

Billboard is *above* navigation bar, and therefore more likely to be scrolled past quickly

Average viewable time on lumen panel: 7"
% of ads seen: 24%



Ad load is also an important factor. Pages that are littered with ads are not only irritating for audiences, but often fail advertisers too. Display advertising has to tread a fine line between being interruptive enough to be valuable to advertisers, but not so interruptive as to be irritating to the audience. A happy medium can be achieved by employing ad units that in themselves are interruptive, but keeping ad load low so as to minimise the disruption to the audiences' overall experience. This is best for both advertiser and audience. An approach of "fewer, better" ads is advisable.

Similarly, a generally clean approach to page design will bring greater attention to ads. *TheTimes.co.uk* is a good example not only of a successful "fewer, better" approach to ads, but also highlights the virtue of minimising the amount of content on a page competing for attention. 31% of viewable ads are seen on thetimes.co.uk, 72% higher than the average of 18%.

Figure 11: *thetimes.co.uk's clean design brings high attention for its advertisers*



5. Concluding remarks

Our data has important implications for publishers, advertisers and their agencies, as well as ad tech platforms. Perhaps the biggest finding is that only 12% of impressions are actually seen – a fact that ought to give pause to everyone.

The thrust of ad tech has put audience data and targeting in the driving seat of digital display campaigns, with media environment becoming at best a secondary consideration, and in many cases, totally ignored. The programmatic promise is that the old days of using media as a proxy for reaching an audience are over; now you can directly find your audience wherever they appear. Audience data has become king, the media, commoditised, as publishers' properties are grouped onto white lists of thousands of approved sites.

But as we have seen, the web is a hugely varied place. It's also a place of intense competition for users' attention. In many ways, targeting an impression to the right person is now the easy bit. But with just 12% of impressions actually being seen at all, delivering an ad in a way that actually engages the user has become the real challenge. And here the environment ads are delivered in is critical. A good environment can make ads 10 times as likely to be seen as a poor one, a differential rarely reflected in media prices. Not all impressions are created equal, with many going ignored. Good media environments – those that provide advertisers with the time and space to talk to their audiences while they are open to brand messages – are rare and undervalued.

Indeed, it seems plausible that one explanation for the relatively low levels of attention digital ads typically receive is simply that buying platforms are not adequately set up to reward good environments. Ultimately, change will come from advertisers being more informed and demanding. To turn things around we need more good reliable, independent data on media quality to help publishers justify premiums when they are fair and deserved.

Although our overall finding that just 12% of impressions are seen might seem like bad news, I want to conclude on a more optimistic note. In highlighting the wide range of quality going unrecognised, our data suggests the commercial challenges publishers face in today's digital landscape are not inevitable or insurmountable; the task ahead is to create the data and systems that allow publishers' contribution in providing hospitable environments for advertisers to be recognised.