The Challenge of Attention

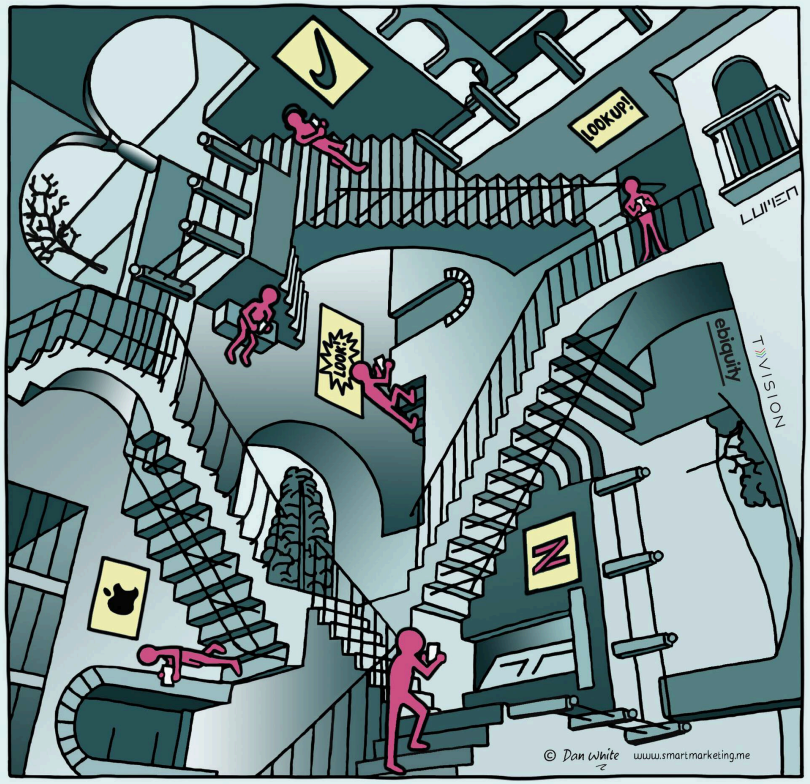
ebiquity

LUMEN © Dan White TVISION

Contents

Contents

Introduction and foreword by Martin Vinter, Ebiquity



Partners:

ebiquity LUMEN © Dan White TVISION

Foreword

Foreword

by Martin Vinter
Managing Director, Ebiquity Media

For more than ten years now, the sheer scale and volume of media available to advertisers has been proliferating. Digital technologies and platforms mean that consumer choice about how, where, and when they consume media content has exploded and so fragmented.

It is no longer possible to reach mass audiences at scale simply by running a TV ad campaign. As a result, many now characterise modern marketing as an attention economy, a multimedia competition for consumer eyeballs. The locus of control has also shifted away from media owners, with the growing ability of consumers to block and skip ads or subscribe to content delivered in ad-free environments.

In his book *To Sell Is Human*, the American business writer Dan Pink says that we are all "in the moving business" – the business of persuading others to take action.

In marketing communications, brands are looking to identify and target customers with commercial messages that trigger a response.

The challenge facing advertisers in the increasingly-digital marketing ecosystem is capturing and holding consumers' attention: if they aren't attracted to and don't attend to an ad, there's no way they can be persuaded to do anything.

And yet until recently, the role of attention rarely featured in how advertising impact was measured. For too long, the industry has been focused on performance metrics like impressions or CPM.

Thankfully, this has started to change. Advertisers, their agencies, and their analytics partners are all motivated by a shared desire to ensure that brands' marketing investments deliver optimal return. The importance of both channel-discrete and holistic ad investment attention paid to advertising is gaining momentum across the industry.

At last this is helping to move attention from an impractical nice-to-have to a core component of marketing analytics that is both tangible and actionable.

“At Ebiquity, we are world leaders in media investment analysis. We have partnered with Lumen Research, the undisputed experts in measuring consumer attention in digital advertising.”

Martin Vinter, MD Ebiquity Media

Mike Follett, MD Lumen Research

At Ebiquity, we are world leaders in media investment analysis. We have partnered with Lumen Research, the undisputed experts in measuring consumer attention in digital advertising. Together we are now publishing this state-of-the-art report on how to include meaningful measures of attention in advertising effectiveness models.

In the report, Lumen’s founder and MD Mike Follett shows how, for the first time, we are bringing together Ebiquity cost data, Lumen data on attention to digital advertising, and TVision data on attention to TV, to create a new, composite metric.

By combining the average likelihood that someone will view a particular type of ad and the average time they spend looking at the ad, we’ve created the first true advertising attention currency: **attentive seconds per thousand impressions**.

As attention differs across different media, this allows us to compare the cost and impact of different media, including TV, digital video, and digital display.

This new measure is an important and practical development in meaningful cross media measurement.

We’re not claiming – quite yet – that it’s the definitive answer to this complex problem. But by factoring in whether and for how long consumers pay active attention to the ads served to them, we are making progress on a path towards comparative media measurement that’s truly fit-for-purpose.

We trust you find this report and this new metric a helpful contribution in this rapidly-evolving debate.

What is attention?

1. What is attention?

Attention is selective, finite, and voluntary – three characteristics with big implications for advertisers

William James' definition of attention (right) may be over 130 years old, but it has many merits.

1

Firstly, it assumes selection. When we talk about attention, we are usually talking about selective attention. Think of the game I-spy. When a child says 'I spy with my little eye, something beginning with C', the assumption is that there is a scene crowded with 'several simultaneously possible' things you could attend to, only some of which are designated by a word beginning with the letter C and only one of which is a cat. Attention is like that. It is a choice between options.

2

Secondly, it assumes attention is finite. We have enough cognitive resources to concentrate on one thing or another but rarely both at the same time. Sometimes we don't concentrate on anything at all – but this not a normal or pleasant situation. In the very next sentence, James says that the concept of attention "implies withdrawal from some things in order to deal effectively with others, and is a condition which has a real opposite in the confused, dazed, scatter-brained state which in French is called distraction, and Zerstreutheit in German". Attention is a finite resource, that gets used up by the process of attending to things, as Daniel Kahneman was to develop in *Attention and Effort* (1973).

Everyone knows what attention is. Attention is the taking possession of the mind, in clear and vivid form, of one out of what seem several simultaneously possible objects or trains of thought. Focalisations, concentration of consciousness are of its essence. It implies withdrawal from some things in order to deal effectively with others.

WILLIAM JAMES, THE FATHER OF MODERN PSYCHOLOGY

3

Thirdly, it assumes a (voluntary) process. You notice something and then you focus or concentrate on it, investing as much attention as required to make sense of the scene in a 'clear and vivid form'. The 'spotlight' passes over something – a shape, a sound, an ad for offer that must end on Tuesday – and then doubles back, narrowing its focus to concentrate its beam on what it wants to attend to. But what gets looked at depends on your purposes, aims, and beliefs.

Building on James' initial insight, researchers including Anne Triesman and Richard Gregory have suggested that people navigate the world via a process of 'attentional satisficing'. You can't look at everything so you have to come up with a shortcut for deploying limited attentional resources.

“People don't read ads. They read what they want. And sometimes it's an ad.

HOWARD LUCK GOSSAGE, THE SAGE OF SAN FRANCISCO

People either have a ‘pre-attentional’ stage, that fits very loosely-defined stimuli together to see if there is a pattern worth attending to properly given the current situation (Triesman’s FIT model) or else they are constantly guessing what is probably out there and then investing attention to confirm their hypotheses (Gregory’s ‘perceptions are hypotheses’ model).

Either way, our minds are not a blank slate, waiting passively to receive information from the outside world, but are actively-involved agents, choosing to attend to things based on our current aims and intentions. Attention and intention are close bedfellows. James’ definition of attention is very useful to advertisers. The concept of selective attention helps us understand that just because something is viewable it doesn’t mean that it will get viewed.

Most people ignore most things most of the time – including ads – so it’s important to measure what people actually look at, not just what they had the ‘opportunity to see’.

Advertisers could also benefit from understanding that attention is a finite resource, that has to be earned rather than assumed.

Many languages adopt an economic metaphor to conceptualise attention: you “pay” attention, or “earn” attention. If you are not careful, you will “waste” people’s time. Ads have to compete for this scarce resource – and they better be “worth” it.

ECONOMIC METAPHORS OF ATTENTION

Many languages use imagery that assumes attention is a commodity that can be given, traded, loaned or even sold:

- German = Aufmerksamkeit schenken (Gift attention)
- Italian = Prestare attenzione (Lend attention)
- Spanish = Prestar atención (Lend attention)
- Irish = Tabhair aire (Give attention)
- Hindi = ध्यान देना (Give focus / attention / concentration)
- Punjabi = ਧਿਆਨ ਦੇਣ (Give attention)
- Bengali = মনোযোগ দেওয়া (Give mind)
- Nepali = ध्यान दे (Give focus / attention / concentration)
- English = Pay attention

The etymology of both the words we use in English to describe the phenomenon of attention contain a 'commodity' metaphor:

- Attention: from the Old French, which is itself from the Latin, ad tendere, to reach out and grasp (something)
- Behold: from the Old English, bi haldan, to have (something) in your hands

Finally, the intentional model of attention helps us understand how and why people attend to the things they do – and ignore the rest. It is important to remember that consumers are in charge of their own attention, thank you very much. No one has to look at your advertising, and frequently they don't (section 12 discusses quite how much – or how little – attention actually goes to advertising). It matters where and when you talk to them, what sort of mood they are in, and how relevant or useful your message is to them.

Howard Luck Gossage, the 'Sage of San Francisco', had it right when he said: "People don't read ads. They read what they want. And sometimes it's an ad." Attention is selective. It is finite. And it is, to a great extent, voluntary. Understanding the reality of attention will help us buy better media in the short term and be better marketers in the long term.

Measuring attention

2. Measuring attention

Eye tracking as an outward sign of an inward state

Attention is important, so how do we measure it? If we accept William James' definition of attention, then this is harder than you might first think. Attention is, after all, something that goes on inside people's heads.

To answer this question, Google recently commissioned the Ehrenberg Bass Institute to evaluate a number of different ways of measuring attention, from simple self-reported questionnaires to facial coding, head tracking, eye tracking, and all the way to approaches using brain-scanning technologies such as EEG and MRI.

Their conclusions, presented at the ARF Audience x Science conference in 2018, was that eye tracking and to an extent, head tracking (we'll come on to the distinction between these two in the next section) were the most reliable and accessible means of estimating attention to advertising available.

Eye tracking is a good way of measuring attention because eyes are (a) important and (b) easy to measure. Our eyes are the most important sense organ we have, with 40% of our brain dedicated to vision.

Secondly, the eyes are the easiest of the senses to measure consistently and quantitatively. Most other senses 'happen' exclusively in the mind. It is hard to assess what people are hearing, feeling with touch, or smelling without asking them to tell us what they think they are experiencing.

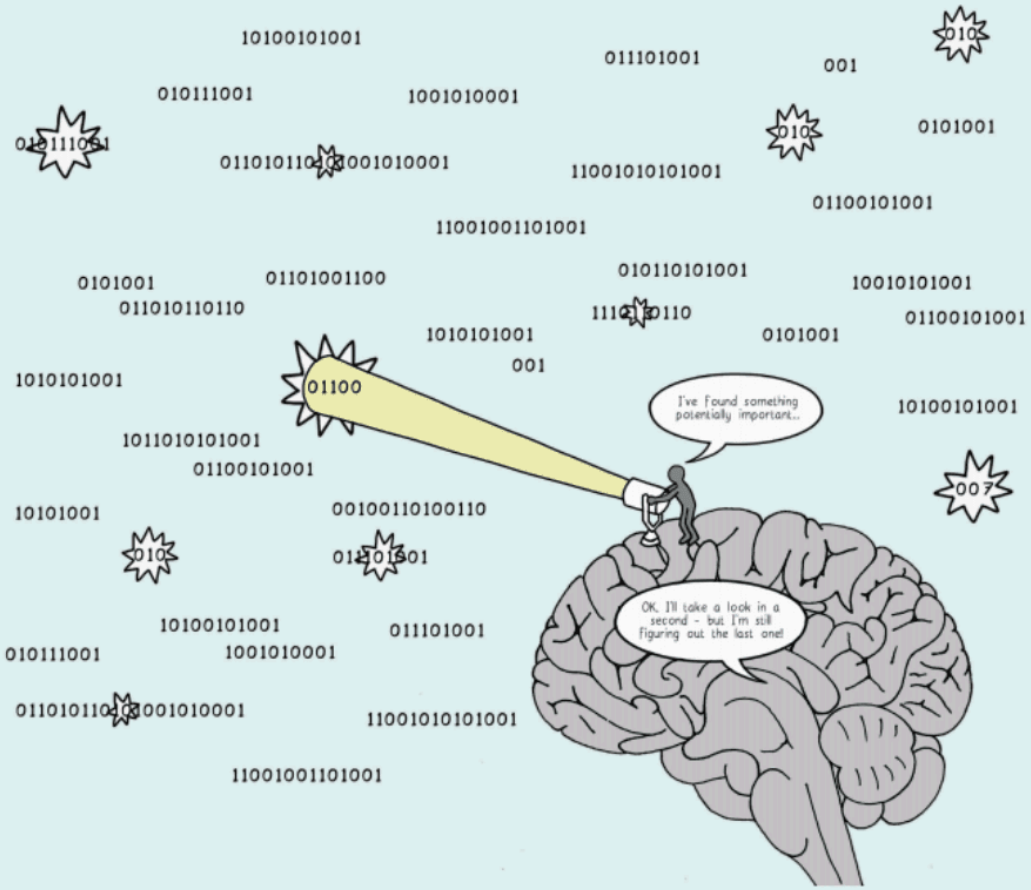
> **"Our eyes are the most important sense organ we have, with 40% of our brain dedicated to vision.**

Sight, too, ‘happens’ in the brain, but the movements of the eyes can be captured by external observation in a way that is currently impossible for sound, taste, touch, or smell. You can track eyes in a way that you can’t track the inner ear.

This is not to say that eye tracking is a perfect measure of attention. Sound is very important – ads can work very well on radio, or when the sound of a TV ad is playing in the background. Sensory data are composite: attending to sounds and pictures at the same time can result in greater memory encoding than one or other on its own. Finally, the eyes are not always a window to the soul: it is possible to stare blankly at a screen or a page without taking anything in.

But despite these limitations, Google still concluded that visual engagement – as measured by eye tracking or head tracking – is a good-enough proxy for measuring attention to visual advertising; not perfect, but a good start.

SCANNING FOR STIMULI WORTHY OF ATTENTION



ebiquity

How Lumen and TVision measure attention

3. How Lumen & TVision measure attention

Collecting naturalistic attention data at scale

The attention data in this booklet has been collected in two slightly different ways.

The TV attention data has been collected by TVision in the US. TVision has recruited a panel of 5,000 US households who are asked to install a camera on top of their main TV and set up an accompanying recording box.

Once installed, their system records when people enter the room and, crucially, whether or not their heads are turned towards the screen. They even record how long people look at the screen: if their heads are in the same position for too long, their system assumes that the panellist has fallen asleep. The box attached to the screen records what was on the screen – what channel, what show, what ad, and so on. They can then understand how much visual attention was directed towards whatever was on the screen at the time.

The digital advertising data comes from Lumen. Lumen has recruited a thousand-strong panel in the UK. The panellists install software that turns the webcams on their computers and phones into high-quality eye tracking cameras. The software also records what ads were shown on the screen, in what location, and for how long. It then uses this information to calculate which were viewable, which ads were viewed (a big difference), and for how long they were viewed.

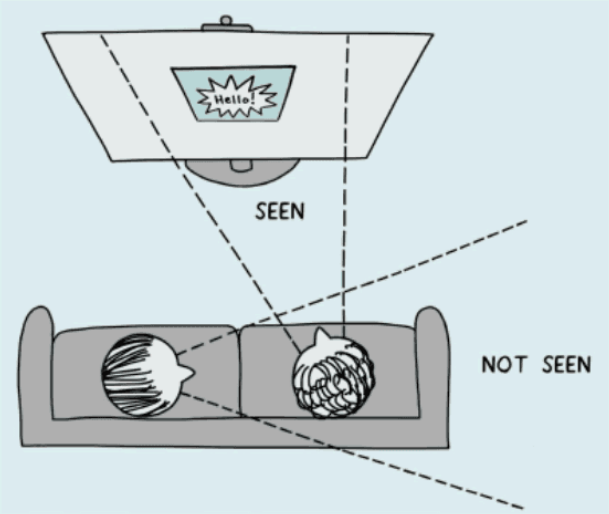
“Lumen has recruited a thousand-strong panel in the UK.”

The systems used by the two companies are slightly different, but comparable. TVision's data is, technically speaking, head tracking rather than eye tracking; it measures when people's heads are turned towards the TV. But given that TV ads take up 100% of the space of the screen, if you're looking at the screen when an ad is on, then you're looking at the ad.

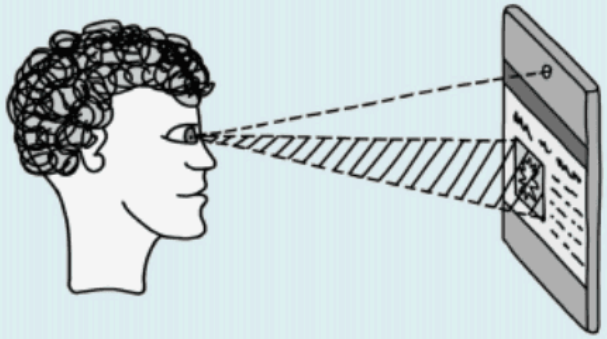
Things are more complicated online, when both advertising and editorial content can be on the screen simultaneously. This is why we need to use eye tracking for these environments.

Both TVision and Lumen take data quality and data privacy very seriously. Panels are recruited to be nationally representative, with the appropriate mix of genders, ages, and ethnicities. Panellists are fully informed and properly incentivised for their time and involvement. No personally identifiable information is collected or retained and no respondent-level data is ever released. By design, neither company has the ability to store or upload any video from any of their panellists. In both cases, all the data processing is done locally on the panellists' machines, with only summarised lines of data uploaded. TVision hardware is made of components that have been certified by the US Federal Communications Commission.

HEAD TRACKING FOR TV



EYE TRACKING FOR DIGITAL



The Attention Funnel

4. The Attention Funnel

From what could be seen to what is seen - and for how long

The data that both Lumen and TVision collect can be conceptualised as a funnel, which is a somewhat simplified form of the ARF's Model for Evaluating Media methodology.

Attention is thought to flow from top to bottom; from what people could see (whether it is technically viewable or not) to what people do, in fact, look at, and for how long they actually look at it.

At the top of the funnel is what people could see: was the ad served on the screen? After all, you can't look at something that isn't there. We count the ad as being on the screen even if only one pixel is viewable for less than a second.

Next, it's worth thinking about which ads are technically viewable, according to the Media Ratings Council (MRC) standards. A digital display ad is deemed to be viewable if at least 50% of the pixels of the ad are available to be seen for one second or more, or two seconds-plus for digital video advertising. According to BARB – the audience ratings organisation for TV in the UK – someone has to be in the room and 'available to view the ad', without a minimum time requirement.

However, it's important that we appreciate that 'technical viewability' is a man-made standard. It defines a minimum threshold: if your ad doesn't achieve this level of viewability, then it doesn't count (and, under certain trading deals, you don't have to pay for it). And because it's man-made, it's a bit arbitrary: why 50% of the pixels and not 37%, say? Why two seconds of video time and not 3.1 seconds? Or 10% of the run time? Or something else entirely? We have included it in the following charts for reference purposes, but as we will see, 'technical viewability' has only a tangential connection with actual viewing.

Next, we come to actual attention itself: not just the opportunity to see an ad, but actual viewing. Lumen defines an ad as viewed if it receives a single eye fixation on the pixels of the ad. 'Fixations' can be variously defined and are in their own way almost as arbitrary as viewability standards. The way we define fixations assumes that they occur 3-4 times a second.

Crucially, this means that people can look at ads even if they are not technically viewable by MRC standards. For instance, only 49% of the pixels might be peaking up 'over the fold' – not enough to be technically viewable, but sometimes enough to get looked at. Or the whole ad might be on the screen, but not for the requisite two seconds; it might get looked at even if it doesn't count as a viewable ad, technically speaking. And, equally crucially, it means that many ads that are fully viewable according to the MRC don't actually get viewed. Your ad may have been technically viewable, but people may have politely declined the 'opportunity to see' it.

But seeing the ad at all is only half the story. The next important piece of information is how long people look at the ads for: the eyes-on dwell time.

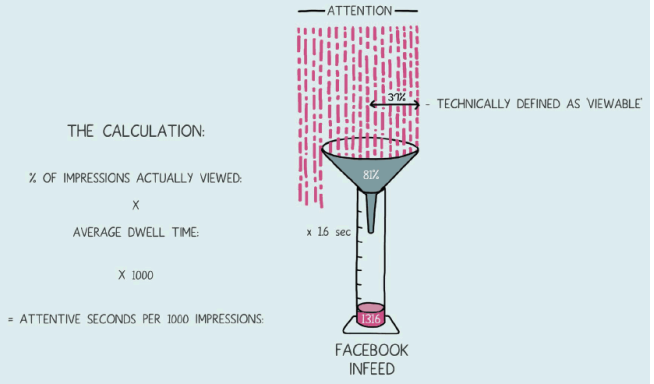
This does not need to be continuous. You can look at the first two seconds of an ad, look away, and then look at the last two seconds and we will record the attention as being four seconds in total.

The data from the panels is all collected on an individual basis, but reported as mean scores. Ads of a certain type or format, or on a certain platform or domain, will have a greater or lesser chance of being viewed, and their dwell time is averaged. There is considerable variance in how long ads are engaged with. Some people will merely glance at an ad, while others will invest a lot of time in the same ad. But for simplicity's sake, we take a mean.

Finally, we can create a composite metric that combines both the average likelihood that someone will view a particular type of ad and the average time that they spend looking at the ad. We call it 'attentive seconds per thousand impressions'.

Without considering imponderables like fraudulent or non-human traffic ads in our calculations for now, let's imagine 1,000 impressions served to a screen. Of these thousand ads, how many get looked at – whether they are technically viewable or not? And what is their average eyes-on dwell time?

ATTENTIVE SECONDS PER 1000 IMPRESSIONS



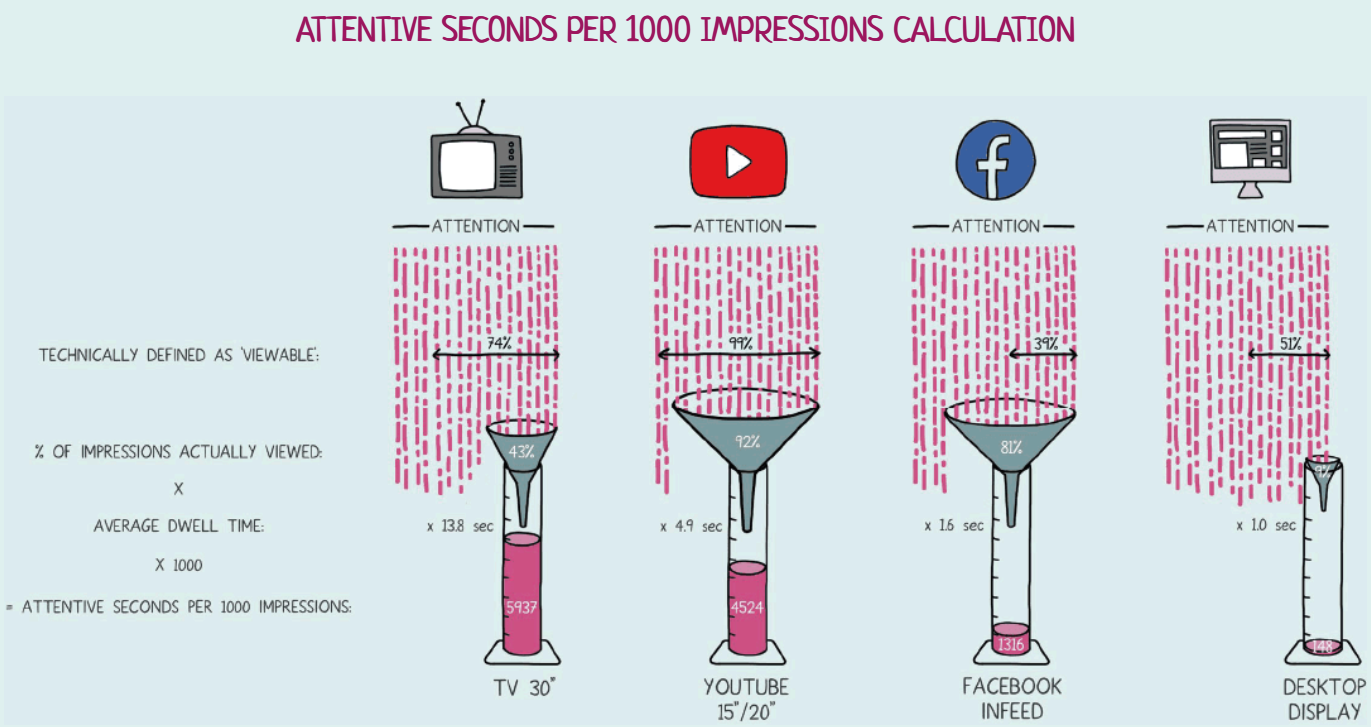
If you multiply one number by the other, you get the average aggregate attention produced by 1,000 ad impressions served to a screen – a unit of analysis that is consistent across TV, mobile, and desktop advertising. At the end of the attention funnel we have a single unit to measure and quantify attention – the essence of advertising.

Differences across media

5. Attention differences across media

Using ‘attentive seconds per 1,000 impressions’ to compare the impact of different media opportunities

It is notoriously difficult to compare the relative efficacy of different advertising inventory. The different currencies employed by the industry can mean that too often you end up comparing apples with oranges. We can use the attention funnel approach to compare the ability of each media to persuade people to look at advertising at all, and how good they are at holding people’s attention. This allows us to compare apples with apples.



VIEWABILITY AND VIEWING

As previously noted, in general there's a big difference between what people could see and what they do, in fact, end up looking at. And there are big differences across different media, too.

In the first place, we can apply the MRC viewability standards (arbitrary as they are) consistently across all the media under review. We can see that not all TV ads are viewable. Yes, they appear on the screen, but sometimes there's no one in the room to watch them – or those in the room have fallen asleep. TVision estimate that 74% of 30-second TV ads play out to someone in the room – meaning that 26% play out to empty rooms. It should be noted that in the UK, the TV ratings body BARB says that it takes into account when people are or aren't in the room via its people meters, but it's interesting to see the US data in the light of TVision's insights. Again, just because an ad is viewable doesn't mean that it will be viewed. Someone can be in the room while an ad is playing out, but it doesn't mean that they are definitely looking. In fact, only 43% of 30-second TV ads get looked at. People may be in the room, but they may be checking out their phone, reading the paper, talking to loved ones, or getting the kids ready for school.

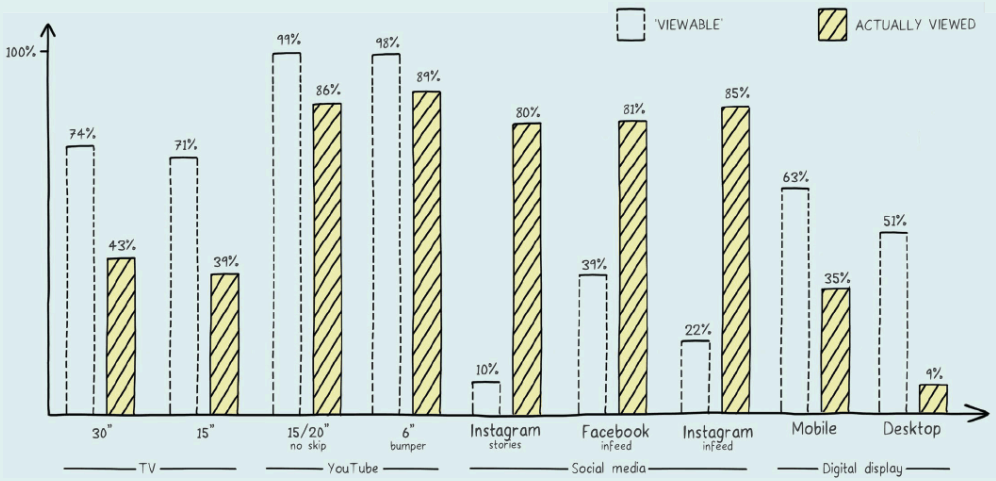
Almost all YouTube ads are viewable, and the vast majority of them get some attention.

Interestingly, when it comes to social media, many ads fail to meet the stringent MRC viewability standards, but do get some attention, leading to an interesting anomaly where viewing rates are higher than technical viewability rates.

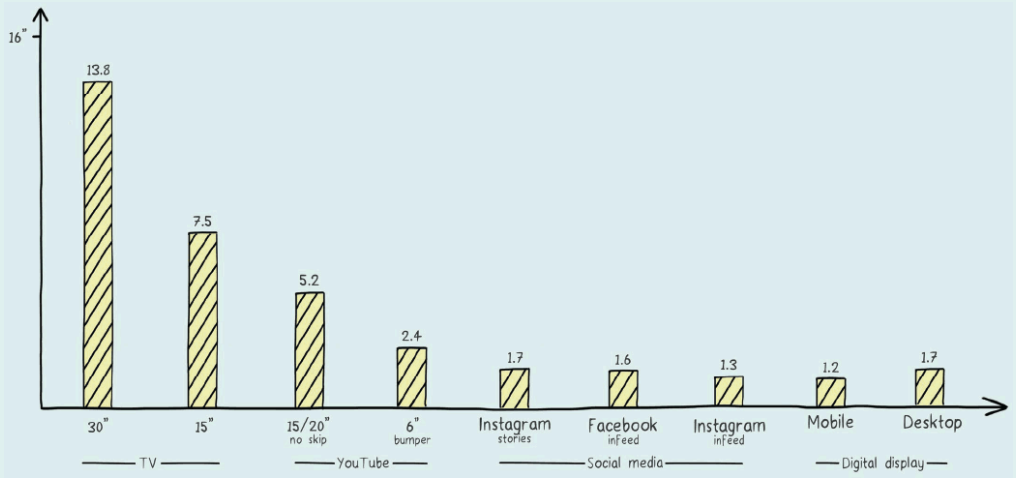
Bringing up the rear of the chart, the desktop and mobile web data shows us the reverse: if ads are viewable to MRC standards, that is no guarantee that they will get viewed.

> **"From the TV data, we can see that far more people get to the end of a 30-sec TV ad.**

TECHNICAL VIEWABILITY (MRC STANDARDS)



AVERAGE EYES-ON DWELL TIME



EYES-ON DWELL TIME

“On average, eyes-on dwell time with 15 second unskippable YouTube ads is 4.9 seconds.

Next, we can look at how long people look at ads for. Here we can see that if people look at TV ads, they tend to look at them for a long time, relatively speaking: a 30-second TV ad will generate around 13.8 seconds of eyes-on dwell time, on average.

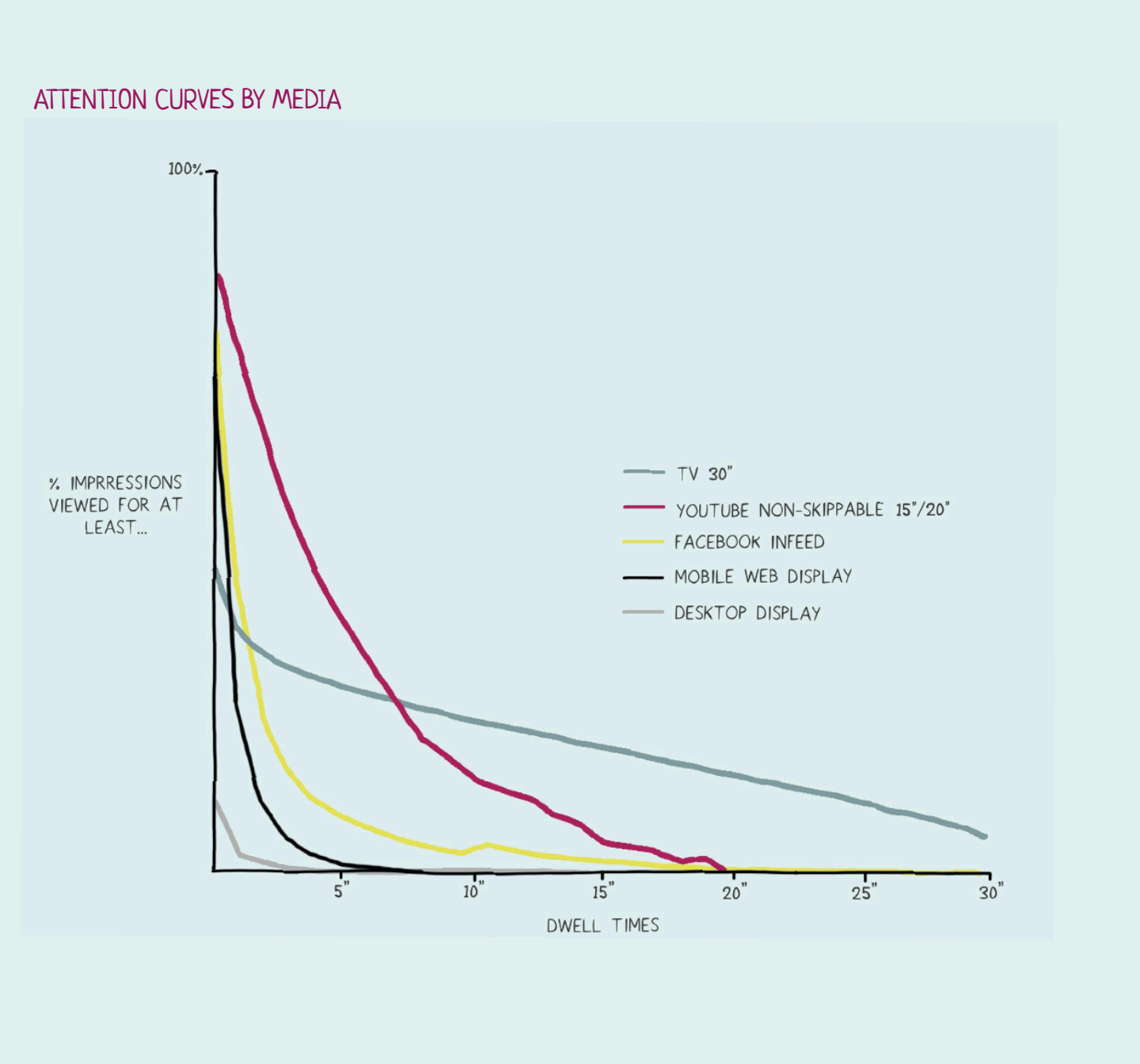
Within this average, some people watch the whole 30 seconds of the ad, others only glance at it for a couple of seconds, and there’s a wide distribution of viewing behaviour in between. But for simplicity’s sake, we use the mean average as a benchmark.

A 15-second YouTube ad will not get watched for the 15 seconds. On average, eyes-on dwell time with 15-second unskippable YouTube ads is 4.9 seconds. Eyes-on dwell time with social media ads is much lower, which is largely a result of the scroll velocity. If the ads are on screen, then they are extremely likely to be viewed. But they are frequently not on screen for very long, and so not available to be looked at for a long time.

Finally, there is the dwell time with desktop and mobile display, which is in line with the dwell time norms for social media.

ATTENTION CURVE

Mean averages can obscure as much as they reveal. To get a true picture of the reality of attention we should also look at the distribution of attention. Sure, if someone looks up at a TV ad, they will look at it for around 14 seconds on average – but how is that average constructed?



> **Most people merely glance at ads, but, occasionally, if they find the ads useful or engaging, they can spend a very long time with them.**

We have plotted the distribution of average aggregate dwell time with ads in different media. This chart shows the percentage of people who look for one second, two seconds, and so on – in total. They may not be watching from the start of the ad, and they may not be watching consecutive seconds. They may look at the screen, look away, and then look back.

Considered in this way, we see that the distribution of attention varies greatly. Most digital and social media formats have a fat head and a very long tail, suggesting that most people merely glance at ads, but, occasionally, if they find the ads useful or engaging, they can spend a very long time with them.

YouTube data suggests that, even though the ad is playing, people are not always watching. Just as the viewable percentage does not equal the actual viewing rate, so viewable time is not the same as eyes-on dwell time.

And from the TV data, we can see that far more people get to the end of a 30-second TV ad.

Have you heard of the concept - ‘attentive seconds per thousand impressions’ or ‘aPM’?

- Yes, I have!
- No, never

See results

ATTENTIVE SECONDS PER 1,000 IMPRESSIONS

All these different views on viewing are interesting, but it would be helpful to have a single number we could use to compare attention between media. This would allow us to ask how many YouTube ads add up to the same amount of attention as a typical TV ad? How many mobile web ads would I have to buy to create the same amount of attention as an ad on Facebook?

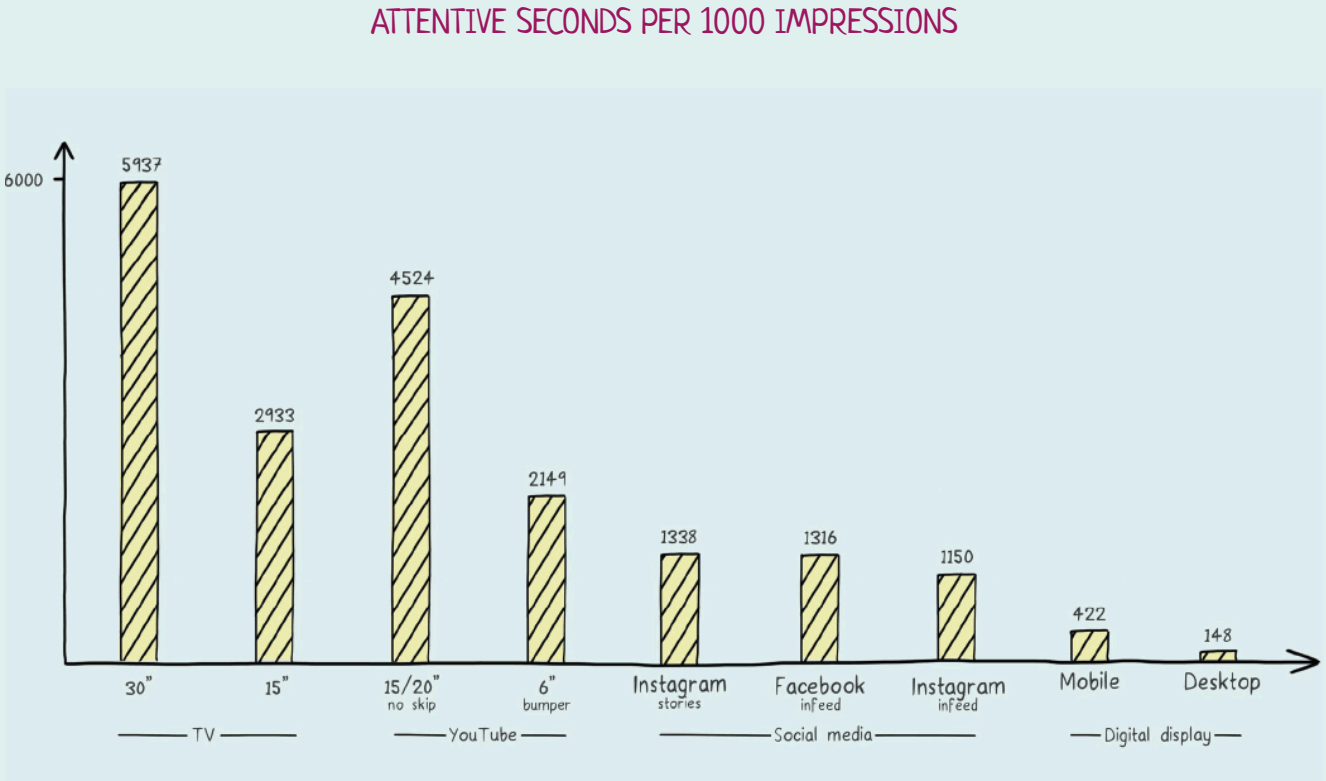
We can create this number by combining the viewing percentage (how many people actually look at the ad) with the mean average eyes-on dwell time (the time they actually spend looking at the ad) and multiplying it by a thousand (as media are always traded in thousands). We call this the aggregate '**attentive seconds per thousand impressions**' or '**aPM**'.

For instance, if you were to buy 1,000, 30-second TV ad impressions, we would predict that 43% or 430 of them would be viewed, but they would be viewed for around 14 seconds each, generating around 6,000 attentive seconds. 920 of your 1,000 YouTube impressions might get looked at, but for only 4.9 second on average, generating 4,500 attentive seconds. And so on.

By following the logic of the attention funnel consistently across media, we have been able to create a common currency of attention that works equally across different media.

This rough-and-ready calculation shows us that the average 30-second TV ad generates the same amount of attention as 1.5 YouTube ads, 4.5 Facebook in-feed ads, or 40 desktop display ads. Suddenly, we can start comparing apples with apples.

“By following the logic of the attention funnel consistently across media, we have been able to create a common currency of attention that works equally across different media.”



The average 30-second TV ad generates the same amount of attention as 1.5 YouTube ads, 4.5 Facebook in-feed ads, or 40 desktop display ads.

The cost of attention

6. The cost of attention across media

Combining attentive seconds per thousand impressions ('aPM') with the cost per thousand impressions ('CPM') to create the cost per thousand attentive seconds ('aCPM')

Advertising in different media creates different quantities of net aggregate attention. A 30-second TV ad will generate more than one thousand 15-second YouTube ads, which will in turn generate more than a thousand digital display ads on a desktop computer, and so on.

But the cost of buying a thousand impressions in each of these different media (known as the 'cost per mille' or 'CPM') is also different. For instance, CPMs for TV are far higher than for display advertising.

Combining the attentive seconds per thousand impressions with the cost per thousand impressions will help us create the cost per thousand seconds of attention, or 'aCPM'. We can use this to understand the true cost attention across media. To illustrate this process, we have taken the mean average CPMs for a single UK client, and applied them to the attentive seconds per thousand impressions (aPM) data. Before we begin the analysis, we should remember that this is just a worked example, and suffers from many limitations:

- **The attention data set**: the TV data comes from the US only; the digital data is an amalgam of data from the US, UK, France, and Germany
- **The media price data set**: your CPMs may vary from these, and of course, there will also be great variation within the media
- **Audience and contextual targeting**: the cost of some media includes fees for targeting information, while others are more broadcast

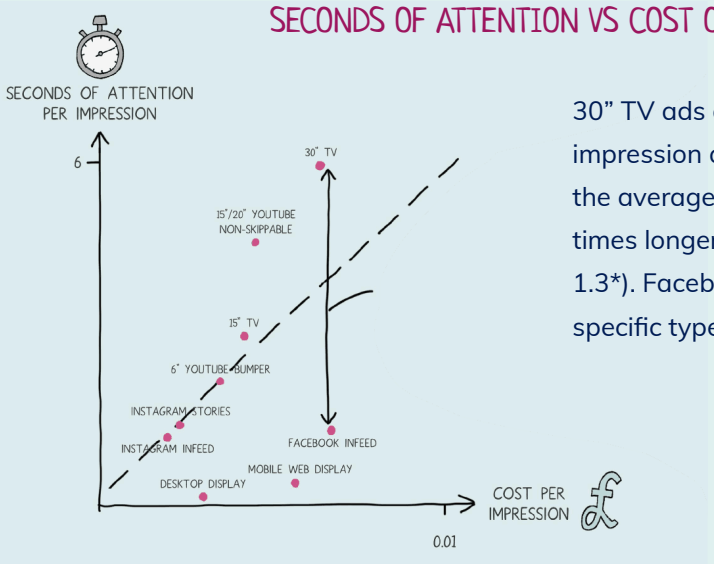
Despite these limitations, we nevertheless believe it is still useful to compare the quantity of attention your campaigns generate with how much you are spending to buy this attention. When you combine the two datasets, you see the true cost of attention. TV – one of the most expensive media to buy on a CPM basis – generates so much more attention per thousand impressions that it is actually an 'attention bargain'. Desktop display – often one of the cheaper media – isn't cheap at all.

How long will it take for marketers to use attention metrics as a signal of media quality?

- The best are already doing it
- 3-6 months
- Longer
- Never

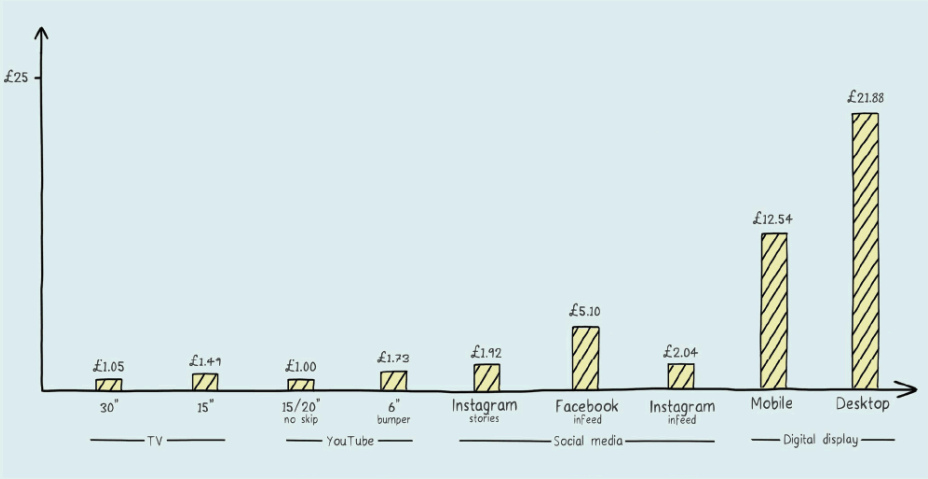
See results

SECONDS OF ATTENTION VS COST OF MEDIA



30” TV ads cost about the same per impression as Facebook infeed ads but the average exposure lasts nearly 5 times longer (6* seconds versus 1.3*). Facebook, however, allows very specific types of people to be targeted.

COST PER 1000 ATTENTIVE SECONDS



These ads generate so little attention that their aCPM is far higher than their comparators, including TV. There can be a high cost to low-priced media. In between these extremes are social media, which offer a range of possibilities, depending in part on how much you spend on targeting data. An attention currency, when combined with a real currency, has become a powerful analytical tool for marketers.

> *These figures take into account that when an ad appears, people’s eyes often focus on it for little or no time and this varies by medium.
> **Costs are illustrative based on averages from one big spending company. Production costs should also be considered.

Different attention strategies

7. Different attention strategies

Buying the right amount of attention to meet your communication objectives

Understanding the true cost of attention across media is a good first step, but is it enough on its own? Should marketers, who have for years mistakenly chased the cheapest CPMs, simply switch gears and chase the cheapest 'aCPMs' instead?

We think not.

As we will see in the next section, while more attention is almost always a good thing for advertisers, all attention is worth something, and what it is worth depends on what you are trying to achieve.

If your ads can only work if they receive a certain amount of undivided attention, then it is wise to buy media that will meet this threshold.

After all, you'd never buy a 15-second TV ad spot and then place just the first half of a 30-second ad in it. Instead, you'd either buy the proper amount of time or re-edit the ad to fit the time available.

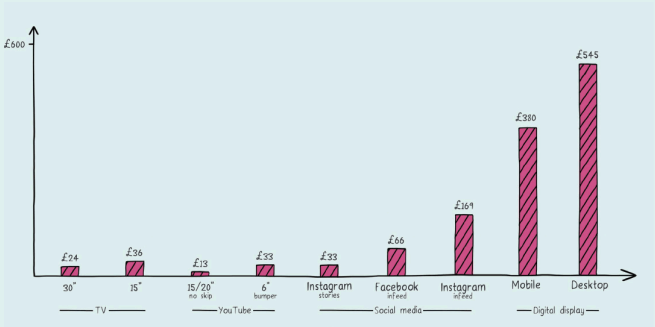
The same is true of attention: if your ad will be ineffective without significant eyes-on dwell time, then don't waste your media budget on inventory that routinely fails to deliver the required attention. Not all ads, however, require great chunks of attention. Sometimes, all you need it to do is remind consumers that your brand exists at all for it to have an impact in the market. If all you want to do is make sure that people look at your ads and you don't care how long they look at them for, then the attention calculus changes dramatically.

> **"If your attention strategy changes, so too does the cost profile of the media you use.**

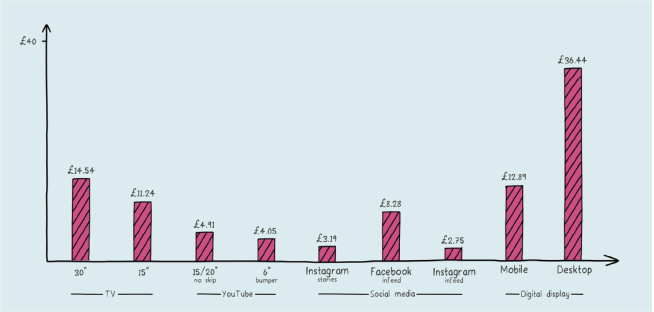
And if your attention strategy changes, so too does the cost profile of the media you use.

Let's consider two very different advertisers, with two very different objectives, who would require two very different attention strategies to achieve their aims.

ADVERTISER A –
COST FOR 1000 VIEWS OF 5 SECONDS+



ADVERTISER B –
COST FOR 1000 VIEWS OF ANY DURATION



ADVERTISER A

Advertiser A is a new brand with a complex new product to communicate to the market. Its offer is very motivating, but you do have to understand the details to appreciate the value. For this advertiser, five seconds' average dwell time across different media is an absolute minimum to achieve their aims. They can therefore use the attention funnel approach to assess the different cost of generating five-second chunks of attention time. This makes TV look like a cost-effective way of delivering against their attention strategy.

ADVERTISER B

By contrast, Advertiser B is a well-established brand with extremely distinctive brand assets that can be recognised very quickly. Its task is simply to trigger and reinforce existing memory structures related to the brand to build mental availability. In this case, the brand managers don't need to impose a minimum attention time threshold on their media buy at all. Suddenly, TV no longer seems like such a bargain. Social media is a much more cost-effective option for this advertiser.

Of course, there are some media that allow you to apply both strategies simultaneously. Facebook allows advertisers to buy on the basis of 'Watch' (where you only pay if the ad is viewed for a relatively long time, and so is closer to the strategy of Advertiser A) and 'Reach' (where you pay for mere exposure, which is closer to the approach of Advertiser B).

Indeed, for most campaigns, there will be a variety of tasks to achieve, often simultaneously. Success will depend on a little of strategy A, a dash of strategy B with a dollop of strategies C, D, and E thrown in for good measure. Finally, there appears to be a law of diminishing returns: adding a second or third second of eyes-on dwell time can be more valuable than adding the 102nd or 103rd.

The better you understand your communication task and the amount of attention required to get the job done, the more likely you will be to develop the optimal attention strategy. Cost efficiency or communication efficacy? Understanding the true cost of attention will help you answer this age-old question.

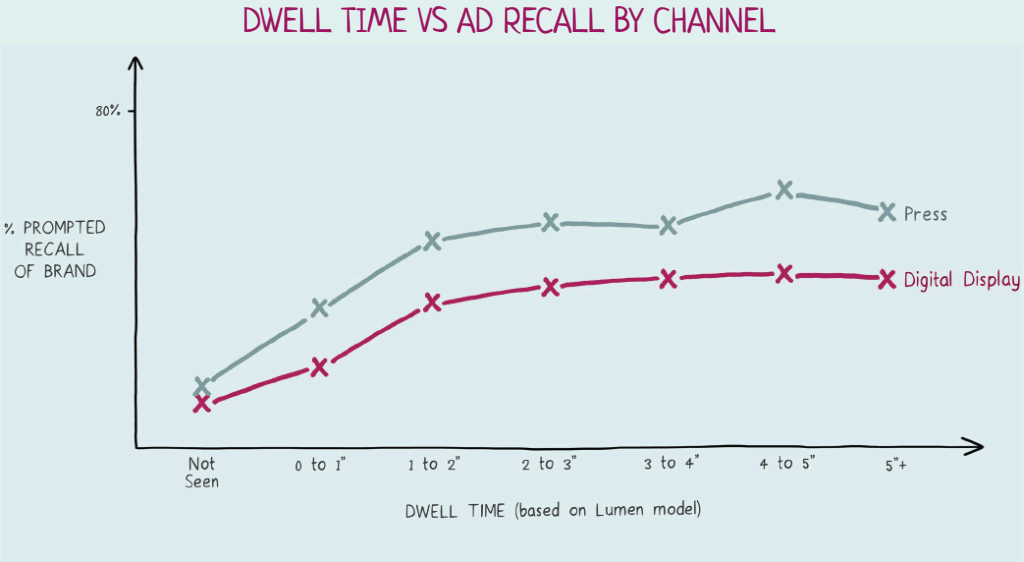
The value of attention: recall

8. The value of attention: recall

Understanding the relationship between attention and brand recall

Up until now, we have been talking about attention as a cost. But this is only half the story. To understand the full picture, we have to understand the impact of attention on the desired outcome of the advertising. Only then can we assess the true value of attention to advertising.

In general, the longer you look at ads, the more likely you are to remember them. Lumen has conducted hundreds of research projects over the years in which respondents are asked to view a page or a feed containing a number of ads and then complete a recall questionnaire. Analysis of this aggregated print and digital data set shows a clear connection between the time spent looking at ads and the likelihood of subsequent recall. Print advertising seems to be more attentionally efficient than digital advertising, generating more recall in a shorter amount of time on average. But both print and digital advertising follow the same pattern.

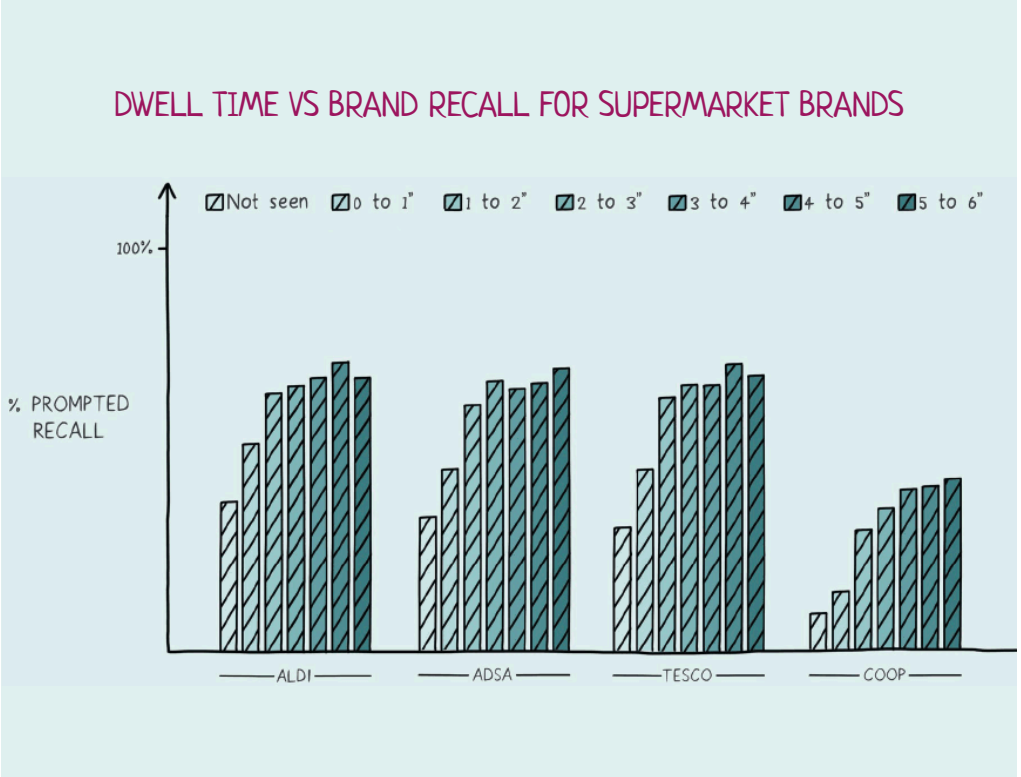


Up until now, we have been talking about attention as a cost. But this is only half the story. To understand the full picture, we have to understand the impact of attention on the desired outcome of the advertising. Only then can we assess the true value of attention to advertising.

In general, the longer you look at ads, the more likely you are to remember them. Lumen has conducted hundreds of research projects over the years in which respondents are asked to view a page or a feed containing a number of ads and then complete a recall questionnaire. Analysis of this aggregated print and digital data set shows a clear connection between the time spent looking at ads and the likelihood of subsequent recall.

Print advertising seems to be more attentionally efficient than digital advertising, generating more recall in a shorter amount of time on average. But both print and digital advertising follow the same pattern.

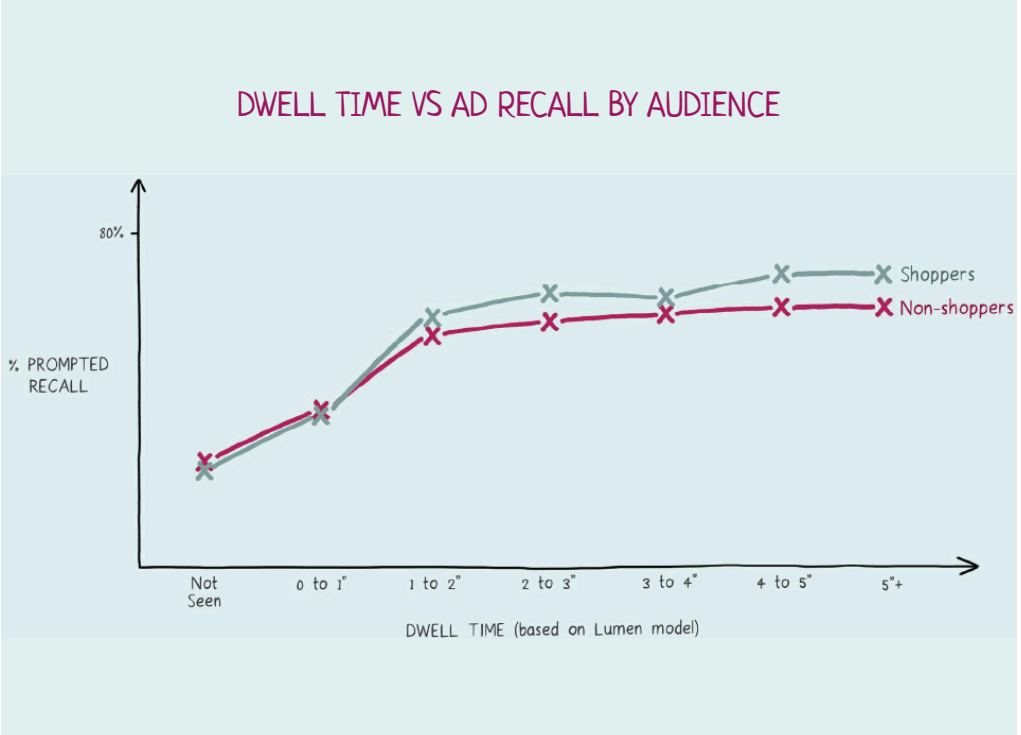
But does this general trend hold true for all brands? Is there a minimum attention threshold your ad needs to meet to be worth anything – or are some brands better than others at communicating quickly?



Here the answer is more complicated. It depends on who's doing the talking (and what they are trying to say), and who's doing the listening (and what they are prepared to hear).

The brand, the message, and the creative execution obviously have a major impact on the speed and efficacy of communication. From our datasets, we can see that famous brands deploying distinctive brand assets need far less time to be recognised and remembered than smaller brands. Big brands tend to more attentionally efficient than small brands because their visual assets are already familiar. This means that consumers are primed to recognise them after a shorter period of time being exposed to them.

As a case in point we can look at data from Lumen's long-running print omnibus in the UK, where a group of randomly-recruited respondents are asked to read the first 10-15 pages of a newspaper while having their eyes tracked, before answering a short recall questionnaire. There is a strong relationship between attention time and recall. It is interesting to note that ads for the largest brands (like Tesco) not only generate higher levels of overall attention. They also need less time than the smaller brands (like the Co-op) for their ads to be remembered.



Part of the attentional efficiency of well-known brands is down to their use of existing brand assets. But the other side of the same coin is that they are well- known by the target audience. You are more likely to remember ads from brands you know than from less familiar brands. One of the drivers of the success of Tesco's advertising is that there are so many more Tesco shoppers reading the paper, and Tesco shoppers are more likely to remember ads for their favourite store than those for others.

Similar effects can be observed when ads are well targeted. A study that Lumen conducted with the IAB UK in 2017 found that well-targeted digital ads achieved far higher levels of attention and recall than less relevant ads.

> **The relationship between attention and recall is, therefore, not simple.**

The relationship between attention and recall is, therefore, not simple. The creative design of the ads can make a difference. The familiarity of the audience with the brand can make a difference. The relevance of the offer can make a difference. Seasonality, timing, frequency, mood: all of these factors can influence attention levels and communication efficacy.

So, while there is a strong relationship in general between attention and recall, there are many devils in the detail.

The value of attention: sales

9. The value of attention: sales

Using predictive models of attention to link attention to sales

Bill Bernbach said: “You can’t sell a man who isn’t listening.” Or looking, we might add. But is that true? Is unseen unsold?

To assess the relationship between attention and sales, we can use Lumen’s predictive models of attention to understand the attention digital advertising is likely to generate and how this relates to online sales.

1

Using data from Lumen’s desktop and mobile panels in the UK and now the US, we can build a model that predicts how likely someone is to actually view an ad when it appears in a given format, in a given location on a given website, and for a given amount of time.

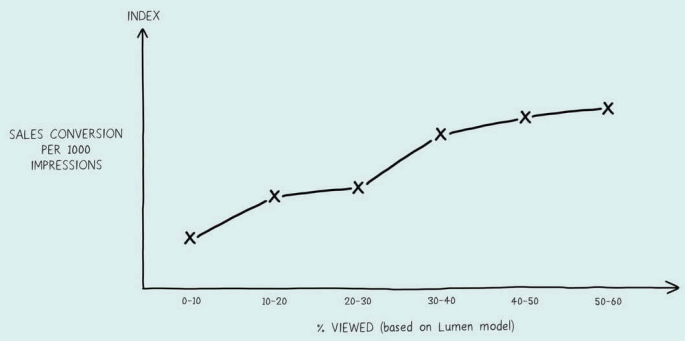
2

We can then apply these predictions to impression-level campaign data for digital campaigns. This gives us an estimate of how much actual attention each impression in a campaign is likely to have generated.

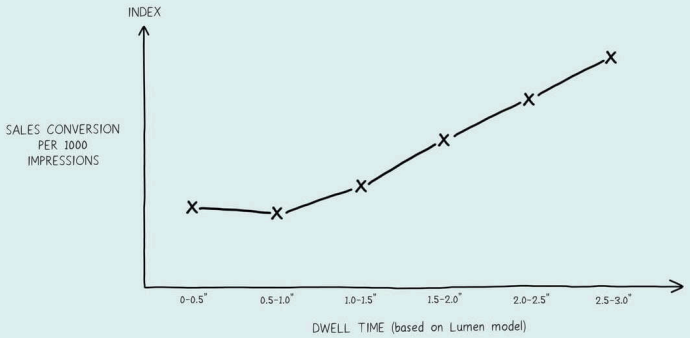
3

Finally, we can look at the relationship between the ads that we predict get lots of attention and the ads that actually generated lots of sales. If attention leads to sales, then the ads that are most likely to be noticed – or most likely to gain a lot of viewing time – should also be the ones that lead to the most sales.

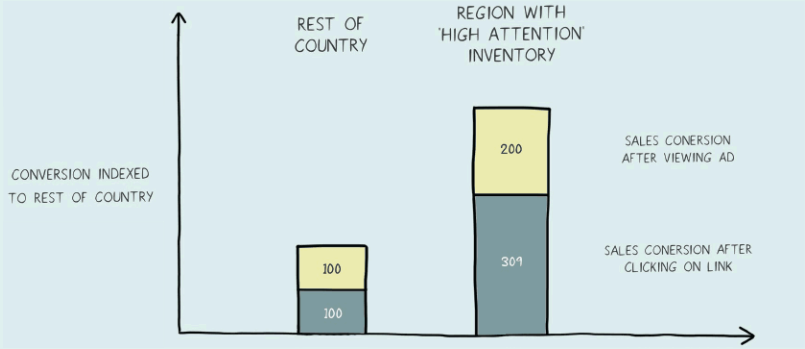
SALES CONVERSIONS PER 1000 IMPRESSIONS



SALES CONVERSIONS VS DWELL TIME



SALES CONVERSIONS BY REGION



It should be noted that these predictions are just about media characteristics – they don't take into account creative or targeting. The basic model assumes averagely attention-grabbing creative served to averagely well-targeted consumers, though it is possible to add these factors into client-specific models. Given what we know about how people look at advertising for 'their' brands or ads that are particularly relevant for them, this is probably an advantage. Holding creative and targeting constant allows us to isolate the impact of media factors on attention and sales.

Working with British Gas and Mediacom in the UK, we have been able to use the Lumen prediction model to calculate the likely attention British Gas' digital advertising is generating and how this relates to sales.

The results are reassuring. There is a strong relationship between attention and sales. Ads that, while technically viewable, have a very low chance of getting looked at don't tend to result in sales.

> **Attention leads to sales, though how much attention and how many sales depends on media planning, creative design, and audience targeting.**

Ads that have a higher chance of being seen seem to have a higher chance of converting. Similarly, we've found that the ads we predicted gained the longest view time were also the most likely to generate online sales for British Gas.

The natural next step for British Gas was to use this insight not only to understand the past but inform the future. So, we created a bidding strategy for them to be able to buy high-attention inventory and set up a test to see whether buying ads that people are more likely to look at has an impact on sales. In the region where British Gas bought high-attention inventory, post-click conversions increased by 309% while post-view conversions increased by 200%, all other factors being held constant.

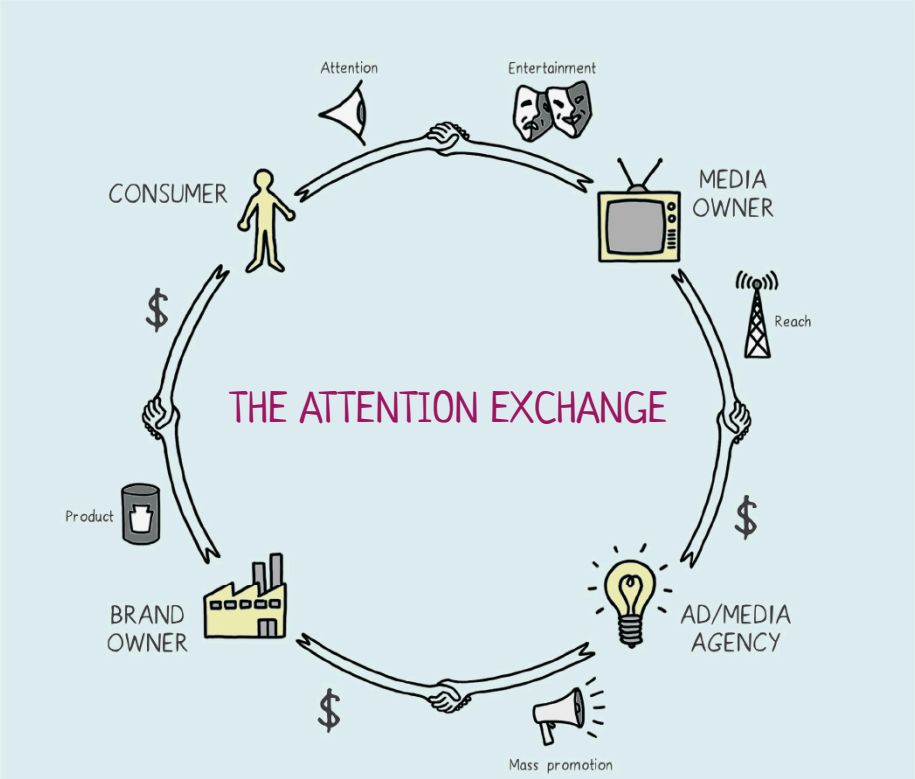
Since these initial tests, Lumen has conducted many similar studies and for a variety of advertisers in different categories. The results are always the same: more attention equals more sales, though the strength of the relationship differs from category to category and brand to brand. Attention leads to sales, though how much attention and how many sales depends on media planning, creative design, and audience targeting.

It seems that maximising your attention currency can enhance return on investment.

Publishers and the ‘ecology of attention’

10. Publishers and an ‘ecology of attention’

What publishers need to do to maximise the attention ads receive on their sites



ADAPTED FROM BAGOZZI 1975)

If attention is a commodity, then it can be traded between consumers, advertisers and publishers. This is sometimes known as the ‘Attention Economy’. This is not a new idea. Publishers have long said that they are in the business of ‘selling eyeballs’, and the process was schematized in a seminal article by Rick Bagozzi entitled ‘Marketing as Exchange’ (1975).

Bagozzi conceptualised a circular economy, in which consumers get free entertainment from TV stations and publishers in exchange for giving some of their precious attention to the ads that accompany the content.

Advertisers, via media agencies, pay for this attention by buying ad slots, their costs covered by the purchases made by the consumers at the other end.

Publishers are, therefore ‘attention merchants’, selling eyeballs to advertisers. Good publishers generate the high levels of attention for the lowest possible cost. The best publishers will optimise their media for attention.

So what should publishers do to maximise the attention that advertising receives on their stations and sites? And what should smart advertisers look for in assessing quality?

This last point – that advertising in media that is consumed more slowly gets more attention – was neatly brought to life in a recent study of the attention patterns of 1,500 magazine readers, undertaken by Lumen for Magnetic, the UK magazine marketing body.

Will publishers start optimising their sites to boost attention to advertising?

- The best are already doing it
- 3-6 months
- 1 year
- Longer
- Never

See results

HERE ARE A FEW HINTS AND TIPS FOR DIGITAL ADVERTISING:

Reduced ad clutter
The more ads are on the page at the same time, the less attention goes to any of them

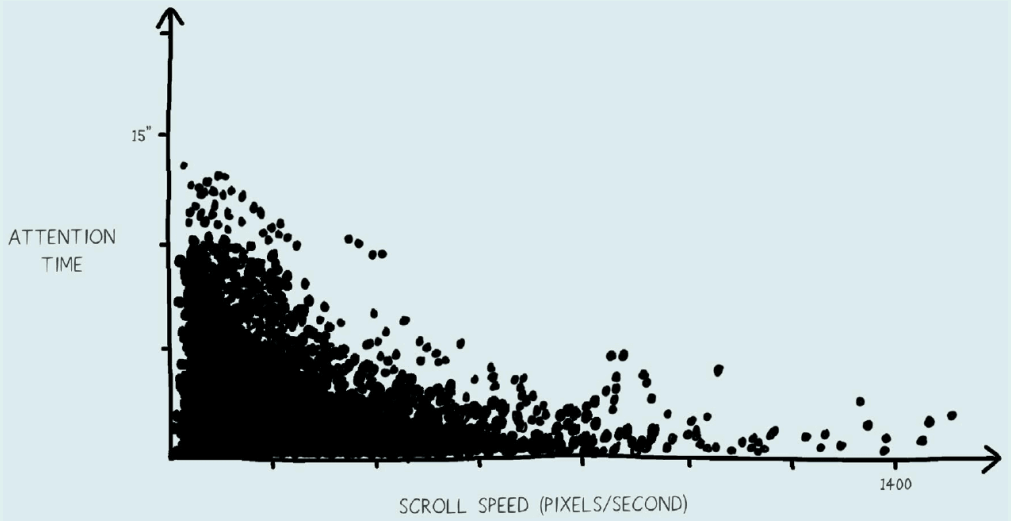
Gold beneath the fold
Even though many digital ads above the fold are technically viewable, ads positioned in the body of the article are much more likely to get noticed and engaged with

Negative space
The more an ad stands out from the page, the more likely it is to be seen

'Slow media'
The more people engage with the article they are reading, the more they tend to engage with the accompanying advertising. Invest in journalists and content creators: they are the golden geese

Lumen found that the faster someone scrolled their phone, the less attention the accompanying ads received. The slower and more engaged readers were with the articles, the more attention the accompanying ads generated.

This in turn highlights a further truth. Publishers serve two groups: their audiences and their advertisers. The interests of both groups have to be balanced, but the audience – and therefore the journalists and content creators – have to come first. Without attention to the editorial content, there is no attention to the paid advertising.



Publishers and broadcasters have to think in terms of sustainable attention. Maximising short term ad yield to create hundreds of technically viewable but practically useless ad slots may make short-term commercial sense, but it spells long-term financial ruin. Ad-free TV subscriptions and online ad blockers are a very real response to the increasing length of TV ad pods and burgeoning digital ad clutter.

It seems we operate less in an attention economy than an attention ecology, an environment that meets the needs of all participants. Attention is exchanged in a circular manner and is liable to break down unless the interests of all parties are served. Consumers won't engage with the publishers if their time is wasted by too much (irrelevant) advertising; the publishers can't provide a (free) service unless they make sufficient revenues; advertisers won't pay the bills unless the consumers actually notice and act on the ads.

"It seems we operate less in an attention economy than an attention ecology."

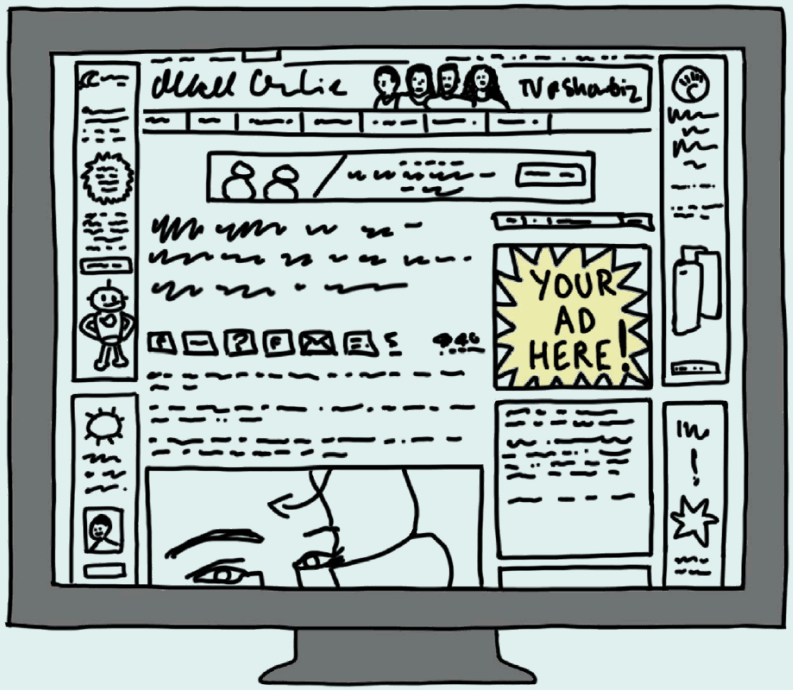
But we can avoid this fate if we properly value people's attention, creating environments that they want to visit, with sustainable levels of advertising that actually get looked at, and acted on.

Advertisers and an unfair share of attention

11. Advertisers: how to get an unfair share of attention

Some top tips on boosting attention to ads

As noted previously, creative design has a major role to play in gaining and maintaining attention to advertising. Smart media planning will enable savvy marketers to find attention bargains, but eventually these attention arbitrage opportunities will evaporate. Everyone will come to know that there is “gold beneath the fold” and so the price will change to reflect this improved information. Attention-grabbing creative, however, will always offer brands the possibility of gaining an unfair share of attention.



WHAT CAN BRANDS DO TO WIN THE BATTLE FOR ATTENTION?

There are no hard and fast rules, and creative depends on both your message and your brand. But remembering the reality of attention – that it is selective, finite, and voluntary – can help in briefing and creative development.

Selective

Your ads have to fight for attention, not just against the other ads, but also against everything else that people could look at. Designing simple, visual ads that stand out from the page or the screen is key.

Finite

People's attention is limited, with most ads in most media generating only a few seconds of attention. Fit your message to suit this time budget. Shorter, simpler, more single-minded messages perform better than complex, busy ads. In general, advertisers have more to learn from the out-of-home (OOH) industry than the CRM industry.

Voluntary

People don't have to look at your ads and frequently they don't. Investing time and resources into developing ads that are worth watching is not being fussy or precious. It's good business sense.

ONE SIMPLE WAY OF ENSURING THAT YOU STICK TO THESE PRINCIPLES IS TO TEST YOUR ADS IN CONTEXT

Most ads are tested in isolation, with participants forced to sit through the whole thing and then offer their opinions afterwards. The problem is, as Alan Hedges pointed out almost fifty years ago, this almost never happens in reality. While ads are made and tested in isolation, they are always seen in context.

"ADS ARE MADE AND TESTED IN ISOLATION, THEY ARE ALWAYS SEEN IN CONTEXT."

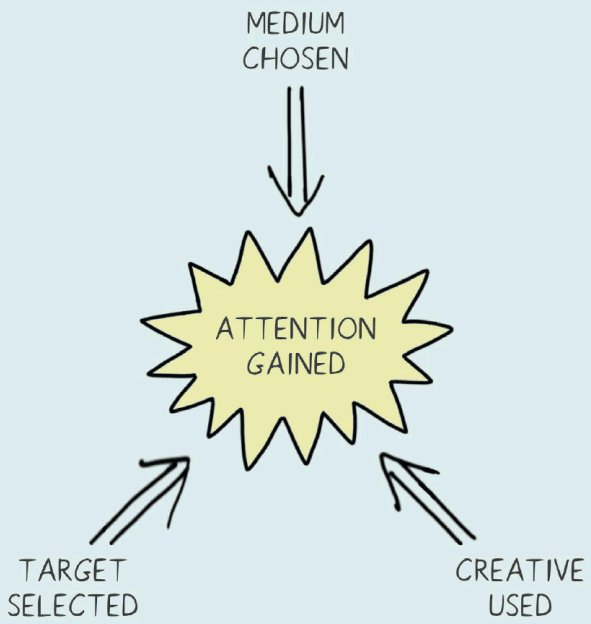
"IF NO ONE NOTICES YOUR ADVERTISING, EVERYTHING ELSE IS ACADEMIC."

The key question that brand managers should ask of any ad is this: will it capture the attention of my audience? Ads should be designed for attention and then tested for attention. Because, as Bill Bernbach observed: “If no one notices your advertising, everything else is academic.”

The first and last and most important assumption when it comes to developing advertising is this: don’t assume attention, earn it.

"DON'T ASSUME ATTENTION, EARN IT."

FACTORS INFLUENCING ATTENTION



How much attention is there in the world?

12. How much attention is there in the world?

Attention to advertising is a finite, rare, and valuable commodity. But how much of it is there in the world? And how much of it goes to advertising?

One way of estimating this is to apply Lumen and TVision's attention models to media exposure data. We are lucky in the UK to have the IPA Touchpoints, one of the most robust, single-source media exposure surveys in the world, and it provides exactly this data.

Since 2005, the IPA has interviewed 6,000 respondents aged 15+ living in the UK about all their media habits. We can use Touchpoint's data to estimate the total exposure time people have with advertising across different media. We can then apply Lumen's and TVision's models to estimate how much of that exposure time is actually spent looking at advertising.

The Touchpoint data suggest that UK citizens spend around five hours a day with commercial media of one type or another. Within that time, they are exposed to around 90 minutes of advertising spending just 9.5 minutes actually looking at it.

AD EXPOSURE VERSUS AD VIEWING

	Time with media (minutes/seconds)	Ad exposure (minutes/seconds)	Total ad viewing time (minutes/seconds)
Commercial Online News	3' 36"	2' 29"	0' 8"
Commercial TV - Live/ Recorded/BVoD	126' 35"	11' 3"	3' 0"
Functional Internet	40' 48"	28' 17"	1' 32"
Magazines	6' 0"	4' 48"	0' 43"
Newsbrands	19' 12"	16' 19"	1' 33"
Other Online Video	30' 0"	1' 13"	0' 22"
Social Media	73' 12"	19' 45"	1' 58"
TOTAL	299' 23"	83' 57"	9' 19"

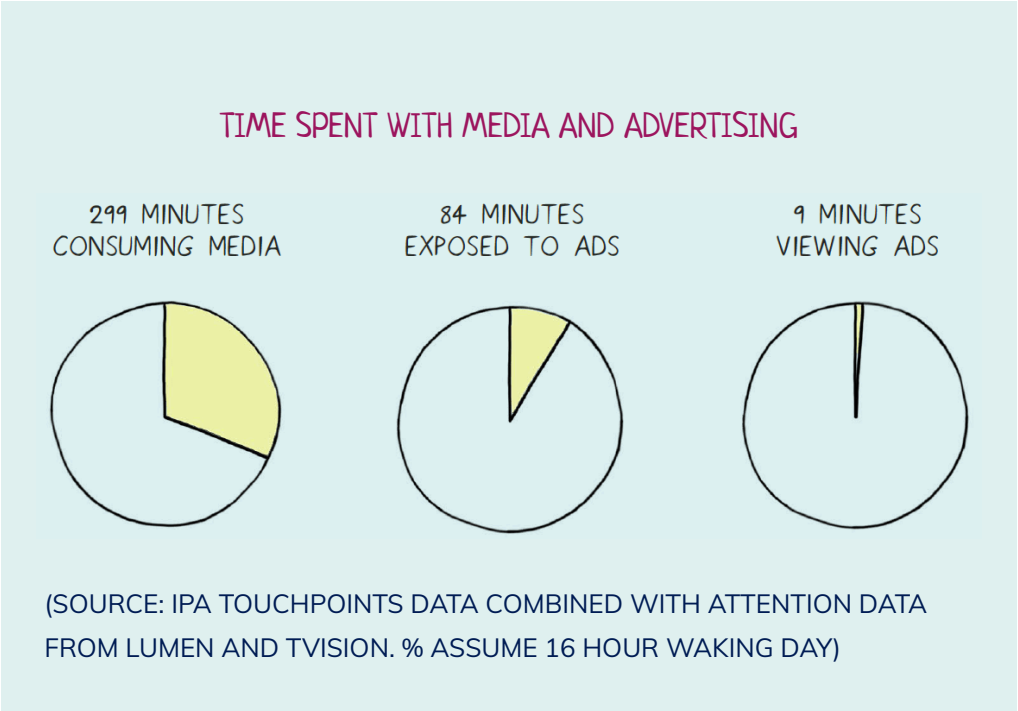
When you add in data for OOH, email, and direct mail, the total rises slightly. The basic shape is the same.

Yes, people do watch a lot of TV, yet only 9% of that time is given over to advertising. Only 43% of those ads are looked at, each for an average of 13.8 seconds. This means that while people spend around two hours a day watching commercial TV, and 11 minutes in the presence of ad, they only spend around three minutes actually looking at TV ads each day.

By contrast, people spend less time on social media than they do with TV. But 27% of their feed is advertising and they are much less likely to ignore the ads. Does this mean that Facebook is a better media than TV? Not so fast: when they do look at the ads, it is often for much less time than they do on the box. As a result, people spend around two minutes a day engaging with ads on social media.

Or take newspaper advertising. Five out of every six newspaper pages carry advertising. Lumen's research into press advertising suggests that people find press advertising very hard to miss, and on average tend to give it slightly more attention than social media advertising. As a result, while people only spend 20 minutes a day reading newspapers, 90 seconds are spent looking at the advertising in the press.

So how much attention in total do we spend with ads?



(SOURCE: IPA TOUCHPOINTS DATA COMBINED WITH ATTENTION DATA FROM LUMEN AND TVISION. % ASSUME 16 HOUR WAKING DAY)

If you assume a 16 hour day, or 960 minutes of total attention, around 1% of our total attention goes to the advertising listed here.

Some people might find this data dizzying: there's so much attention in the world and so little of it goes to advertising.

Others might find it humiliating: how dare you highlight how insignificant advertising really is.

Others still might find it demoralising: what's the point of working so hard fighting for such crumbs of attention?

We find it invigorating. This is how the world is, not how some of us would wish it to be. Now we know how much attention advertising really generates we can really do something about it.

This perspective also helps us understand the insights that recent (and not so recent) writers have highlighted about how advertising works:

Understanding the reality (and paucity) of attention to advertising in general helps explain why advertising is such a weak force – though one in which drips of attention calcify into durable memories, like stalactites.

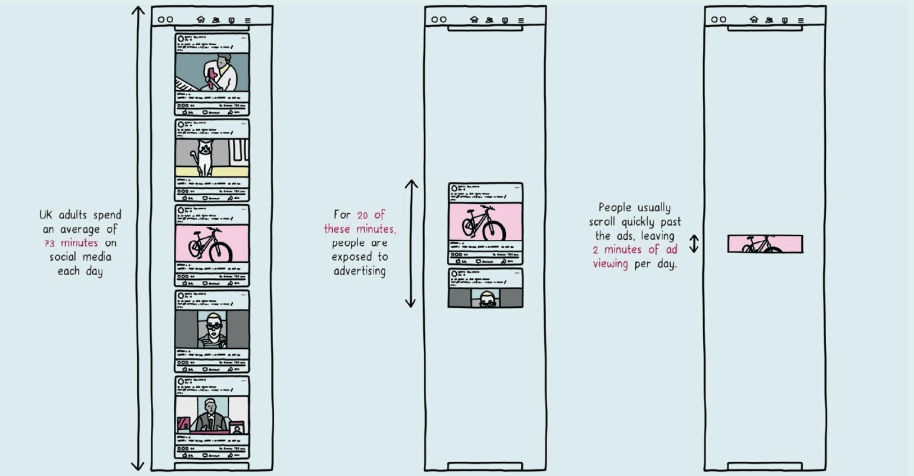
Understanding the cumulative impact of attention helps explain how long-term branding primes the mind to accept short term messaging.

Understanding the distracted nature of our attention helps explain why simple, visual emotional advertising is so much more effective than wordy, rational alternatives.

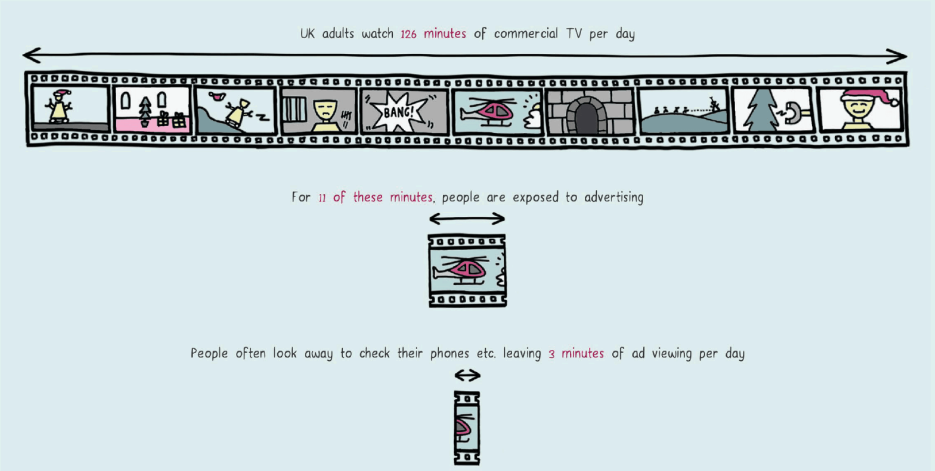
Understanding how advertising needs to earn attention explains why the pedlar needs to sing.

Advertising works. But it doesn't work in the way we think it works. Until now, we've never known how our customers actually see our work. Now that we can see clearly, we can act accordingly.

SOCIAL MEDIA AD EXPOSURE



TV AD EXPOSURE



WHAT YOU CAN DO NEXT

Attention Audit

At the end of a campaign or trading period, we take impression level data for both digital and traditional campaigns and apply Lumen's predictive model of attention to estimate the amount of attention your campaign actually generated. We then combine this data with cost information to generate a 'cost of attention' analysis to help you understand which parts of your media mix are most 'attentionally cost effective'.

Attention reporting

At the start of a campaign, we apply the LAMP (Lumen Attention Measurement Platform) tag to your digital advertising campaigns. The LAMP tag collects viewability information for every impression you serve, and then uses the information obtained to predict how likely the ad is to be viewed, and how long it is likely to be viewed for. The data is then combined with cost information to give you estimates of the 'cost of attention' for your live campaigns, allowing you to optimise your campaigns in real time.

Attention activation

The Lumen attention predictions can be used to inform real time bidding strategies as a custom algorithm within a DSP. The LAMP plug in allows you to 'target attention' programmatically, and see how this drives increases in sales and brand uplift.

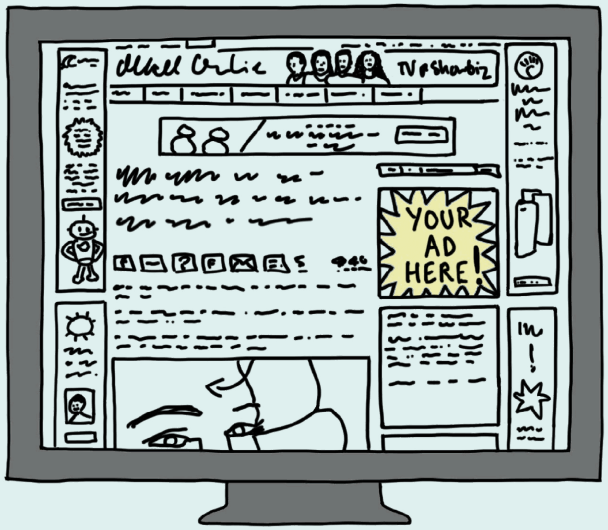
FURTHER READING

Basic introductions to attention
R. L. Gregory Eye and Brain
Elizabeth Styles Attention, Memory and Perception

Attention models
Daniel Kahneman Attention and Effort
Natalie Lavie Perceptual Load and selective attention
R.L. Gregory Perceptions as hypotheses
Ann Triesmann & Garry Gelade The Feature Integration Theory of attention

Metaphors of attention
Maurice Merleau-Ponty The world of perception
Diego Fernandez Duque & Mark Johnson
Attention metaphors: how metaphors guide the cognitive psychology of attention

Attention economics
Rick Bagozzi Marketing as Exchange
Georg Franck The economy of attention
Yves Citton The ecology of attention
Tim Wu The Attention Merchants
Faris Yakob Paid Attention
David Evans The economics of attention markets



About this booklet: Contributors & data suppliers

About this booklet:
Contributors & data suppliers

Martin Vinter

Martin is the Managing Director of Media in the UK for Ebiquity. He has held various specialist, client and leadership roles at three of the ‘big six’ holding groups as well as independent agencies. At Ebiquity, Martin stewards a team of more than 50 media consultants, delivering market-leading solutions to over 200 UK advertisers, including media investment optimisation and helping clients develop effective media management models.

ebiquity

Mike Follett

Mike is one of the founders of Lumen, the leading attention technology company. Lumen’s eye tracking software enables publishers, advertisers and agencies to understand the reality of attention to advertising and content across all forms of digital media. Mike began his career in advertising, working for DDB in London, New York and Mumbai, before starting Lumen in 2013. Mike holds degrees from Oxford University and Imperial College London.

LUMEN

Dan White

Dan White is a hybrid of marketing guru and illustrator. His best-selling book 'The Smart Marketing Book' has captured the imagination of the marketing world thanks to its ingenious frameworks and visual metaphors. These, and many more, can be found at smartmarkting.me.

Yan Liu

Yan is the CEO and Co-founder of TVision, the only company which measures individual viewer attention to both TV content and ads. Yan founded TVision while earning his MBA at MIT. Prior to TVision, Yan started and managed Yo-ren, a leading digital marketing agency in China and also worked at McKinsey in Tokyo. He has an MBA from the Massachusetts Institute of Technology (MIT), and a Bachelor of Industrial Engineering from the Tokyo Institute of Technology.

TVISION

PEOPLE SPEND JUST 1% OF THEIR TIME WATCHING ADS

Thank you for your ~~time~~ attention!