

# Amplify: Planning for Attention

How high impact formats can  
supercharge your media plan

A research project by  
Inskin Media and Lumen

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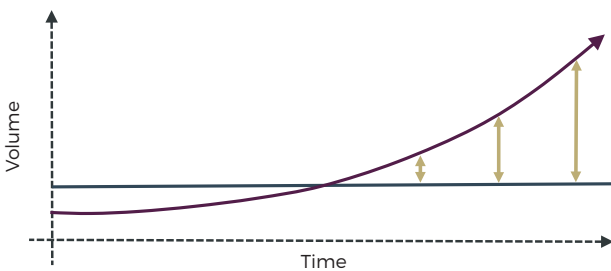
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## The scarcity of attention

Human attention is set to become one of the world's most sought after commodities. As far back as 1971, economist and later Nobel laureate Herbert A. Simon described what has since become known as "attention economics": that in an ever increasingly information-rich world, the limited resource that is human attention becomes increasingly scarce and valuable.

**Figure 1: Attention scarcity drives value**

Source: Maciej Olpinski



- Information
- Attention deficit
- Human Attention

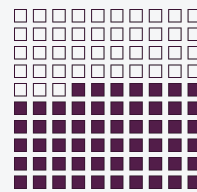
## How attention scarcity relates to digital advertising

This ever-growing scarcity of attention has been particularly noticeable in the context of digital advertising, where the overabundance of advertising has contributed to two major trends in our industry: low viewability numbers and even lower incidence of attention<sup>1</sup> paid to display advertising.

According to ad validation company Moat, only about half of all served display ad impressions in the UK ever get the opportunity to be seen.

But even those that have the chance to engage consumers generally fail to do so: data from Lumen's passive eye tracking panel shows that only 12% of served digital ads ever attract users' attention, and a mere 4% get looked at for at least a second.

**Figure 2: Attention scarcity in digital advertising**



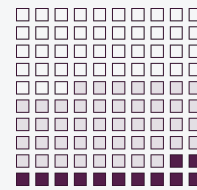
**Viewability rates remain low**

Source: Moat Analytics (UK, Q2 2018)

**57%**

But **seen** rates are even lower

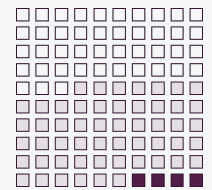
Source: Lumen (Sep 2018)



**12%**

Hardly any ad gets looked at for **≥1 sec.**

Source: Lumen (Sep 2018)



**4%**

Note: All data refers to digital display ads on desktop machines

## Why should we care about attention measurement?

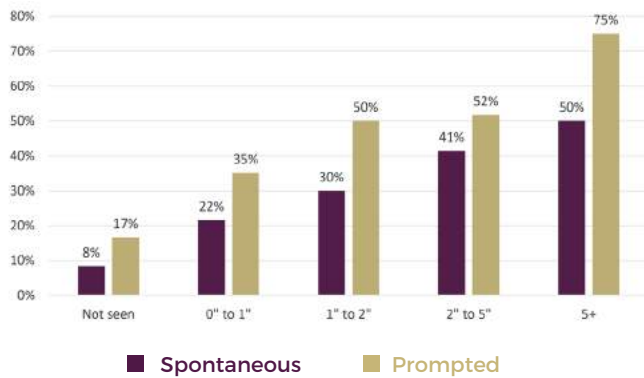
Why is the scarcity of attention so relevant to digital advertising, and in particular brand advertising activity?

The answer lies in its relationship with important business success indicators. A range of different studies have shown that visual engagement rate (the percentage of viewable ads that get looked at), visual engagement time (the time people spend looking at online advertising) and visual engagement frequency (how often people look at the ad) drive brand metrics such as recall, and are also strong predictors of online conversions and sales.

<sup>1</sup> For the purpose of this paper, "attention" is defined as visual engagement with a stimulus, i.e. users looking at display advertising served on a website.

**Figure 3: Relationship between visual engagement time and recall**

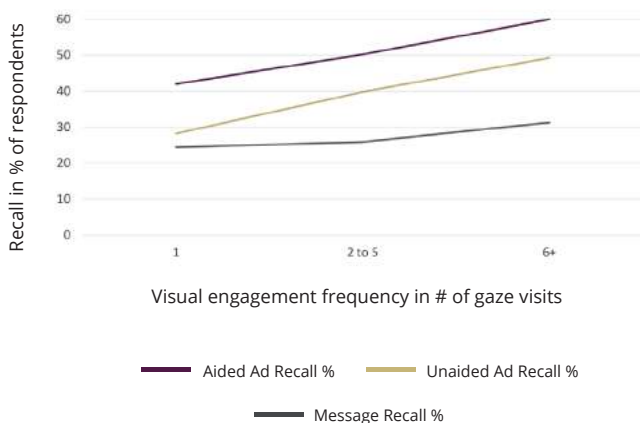
Source: "Amplify: planning for attention", Inskin Media and Lumen, September 2018



Source (Time): "Amplify Project", Inskin Media and Lumen, September 2018  
 Source (Frequency): "From Viewability to Visual Engagement", Inskin Media, Sticky, Research Now SSI, September 2016

**Figure 4: Relationship between visual engagement frequency and recall**

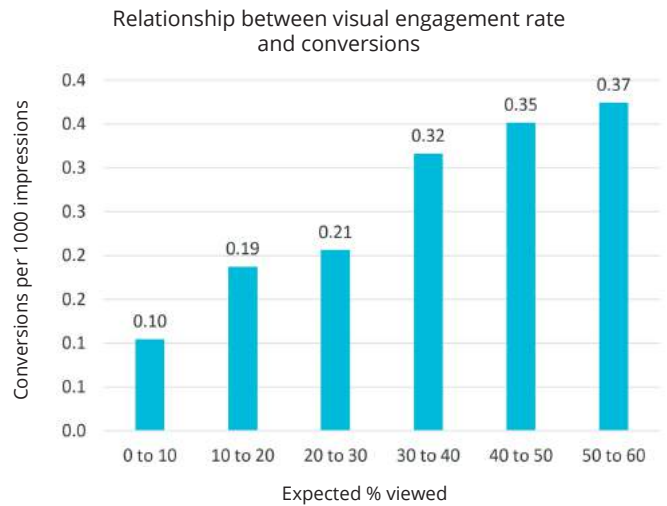
Source: From Viewability to Visual Engagement, Inskin Media, Sticky, Research Now SSI, September 2016



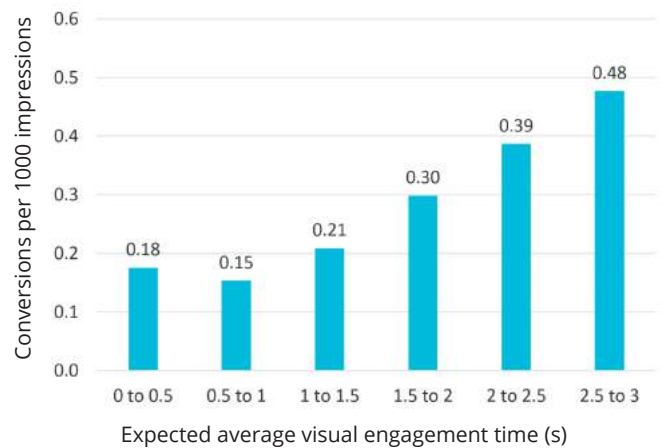
Source (Time): "Amplify Project", Inskin Media and Lumen, September 2018  
 Source (Frequency): "From Viewability to Visual Engagement", Inskin Media, Sticky, Research Now SSI, September 2016

**Figure 5: Attention is linked to sales / conversions**

Source: Lumen and British Gas



**Relationship between visual engagement time and conversions**

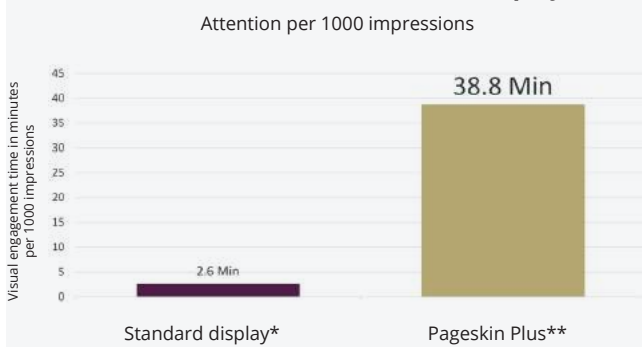


## Planning for attention

As our understanding of the value of attention as a brand advertising success metric increases, so does the question how attention intelligence can be integrated into the media planning and buying process.

One of the key challenges remains the weak cut-through potential of standard display advertising formats such as MPUs or Skyscrapers (as shown in Figure 2). Eye tracking specialist Lumen estimates that for every 1,000 served display ad impressions, users pay only about 2.6 minutes of aggregated attention (or 0.16 seconds per ad!), a result of both poor viewability and low seen rates. In contrast, research shows that specific high-impact formats, such as Inskin Media Pageskin Plus, can attract nearly 40 minutes of attention for the same amount of impressions.

**Figure 6: High-impact formats attract considerably more attention than standard display**



Source (Time): "Amplify Project", Inskin Media and Lumen, September 2018  
 Source (Frequency): "From Viewability to Visual Engagement", Inskin Media, Sticky, Research Now SSI, September 2016

The large discrepancies between these different types of formats are not surprising, and align well with existing studies into their respective brand-building potential. However, integrated media planning should not stop at comparing the relative strength of these formats. Rather, we should also try to understand how ad exposures influence each other, in order to effectively optimise delivery against metrics that matter. For digital brand advertising, attention is such a metric.

We set out to explore this idea further. What if there was a way to make a standard display ad more likely to be noticed, purely due to the type of ad users had been exposed to before, all other things being equal?

## Researching the amplification effect

We hypothesised that, for any given brand campaign, exposure to high-impact ad formats could increase users' attention to subsequently served standard display ads. Differently put, we assumed that an ad's potential to stand out to a user is influenced by what the user had seen before, and that the quality of this previous exposure, as measured in attention, mattered a great deal.

Our hypothesis was based on three central objectives. We aimed to:

- Evaluate a digital ad format's effectiveness holistically, by taking into account both its direct (how does the impression itself impact consumers) and indirect effects (how does the impression impact subsequent impressions on consumers);
- Devise flighting strategies that maximise attention across the media plan;
- Investigate the practical application of attention as a brand advertising success metric.

The basis for our assumption was rooted in cognitive psychology: we theorised that high-impact ad exposures could potentially change the salience (or stand-out potential) of the brand assets that a creative consists of, i.e. the likelihood for an ad to attract attention might be larger if the consumers' mind has previously been "sensitised".

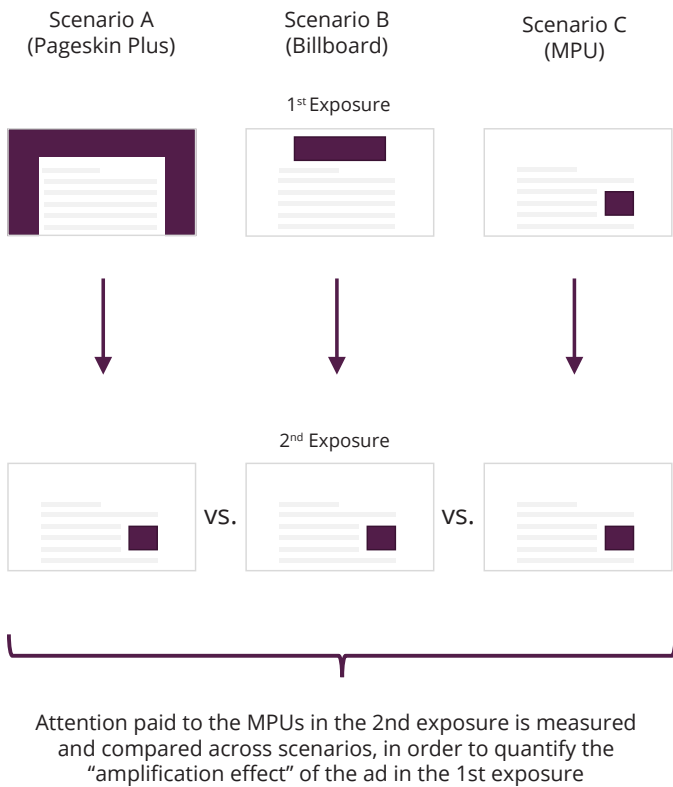
We were aware that such "amplification effects" could have hugely valuable implications for how digital advertising exposures are planned and flighted. If such effects did indeed exist, the order in which a given number of impressions should be served could significantly influence a branding campaign's impact. Moreover, such effects could also help to explain previously observed, incremental ad effectiveness lifts of cross-media campaigns.

In collaboration with eye tracking specialists Lumen, we conducted over 3,000 eye-tracking experiments in order to understand how users' visual interactions with display advertising were affected under various conditions, and if exposure to high-impact formats does in fact "amplify" the attention paid to subsequent ad exposures.<sup>2</sup>

We tested different combinations of ad exposures involving three ad formats: Pageskin Plus, MPUs and Billboards. We examined how attention levels varied for different exposure conditions (for an example, see Figure 7), including the impact of Pageskin Plus exposures on subsequent Billboard and MPU exposures, and the impact of Billboard exposures on subsequent MPU exposures. In order to compare apples with apples, we took exposure frequency factors into account in order to avoid overestimating any such effects.

**Figure 7: Example for exposure logic used for research project**

All exposures refer to the same brand campaign



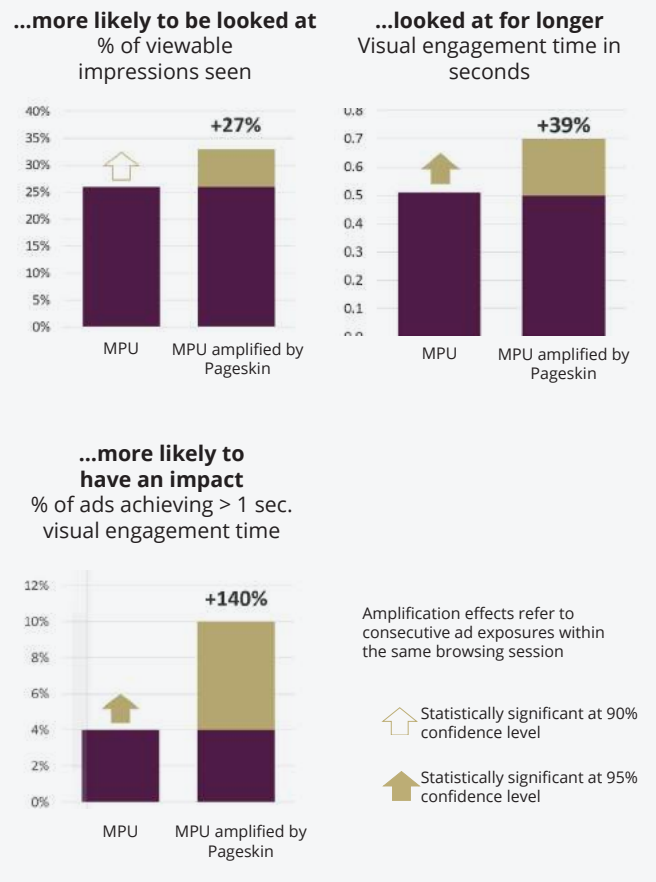
## Pushing standard ads into the limelight

As it turns out, the study findings do indeed support the notion of amplification effects by high-impact formats.

We observed statistically significant increases in attention for MPUs that had been "amplified", i.e. where a previous exposure to a high-impact Pageskin Plus ad of the same campaign had occurred. In comparison to MPUs that had only been preceded by another MPU (our control group), we found that amplified MPUs are:

- 27% more likely to be looked at;
- looked for 40% longer, and
- 140% more likely to achieve at least 1 second of visual engagement time

**Figure 8: MPUs shown after Pageskin Plus are...**

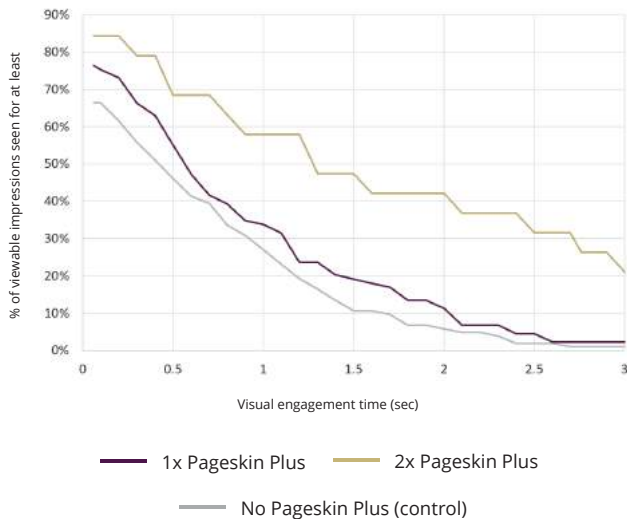


Although slightly weaker, amplification effects also occurred when the high-impact ads were shown before Billboards.

Figure 9 shows a visual engagement curve, which plots visual engagement time on the x-axis and the percentage of impressions looked at for at least x seconds on the y-axis. The lines on the graph show the relative attention paid to a Billboard format when it has been preceded by another Billboard (grey line) vs. one that has been amplified by one (purple line) or two (golden line) high-impact formats. Not only does this visualisation help understand the lift in attention, it also shows that the effect size of the amplification is dependent on the number of amplifying exposures that have occurred. Two amplifying exposures work better than one.<sup>3</sup>

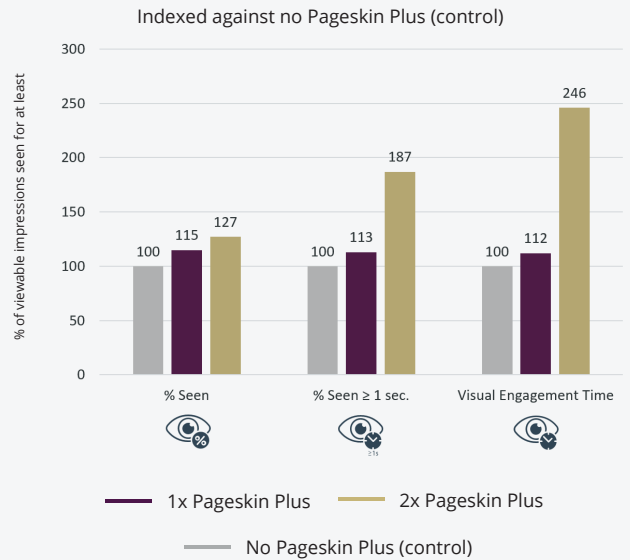
**Figure 9: Visual engagement curve**

Impact of Pageskin Plus amplification on Billboard attention



Note: No Pageskin Plus (control) refers to the first (amplifying) exposure being a Billboard

**Figure 10: Pageskin Plus amplification effects on Billboard by metric**



Note: No Pageskin (control) refers to the first (amplifying) exposure being a Billboard

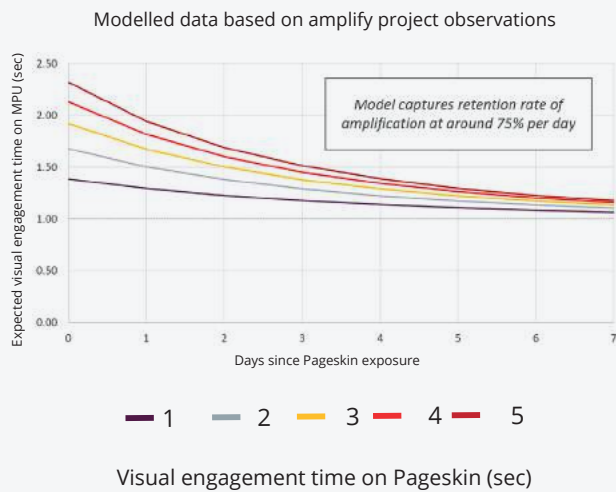
In addition to simply understanding whether amplification effects exist or not, we wanted to understand how long these effects reliably last. On the basis of the data observations, we created a regression model designed to predict amplification effects of high-impact ads given varying levels of visual engagement time with them, and show the decay of these effects as time passes. The model (Figure 11) estimates an amplification retention rate of approx. 75% per day, meaning that as time passes, the net attention lift caused by the high-impact format is expected to weaken<sup>4</sup>.

These findings are directly applicable to the digital media planning process: by taking attention related interdependencies between ad exposures into account, strategic flighting of digital display ads can be designed to maximise attention paid to standard display advertising.

<sup>3</sup> It must be highlighted that exposure frequency cannot be controlled for in the scenario with two amplifying exposures, i.e. the net attention lift caused by the 2 Pageskin Plus exposures is likely slightly smaller than estimated here.

<sup>4</sup> This model assumes that no new amplifying exposure occurs during this time. For a discussion of how strategic flighting could optimise attention adstock, see section "Implications".

**Figure 11: Expected amplification effect of Pageskin Plus on MPU attention over time**



Note: Effect of Pageskins applied to MPU norm from Lumen IR panel (1 sec of attention on average)

### Key Takeaways

- **Attention is a scarce commodity**, with only 12% of served digital ads ever seen, and only 4% looked at for one second or more
- **Attention** matters because studies have shown that it **drives brand metrics** and sales
- **High-impact formats** can significantly **“amplify” the cut-through potential** of standard display advertising, increasing likelihood to be noticed 27%
- Planning for attention with amplification effects in mind can help **lift overall campaign effectiveness** and drive buying efficiencies

## Implications

The implications of this study for the media planning and delivery process are profound. In the context of online advertising, attention has shown to be an extremely scarce commodity, especially when it comes to standard digital display advertising. Finding ways to increase the attention potential for these types of ads, especially through optimisation methods that don't necessarily require increased budgets, could help lift both short- and long-term RO/ profitability of digital ad spends.

In practice, the real value of attention-based planning is likely to come into fruition in the context of adstock modelling. Advertising adstock, also known as “advertising carry-over effect”, is an important aspect of econometric / marketing-mix models, which describes how response to advertising builds and decays in consumer markets.<sup>5</sup> To explain brand advertising effects over time, it is essential.

Using a target measure such as recall, awareness or sales and its relationship with attention, the findings of this study can be used to estimate the impact of digital advertising activity over time, and more importantly, devise flighting strategies that help maximise adstock by making use of amplification effects.

We are currently working on translating the findings of this study into flighting scenarios and adstock models in order to support the effective planning for attention and drive industry adoption of this approach.

## A note on future research

As eye tracking technology has become increasingly scalable through the introduction of webcam-based algorithms, so has the research into visual attention to digital advertising.

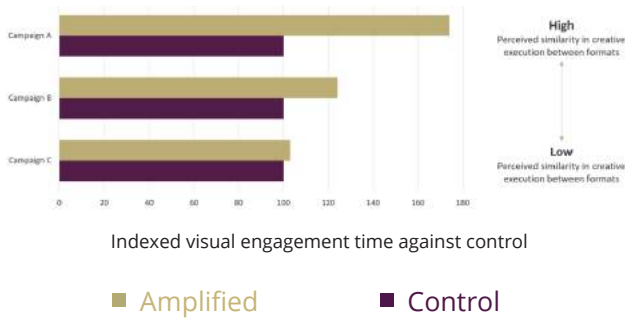


Research by a variety of organisations, including Inskin Media, Lumen, Newsworks, British Gas and others, has helped us understand that there’s a wide variety of factors that influence how much users visually engage with display advertising: these factors include ad format (as shown again in this study), placement, media environment, creative execution, and in-view time.

For example, this research project uncovered varying effect sizes for amplification across the tested campaigns (Figure 12). These differences seemed to coincide with the perceived similarity of the creative look and feel of the amplifying ad (high-impact format) and the target ad (MPU). This could indicate that increased bottom-up attention to amplified ads may be a result of stronger brand asset salience, and highlights the importance of creative consistency.

**Figure 12: Why do amplification effects vary by campaign?**

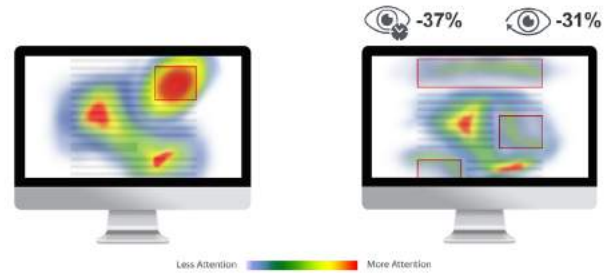
Source: Amplify: “Planning for attention”, Inskin Media and Lumen (2018)



Ad clutter has also been found to have an effect on attention paid to display advertising. A research project conducted by Inskin Media, Research Now SSI and Sticky in 2016 found that even moderate ad clutter, defined as three digital ads from different campaigns being served on the same page, can decrease visual engagement time and visual engagement frequency to each individual ad by 37% and 31%, respectively.

**Figure 13: Ad Clutter decreases attention for every individual ad**

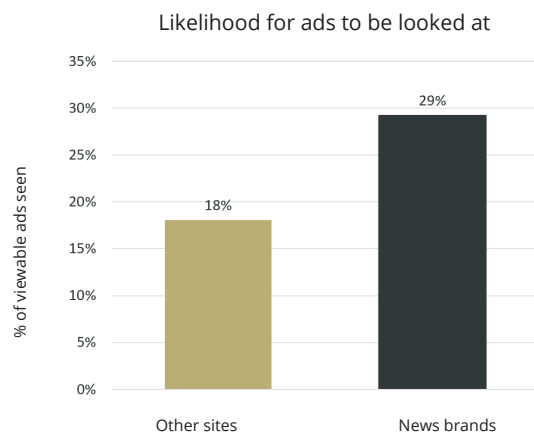
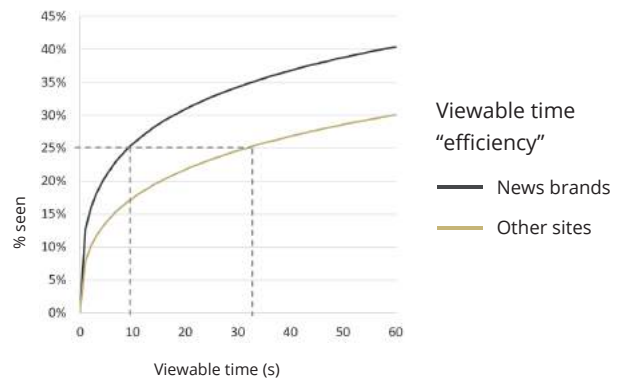
Source: “From Viewability to Visual Engagement”, Inskin Media, Research Now SSI and Sticky, (2016)



Note: Graphical representation only, not based on actual creatives used for the study

**Figure 14: Premium environments like news brands drive more attention to advertising**

Source: Lumen



The findings of our “Amplify: Planning for Attention” project solely focused on the factor of advertising format in order to test our central assumption: that advertising exposures influence the attention paid to subsequent exposures. The results have given us confidence in this hypothesis, but are also a reminder that a truly advanced approach to attention-informed planning takes additional dimensions such as media environment and creative execution into account. We call for further research into this area in order to enhance the potential impact of standard display advertising.

## Detailed overview of methodological approach

From May – July 2018, we conducted 3,160 eye tracking experiments among UK adults, making use of attention technology that captures users’ visual interactions with advertising via their desktop webcam. The explorative quantitative study involved three brands and three types of digital display formats (Inskin Media’s Pageskin Plus format, which served as the high-impact format mentioned before, Billboards and MPUs), served to respondents in a variety of combinations over the course of two exposure sessions with a minimum time gap of 24 hours between exposures. The entry point deadline for the second exposure session was capped at seven days post first exposure session.

In order to guarantee internal validity, we chose a forced exposure methodology with test and control groups. Users were exposed to fully functional HTML copies of live websites and asked to browse the websites as they normally would. They were not informed about the true purpose of the study to avoid bias.

Our forced exposure approach allowed us to control for factors such as media environment, person-level (rather than cookie-level) exposure frequency and cross-media contamination. To prevent overestimation of potential amplification effects, distractor ads were served in order to simulate ad clutter.

Furthermore, exposure frequency effects were taken into account for the analysis of net attention lifts attributed to the process described before as “amplification”.

Beyond eye tracking data, brand metric data was collected post second exposure session, primarily for the purpose of collecting additional data on the relationship between visual engagement time and brand metric response.

## About Inskin Media

Inskin Media is an advertising technology business, specialising in rich-media branding formats. We combine a focus on design and technology to maximise the value of every single impression. Our business is based on long-term partnerships, to deliver brand campaigns on every device across brand-safe editorial inventory which can only be accessed through Inskin Media.

Inskin Media is DTSG Brand Safe and Anti-Ad Fraud certified, and a founding registrant of the IAB Gold Standard. We support direct and programmatic bookings, and work with leading data providers to support first and third party data targeting options.

Since its launch in the UK in 2009, Inskin Media has grown from start-up into profitable, international business, employing 125 staff across its London, Hamburg, Kiev, Sydney, Singapore, Hong Kong and Dubai offices. Our expansion has been recognised by multiple high-growth awards: European Business Awards 2016/17, The Sunday Times Tech Track 100, Media Momentum Awards, Deloitte Technology Fast 500.

## About Lumen

Lumen is an attention technology company based in London that uses eye tracking to understand what people actually engage with when they read the paper or go online. Lumen works with publishers and advertisers to help them price and optimise the attention advertising receives.

For more information on this study, or to organise  
a presentation for your business, please contact  
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