International Journal of Multidisciplinary Studies in Art and Technology (2025) 8, (1)1–15

ISSN : 2735-4334 (Print) ; 2735-4342 (Online)
International Journal of Multidisciplinary Studies in Art and Technology
Available online at : https://ijmsat.journals.ekb.eg/

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Keywords: eye movements / street Billboard / teaser motion campaign

The attraction of eye movements and visual impressions in motion designs of street Billboard in teaser campaigns.

Abstract

When someone sees something move, they have a subconscious connection to the personality of the movement. Of course, audiences can read your tagline and look at your product, but when the brand is moving, you're looking in a different way, and getting a feel for character specially if it's teasing campaign, you will see more and more, and focus need to know. Billboard advertising is some of the best design there is, with larger-than-life design striving to catch the eye of busy consumers out on the street. Their sheer size gives them extra impact specially if it's motion graphic, but they need to be clever and not just enormous. eye movements as the indicators of human information processing have been studied in many domains. However, it is not clear how users' eye movements differ among specific campaigns attribute, while visual impression of a product plays a crucial part in distinguishing billboard designs. based on the theory of cognitive-affective emotions in case driving cars or walking in street while watching for billboards especially teaser campaigns.

Introduction

Given human perception rests largely on visual stimuli, visual attention has been regarded as an intuitive and effective reference for understanding how humans process the information received in many fields, such as weather forecasting, online advertising, art appreciation, and multimedia learning.

Eye tracking has been relatively well explored for the purposes of accelerating real-time rendering, but it has not been considered very much with respect to the actual simulation process. Creating billboards campaigns consists of two phases: modeling a scene containing objects and environmental effects and storing an

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appropriate representation in digital format; and rendering or displaying these scenes using a variety of platforms and technologies. [1]

The two problems are not independent-the quality of the final billboard design depends greatly on the accuracy of the models. The more complex and detailed the model, the longer it will take to produce a graphical representation of it. but by taking perceptual factors into account and integrating eye-movement analysis, we can take on our considerations the timing on in how many seconds the consumer see billboards and recognize everything while driving or walking.

Compared to other physiological measurement techniques, eye-movement perception techniques have obvious advantages in lowering the threshold of expression for use groups due to the use of eye-movement signals, a physiological information that conveys a person's subjective perception of the situation and can visually reflect the subject's area of interest, while having the advantage of not being limited by factors such as verbal expression and professional ability.
Research on eye movements is crucial for understanding the mechanisms of visual information processing and deepening our knowledge about behavior and cognitive processes. Previous studies have revealed associations between eye movement patterns and cognitive processes in various visual tasks.

Methods

In this section, we provide a detailed description of the searching on billboards motion designs method for driving and walking. The research is customized for safety of driving and walking perspective eye for teaser campaign for recognizing the campaign and don't iterate the driver in the street and analysis of some billboard's advertisements.

1. Neural Basis of Saccade Targeting

The neural underpinnings of saccade targeting span multiple cortical and sub-cortical structures involved in attention, visual processing, and motor planning. We present a brief overview of some of the important aspects of this system here
While the basic principles of the oculomotor system hold true across tasks, it is important to note that eye movement measures in one task (e.g., reading) can differ substantially from those in other tasks (e.g., scene perception). This likely follows from differences both in the physical stimuli involved and in the nature of the viewers' goals and cognitive processing across these different activities. Therefore,

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we outline the basic characteristics of eye movements during reading, scene perception, and visual search below. [2]

2. Basic Characteristics

While we can produce several different types of eye movements, only saccades are covered here, since they are most critical for the research reviewed. Saccades are fast, darting movements that we perform about three times each second. They are interleaved with brief periods of relative stability, known as fixations, which last on average about 200–300 ms, depending on the task and the individual. Saccades can reach velocities as high as 500° of visual angle per second. While their duration is dependent on the distance covered and varies as a function of task, they generally last about 20–50 Ms. During these movements, effective visual processing is largely suppressed, such that useful visual information can only be gathered during the intervening fixations.

2.1 Reading

When reading, fixations tend to be on the order of 225–250 Ms. Average saccade length is seven to nine letters in alphabetic languages. For speakers of English, and other languages written from left to right, most eye movements proceed in that direction, with regressions (i.e., saccades that move backward in the text) representing 10–15% of eye movements. Readers only fixate about 70% of the words in the text, skipping the other 30%.

Though a large amount of text falls on the visual field during reading, readers are only able to obtain useful letter information from approximately 18–20-character spaces around fixation, and they do not use information from lines above or below the currently fixated line. This limited area of effective processing, known as the perceptual span, is asymmetrical in the direction of upcoming text (and attention), such that, for readers of English, it extends about three-to-four-character spaces to the left of fixation and 14–15 characters to the right of fixation. [3]

2.2. Scene Perception

During scene perception, viewers make both longer fixations and longer saccades than when reading text. Fixations last, on average, about 300 MS, while saccades span approximately 4–5° of visual angle (though both figures vary depending on the specific features of the scene as well as the task at hand). Furthermore, the perceptual span in scene viewing is substantially larger than in reading, though its precise extent is not as well understood as it is in reading. In addition, just as in

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reading, viewers obtain a preview benefit during scene perception. The magnitude of this benefit appears to be on the order of 100 Ms. [4]

Within our very first fixation on a scene we are, rather impressively, able to extract its global meaning or gist, distinguishing, for example, an indoor from an outdoor scene or a forest from a mountain landscape. This first glimpse is thought to orient the viewer and provide some guidance about subsequent eye movements (Rayner, 2009). When viewers do go on to inspect the rest of the scene, they do not fixate all regions with equal probability. Rather, they tend to selectively view those elements that are particularly meaningful or relevant. For instance, viewers inspecting a scene of two figures walking in a garden would devote a great many more fixations to the people's faces than to a nearby patch of plain grass (see Buswell, 1935 for a classic demonstration of this effect). In addition, if a region is visually distinctive or salient – for example, if it is of higher or lower intensity than its immediate surroundings – it will tend to draw a disproportionate number of fixations. [5]

2.3. Visual Search

Visual search is an important part of many everyday activities. We perform such searches, for example, when looking for tea at the grocery store or trying to find our keys on the way to work each morning. The basic parameters of fixations and saccades during visual search are quite variable. Overall, average fixation times are reported to be between 180 and 275 ms, while average saccade size tends to be intermediate between that of reading and that of scene perception but can vary widely. Such variability is perhaps to be expected since, as will be seen below, eye movement patterns during search exhibit a remarkable flexibility and sensitivity to the specific demands of the moment. [6]

When we search for an item of interest, both bottom-up (or stimulus-driven) and top-down (goal-driven) factors guide our eye movements. Bottom-up guidance is evident when eye movements are drawn to a region that stands apart from its surroundings, irrespective of the qualities of the search target. An item that stands out in a highly salient manner from all surrounding objects.

Top-down guidance is driven by the properties of the target and their relationship with various elements of the scene. For instance, if we are searching for a bright yellow car in a crowded parking lot, similarly bright cars will preferentially attract our eye movements. When we perform conjunctive visual search, i.e., search for a target that is defined by a pair of properties, fixations cluster preferentially on items belonging to the less frequent property in the display. This illustrates the

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remarkable sensitivity of our eye movement system to the relative informativeness of different stimulus features during search. [7]

Top-down search also operates when our high-level expectations about where a target object is expected to reside affect search behavior. For instance, when searching for a computer monitor in an office scene, eye movements will cluster on the desk, rather than along the floorboards. In general, recent research suggests that, while bottom-up guidance plays a role in search, top-down guidance may be dominant during real-world search for meaningful objects.

2.4. Viewing Advertisements

We now turn to examine research more specifically focused on eye movements when viewing advertisements. We discuss print advertisements dynamic billboard campaign (teaser) in turn.

3. Ad composition

Other research has examined possible effects of the size of elements of advertisements, such as the text or picture, on patterns of visual attention. When ads were presented as part of a competitive visual array (as in a supermarket circular), people found that ads with larger pictures, but not larger text elements, were more likely to be fixated and were viewed for longer. In contrast, t when subjects inspected solitary advertisements in magazines, ads with larger text elements, but not larger pictures, were more likely to be fixated and viewed for longer. (The presence of a picture, however, independent of its size, did appear to attract attention under these conditions.) Comparing these findings may suggest that sufficient picture size is particularly important for capturing and holding attention in competitive visual environments, while enough text may be especially important when ads are presented alone. However, the results were obtained in separate studies using stimuli that differed in several respects (e.g., types of products advertised, the range of text and picture sizes), so no strong claim to that effect can yet be made. [8]

3.1. Repetition

Another potentially important factor in real-world ad viewing is that a viewer may well be exposed to a particular ad repeatedly (if, for instance, it runs in billboard ads). finding that when subjects were exposed to an ad three times over the course

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of an experimental session, viewing time decreased with additional exposures. More elements of the ad were also skipped in the third than in the first viewing. Furthermore, an effect of subject motivation on viewing time disappeared by the third exposure. Pieters et al., however, that the probabilities of moving from each ad element (e.g., the headline) to each other element (e.g., the pictorial) on the next fixation remained stable over repeated exposures. It is not yet clear, however, how well each of these findings will generalize to (arguably more naturalistic) conditions in which exposures to the ad are spaced out over longer intervals.
the eye movement patterns associated with ads of varying prior familiarity. Ads rated as being more familiar were fixated less frequently than were fewer familiar ads. The effect seemed mainly to be driven by a decline in fixation frequency on the text with increasing ad familiarity. However, if an ad was particularly original or creative, this ameliorated negative effects of familiarity. [9]

4. Teaser Campaign

Teaser advertising is not a single advertisement, but a two-part series of interrelated advertisements (the teaser ads) and a final revealer commonly known as teaser campaigns. From the communication point of view, a campaign is defined as pre planned set of communication activities, designed by change agents in receiver behavior unspecified time. Advertising campaign means a coordinated series of linked advertisements with a single idea or theme. categorizes teaser advertising as a creative execution style, commonly used by new products to create an element of intrigue and curiosity to build anticipation and excitement. Teasers don’t identify a product or not give enough information to make sense. These ads create curiosity and appeal to anti hard sell attitude of the people”. It was challenging to classify teaser advertising as either an appeal or an execution because of divergent schools of thought within the experts on the specialized and unique ad form. [10]

5. Billboards:

Billboard size 4x6 m2 (With Dimensions 4x6 M2, Pillar 10 ", Elbow Steel Profiles 5x5 cm2), Recommended in the safe category of boards on billboards size 4x6 m2 (with dimensions 4x6 M2, 10 "pillars, 5x5 cm2 Elbow Steel Profiles), because the structural test results show the flexible and axial resistance ratio < 1, where at the program output is indicated in the absence of red. This means that this type of billboard (size 4x6 m2) is safe against workloads and is recommended to be the standard for further billboards.

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The simplest example is when a billboard appears on the street that does not advertise anything but contains a provocative picture or an incomprehensible phrase. A week later, we see a "continuation." And so, until the intrigue is revealed. Users usually travel the same routes, so they see the entire chain.

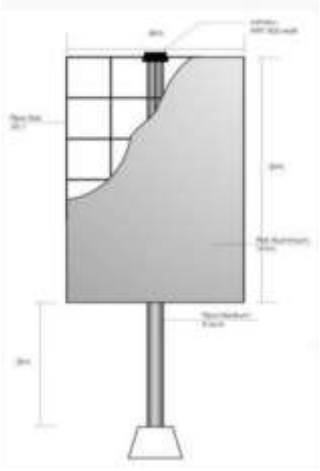

Figure (1) 4x6 m2 billboard model.

5.1. Billboard rules.

5.1.1. Three Second Rule

The 3-second rule is as straightforward as it sounds. Anyone viewing your billboard should be able to read and understand what you're telling them in 3 seconds or less.

If your campaign concept requires more information, explanation or qualification, then billboards are not the correct medium to use. Billboards are strictly single-serve messages. [11]

5.1.2. Seven Words Or Less

There is a little bit of flexibility in this rule like if your billboard is at traffic lights or its viewers aren't in motion at all. But less text is always better.

5.1.3. Make It Memorable

For best results, select one idea to communicate and try to make it memorable.

5.1.4. Be Smart (But Not Too Clever)

"Stick to ONE headline, ONE logo and ONE image. **"**

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The most effective billboards have messages that are straightforward, obvious even. Make good use of imagery that connects with your message and evokes a positive emotion. How people feel when they see your billboard should be how you want them to feel when they think of your brand.

5.1.5. Location

When picking your billboard location, consider the traffic levels and route, illumination, digital cycle (if it's a digital billboard). They all factor into choosing the right placement for your sign. Keep in mind, the better the location, the more expensive it will likely be.

Always design your billboard with a final location in mind so you can factor in view time, distractions and much competition you have for viewers' attention.

It's not just the geographic location you need to consider either. You also need to be mindful of what's behind your billboard, so you can contrast your design with its surroundings. [12]

5.1.6. Fonts & Logos

Figure (2) billboard model for Font and Logo.

Correct use of fonts and type size will ensure your billboard is readable from various distances. Which is the whole point. Avoid fancy hard-to-read and super thin fonts, and don't overly condense text.

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The size of your text also depends on viewing distance. If your billboard has a clear line of sight right down the road, making your text as large as possible means more people will have longer to read it.
A good place to start is for every 10 feet of viewing distance, your font size should be at least 1 inch (or 72 pt.) tall. For example, if your audience is going to be 40 feet away from your billboard, your lettering must be at least 4 inches tall (or 288 pt.) for it to be legible.

"Make the logo bigger," is one of the most common pieces of client feedback ever offered in advertising. There is a delicate balancing act to be performed. Too big and it looks awkward and detracts from the message. But if it's too small to see what's the point in promoting the business.

When designing your billboard, consider the hierarchy of information just as much as legibility. Deciding on a clear priority of information during the briefing stage is the best way to avoid problems later. [13]

5.1.7. The Arm's Length Test

So, you've followed all the guidelines and created a stunning billboard. It features contrasting colors and is fascinating, sleek, and concise.
But will it, however, be seen?
Will it be read and comprehended?
Here's a quick check to see if you're on to a winner.
Print your billboard to the size of a business card and hold it away from you at arm's length for 3 seconds.
Are you able to see everything as clearly as on your screen or high-quality print mockups? If not, go back in and fine-tune it. It needs to pop! Remember that you only have 3 seconds to get your message over. [14]

5.2. Limit The Amount of Text

Billboard messages should be straight to the point, focusing on a single key message or call to action. So, one of the most important billboard design rules to follow is keeping your message short. **Aim for a maximum of 9 words or less** when creating your advertisement.

Utilize White Space

Leaving empty space around your message can enhance its visibility and make it stand out. [15]

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5.3. Use Contrasting Colors

High contrast between the background and text ensures legibility, even from a distance. Another one of the most important billboard design rules is use bright colors or a bold image within your creative. This will effortlessly attract eyes to your message.

For your image to really pop and stand out, you will want to keep your background simple to ensure the foreground isn't fighting against it.

5.4. Choose A Readable Font

opt for bold, **sans-serif fonts** that are easy to read from a distance and avoid script or decorative fonts. Sans Serif fonts like Arial, Calibri, Verdana, Tahoma and Helvetica are perfect for billboards. Simple, modern and easily intelligible, they are the perfect typography. Furthermore, ensure that your text is large enough to be seen and understood from a distance. [16]

5.5. Use High-Resolution Images

Poor image quality can detract from the overall impact of your billboard, so always use high-resolution graphics. Advertisers should make their design more effective using high impact images or photographs that are relevant to their business.

5.6. Incorporate Branding Elements

Maintain consistency with your brand's visual identity by including logos, colors, and other recognizable elements that's attributed with your business.

5.7. Consider The Viewing Angle

Design your billboard with the intended viewing angle in mind, ensuring that it is easily visible from the target audience's perspective.

5.7. The Right Message to the Right Audience

When working on your effective billboard design, consider the location as to where your message will be displayed, the target audience and environment. [17]

6. The Importance of Advertising Billboard Design

Advertising delivers the highest consumer recall in the U.S., with 85% of people finding OOH ads useful. This contrasts with digital ads, which are often seen as annoying. Given that nearly 80% of workers commute, OOH ads drive significant consumer action.

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Advertising is booming, expected to generate significant global revenue by the end of 2024, with a projected 50% increase over the next five years, reaching nearly $30 billion by 2029. [18]

In 2023, Luxottica demonstrated the effectiveness of OOH ads through a case study in partnership with Nielsen. The study revealed that the 2023 campaign was 1.31 times more cost-efficient, boosted purchase intent by 1.9% from 2022, and achieved 3.6 times higher unaided brand awareness, resulting in a 4.0% increase in overall brand recognition.

Figure (3) Apple billboard example.

For example, Apple's iPhone challenges gather stunning images from iPhone users that highlight the product's photography features. At the same time, they also add inspiration to public billboards.

Case Study in Egypt Highway Street: Billboard Teaser dynamic and static Campaign.

Figure (4) Teaser billboard example.

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Figure (5) Motion billboard example Revealer campaign.

Figure (5) billboard example for teasing.

Figure (6) billboard example for teasing.

Figure (7) billboard with logo.

ISSN : 2735-4334 (Print) ; 2735-4342 (Online)
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DISCUSSION

we know there are a substantial number of road accidents that are related to distractions external to the vehicle. In this research, we investigate driver visual and cognitive responses, which are influenced by digital billboards in street. [19]

RESULTS

The total duration for motion billboards is the shortest duration. This demonstrates that the drivers spend less time attending to the distraction offered by the billboard than other tasks. Comparing dynamic billboard duration and static billboard duration, the results show that grabbing attention on dynamic billboards than static billboards. This finding is supported by research studies examining the impact of billboards on driver and walkers in street so it must be a simple and short in time.

The work has demonstrated that the billboards engage the driver's attention, during driving so it must be readable and simple. It would require further work to assess the impact on the overall driving performance.

Advantages and disadvantages

The main advantage of teaser advertising is embedded in the name itself and thus the ability to stimulate curiosity. This type of stimulus works because, as seen above, an information gap is filled, and the consumer is motivated to try to fill this gap. They then intensify their efforts to find a solution to the puzzle constructed by the teaser campaign to reduce the sense of deprivation created by the ads. It is precisely this need to know the solution to the puzzle that drives the audience to hold them.

attention until the reveal stage where they finally manage to fill this gap. Underlying teaser advertising is the principle of delayed brand identification. This principle states that the marketer delays the identification of the brand until the reveal step.

In addition to this highlighted disadvantage, there is another problem, which is common to all types of marketing that aim to go viral. Indeed, marketing campaigns of this type are not entirely under the control of marketers. The larger number of people who will read the advertisement must push the marketer to pay more attention to the message, which must not give any possibility of being interpreted in an offensive manner. Finally, a significant

disadvantage of teaser advertising is the cost. In fact, being developed in two phases, from an economic point of view it equals the expense of two separate

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advertisements. As we have seen above, timing is crucial and not too much time should pass between the teaser phase and the reveal phase.
For this reason, the development of this type of advertising entails an expenditure equal to two advertising campaigns in a very short time frame.

Conclusion

If you want your business to stand out in today's crowded digital landscape, advertising billboard design remains a wise and impactful choice. Whether it's static, digital, or mobile, this traditional method boosts the highest levels of consumer recall among media channels, outperforming many digital alternatives. Write a clear and concise message carefully and balance it with an eye-catching image: Your concepts will create a lasting impression on your audience.

Limitations of Study

the visual comfort metrics used to billboard dynamic teaser campaign for visual comfort is from two to three seconds. Therefore, suggest that the trends observed in this study are already applicable to the design of comfortable, billboard motion teaser campaigns.
however, the study is about street billboard especially dynamic teaser in 2015: 2023 period. In highway street.

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