

Effects of Design Elements in Magazine Advertisements

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Abstract. In this study, unlike previous studies where participants were instructed to pay attention to the advertisements, we set up a more naturalistic situation of reading magazine. Five major design elements (body text, head text, brand logo, product image, and human model image) were investigated and our results showed pictorial elements captured more looking time and fixations than textual elements in general and textual elements received more looking time and fixations per unit size than pictorial elements. Also, a comparative data analysis of two different but very similar advertisements of competing products provided design implications regarding the use of human model image and head text.

Keywords: print advertisement, eye tracking.

1 Introduction

Print advertisements in magazine are still one of the major advertising medium as they account for 13% share of ad spending in the United States in 2003 [2]. Thanks to the eye tracking technique, empirical studies measuring visual attention to each design elements of print advertisements have been done for the last decade by psychologists and marketing researchers. Most of them used eye fixation durations and number of eye fixations as the measurements of visual attention.

An experimental study of print advertisement [3] found fixation durations were longer on the picture than the text. However, the more number of fixations were made on the text. Also, they found viewers tend to read in the sequence of large text, smaller text, and picture. Common belief for print advertising is that larger advertisements should attract more attention. However, the size effects of major design elements of print advertisements were rarely studied empirically. Pieters and Wedel [2] investigated the effects of three key advertisement elements (pictorial, catch copy, and brand) on attention capture in magazine advertisements and claimed pictorial is effective regardless of its size and the text is capturing attention proportional to its surface size. Recently, Aoki and Itoh [1] investigated the effects of the same three elements during reading printed advertising. They found more attention was paid to the ads with the three elements than those without. Also, they reported the viewers looked at 'body text' first instead of the three elements.

In this study, we set up a more naturalistic situation of reading magazine and examined viewer's visual activity toward each of design elements of advertisements using eye tracking technique. Unlike most previous studies instructed participants to pay attention to the advertisements, the participants in this study were not instructed to do anything other than just reading the magazine presented. Instead of the three design elements by Pieters and Wedel [2] and Aoki and Itoh [1], five major design elements of print advertisements were classified and used for this study. Those include body text, head text, brand logo, product image, and human model image. We examined looking time, looking sequence, and initial fixations within each ad in order to explore the effectiveness of each of the five design elements as proportional to the surface size of each element. Also, a comparative data analysis was performed between two different but very similar advertisements of competing products.

2 Method

2.1 Participants

To reduce any gender effect, the contents of the magazine selected for this experiment was only for females in their late teen or early twenties. Thus, twenty female students enrolled in business courses at Texas State University were recruited to participate in the experiment for their extra credits for the courses. Their ages ranged from 20 to 36 and average age was 22.76 (SD = 3.46).

2.2 Materials

The magazine was edited to consist of 13 advertisement pages and 10 non-advertising pages. The eight of the thirteen advertisements were the ones interested in the experiment, all of which are for cell phone or cell phone service providers to reduce the effect of product domain. The other advertisements were random ones selected to act as dummies. Each advertisement page included various components of a typical advertisement such as brand logo, head text, body text, product image, and human model image. The magazine viewed by the participant was simulated on a 19 inch LCD screen using a PDF file. One screen showed two facing pages of the magazine as the traditional layout.

2.3 Equipments

Eye movement of the magazine viewers was recorded by an ASL 6000 eye tracking system. A heavy duty chin rest device was installed to fix the position of the participants' heads to minimize the variation of the eye tracking data.

2.4 Procedure

The participant was asked to wear the head-mounted eye tracking device and to scan through computer screen to perform calibration assisted by the experimenter. After the calibration, the participant was asked to scan through the magazine presented on

the computer screen. The participant was not informed of the purpose of the study at all. They were asked to read the magazine as they normally do in order not to focus on viewing advertisements and there was no time restriction enforced. The participant was able to move to next pages by pressing the space bar on the keyboard. After the magazine viewing session was done, the participant filled in a structured questionnaire to recall the information of the advertisements in the magazine she viewed.

3 Result

3.1 Looking Time and Number of Fixations

There were eight different advertising pages in the magazine we were interested in. We analyzed the data in terms of the amount of time participants looked at each of the five design elements – brand logo, body text, head text, product image, and human model Image. Among the eight advertisements, not all of them have all the five design elements. Also, some of them have additional design elements other than the five elements. Thus, the average looking time and number of fixations of each element across the eight advertisements are shown (). Without considering the surface size of each design element, participants looked at the human model Image more than any other elements in terms of looking time, $F(4,76)=15.91, p<0.01$ and number of fixations, $F(4,76)=26.12, p<0.01$. Product image was the second most element looked at, head text was the third, body text was the fourth, and lastly brand logo.

Considering the surface size of each element, average looking time and number of fixations per square centimeter are shown (Fig. 2.). According to the data, head text received the highest looking time, $F(4,76)=5.76, p<0.01$ and number of fixations per square centimeter, $F(4,76)=8.92, p<0.01$. Body Text and Product Image are the next highest. Human model was the fourth highest. Logo received the least.

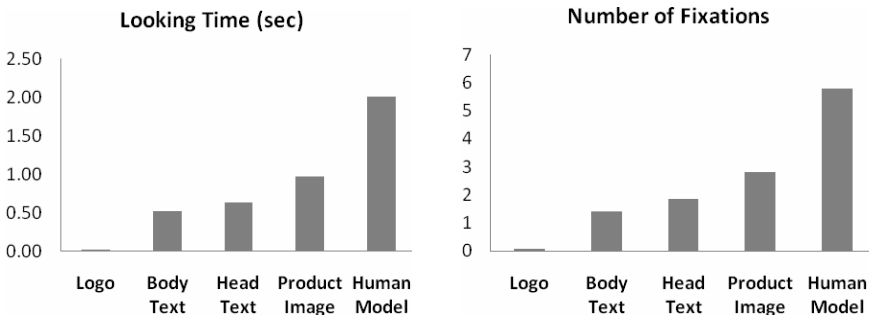


Fig. 1. Looking time and number of fixations for each design element

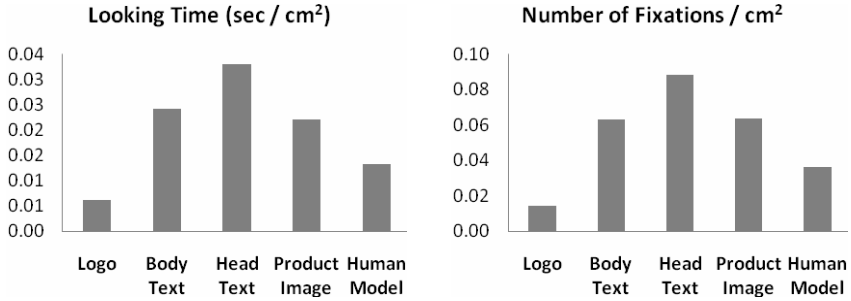


Fig. 2. Looking time and number of fixations per cm² for each design element

3.2 Comparison of Two Ads

Among the eight advertisements used in this experiment, we chose two advertisements that consist of almost identical design elements to be compared (BlackBerry VS Samsung). Average looking time and number of fixations for each advertisement were charted comparatively (Fig. 3. Comparison of looking time and number of fixations for two ads). Without considering the surface size of each element, human model Image on Samsung advertisement received significantly more looking time than any other design element, $F(4,76)=4.24$, $p<0.01$. However, there was no significant difference between the two ads, $F(1,19)=0.14$, $p=0.71$. There was significant difference across design elements in terms of number of fixations as well, $F(4,76)=5.54$, $p<0.01$.

Considering the surface size of each element, average looking time and number of fixations per square centimeter for both advertisements are shown (Fig. 4.). According to the data, head text received the highest looking time, $F(4,76)=5.10$, $p<0.01$ and number of fixations per square centimeter for both advertisements, $F(4,76)=5.58$, $p<0.01$. Product Image was the second highest element for BlackBerry advertisement, while human model Image was the second highest for Samsung.

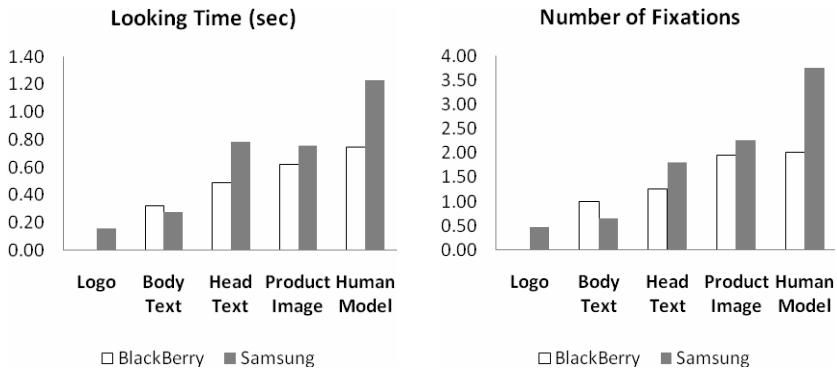


Fig. 3. Comparison of looking time and number of fixations for two ads

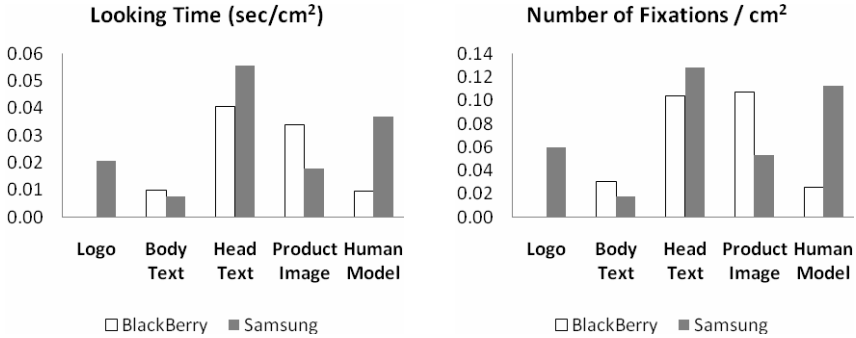


Fig. 4. Comparison of looking time and number of fixations per cm² for two ads

3.3 Recall Data

Twelve out of twenty participants recalled the BlackBerry advertisement. Six of the twenty participants remembered Samsung phone advertisement was in the magazine. Two of them who recalled Samsung phone recalled the name of the female human model in the advertisement instead of product or brand name.

4 Discussion

4.1 Looking Time and Number of Fixations

Upon initial inspection, human model appears to be the most significant element of all the ads based on most looking time and number of fixations. Since Product Image received the second highest looking time and number of fixations, it appears that pictorial elements captured more looking time and fixations than textual elements in general. This result contradicts the results of previous studies [2, 3].

However, if we consider the surface size of each element, head text becomes the most significant element according to looking time and fixations per square centimeter. Since body text becomes the next highest, it appears that textual elements received more looking time and fixations per unit size than pictorial elements.

The explanation of this contradiction may be caused by the experimental set up of viewing activity. Previous studies instructed participants to look at specific ads, so that the viewers had strong motivations of studying the printed advertisements. However, our study tried to set up naturalistic situation of magazine viewing activity, so that participants were instructed to engage in normal magazine viewing behavior. There was no emphasis given on either ads or magazine contents.

4.2 Comparison of Two Ads

Comparative analysis of two different advertisements of similar products comprised of identical design elements gave us the opportunity to investigate effectiveness of advertisements as a whole. Without considering unit size of each element, both ads

followed the average pattern of pictorial elements receiving more looking time and fixations than textual elements as discussed above.

Considering unit size of each element, head text received the most viewing time for both ads. However, human model received relatively more viewing time for Samsung ad than for BlackBerry, while Product Image received more for BlackBerry than for Samsung. This disparity may be contributed by a celebrity status of the human model in the Samsung ad.

4.3 Recall Data

Recall data measures the comparative effectiveness of the two ads. Blackberry and Samsung were presented equally throughout the magazine, however, Blackberry was recalled more times (12 VS 6). Blackberry particularly received higher viewing time in the head text and Product Image, which both highlighted the product or included the product name. It appears that higher viewing time on the human model in the Samsung ad diverted viewer's attention from the product. In fact, two participants recalled the name of human model alone instead of the product or brand name.

4.4 Design Implication

Thus, based on the result of this study, several design implication for print advertisement can be listed. Although it takes less cognitive processing time to comprehend pictorial element than textual element, magazine viewers spent more time on pictorial elements (human model image and product image) than other design elements. Given one page for each advertisement, the effectiveness of each element to achieve the goal of advertisement should depend on overall time spent on each element than the time spent per cm^2 . Thus, the use of pictorial elements should be more important than the others according to the result of this study.

Use of celebrity human model image can attract viewer's attention, however, can divert their attention from the product. This was supported by the result of recall data between Samsung and BlackBerry ads (see 3.3). Thus, establishing strong intuitive relationship between the celebrity and the product or brand name would be important premise to use a celebrity human model image in advertisements.

Among text elements, use of head text is more important than that of body text. Brand logo did not capture any attention at all in this study, and this seems to be due to the small size of it. Also, brand logo can be comprehended intuitively by viewer's peripheral vision instead of focal vision assuming that viewers are already familiar with brand logos.

5 Conclusion

In this study, unlike previous studies where participants were instructed to pay attention to the advertisements, we set up a more naturalistic situation of reading magazine. Five major design elements (body text, head text, brand logo, product image, and human model image) were investigated and our results showed pictorial elements captured more looking time and fixations than textual elements in general and textual elements received more looking time and fixations per unit size than

pictorial elements. Also, a comparative data analysis of two different but very similar advertisements of competing products provided design implications regarding the use of human model image and head text. As results, pictorial elements attracted more looking time from the viewers than other design elements, however, head text is still very effective design element in advertisements.

References

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