ELEMENTS OF ONLINE ADVERTISING INFLUENCING CONSUMER BEHAVIOR: THEORETICAL INSIGHTS

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Abstract
The research systematically reviews the literature, aiming to provide a holistic approach to elements of online advertising that influence consumer behavior. The analysis and synthesis of scientific literature as well as eye tracking experiment are applied for the analysis. As a result, the theoretical model of advertising elements that influence consumer behavior is elaborated. Moreover, as the position of the advertisement is considered as context-related element influencing consumer behavior, most attention-grabbing position of the advertisement in the context of the internet is presented. Consequently, this research makes a major contribution to research on online advertising effectiveness by demonstrating the main elements that influence consumer response and serves as a basis for holistic empirical research of online advertising effectiveness.

Keywords: advertising elements, consumer behavior, eye tracking, online advertising
JEL codes: M31, M37

1. Introduction

In information society internet is a key instrument for creation, distribution, and manipulation of information. Accordingly, internet has emerged as powerful channel for marketing communication leading to the concept of online advertising becoming central to the entire discipline of marketing. As online advertising challenges the dominance of traditional advertising media (e.g., newspapers, television) (Belanche et al., 2017), a considerable literature has grown up around the theme of its effectiveness and debate continues about the best online advertising strategies. Estrada-Jiménez et al. (2017) consider online advertising as the pillar of the “free” content on the Web, stating that it has revolutionized the marketing business in recent years by creating a myriad of new opportunities for advertisers to reach potential customers. Moreover, according to Kireyev et al. (2016), firms increasingly rely on online media to acquire consumers. Therefore, to avoid the common mistakes the research is needed to determine and substantiate online advertising usage patterns.

To date, there are many studies that have investigated the influence of the context of internet on the online advertising effectiveness. Such approaches, however, have failed to address no context-dependent advertising message-related factors. By taking systems approach, the assumption could be made that all of the online advertising elements, that are message-related as well as context-related factors can have impact on online advertising effectiveness by influencing consumer behavior. Achieving to contribute to scientific discussion on advertising effectiveness, the research aims to provide a holistic approach to elements of online advertising that influence consumer behavior by analyzing context-related element – position of the advertisement. The study integrates results from previous researches, emphasizing the differences of contextual impact on consumer reactions to message-related factors. Based on the theoretical analysis, eye tracking experiment is presented in order to substantiate the influence of the context-related elements on consumer behavior.

Achieving to provide a substantial theoretical background for further studies on online advertising effectiveness and antecedents, theoretical analysis and synthesis are provided. Moreover, comparative analysis of previous researches is performed to substantiate the different impact of advertising contexts on the performance of message-related factors.

In order to reach the aim of the research, the article is organized as follows. Theoretical substantiation of the model is provided in Chapter 2; achieving to provide a substantial theoretical background, previous research on advertising structure, its elements and parts affecting the effectiveness is analyzed. Based on the analysis and synthesis of scientific literature, online advertising element lacking theoretical substantiation regarding its effectiveness is revealed and methodology for the research of latter
element is provided in Chapter 3. Research results are explained and the model of online advertising elements that influence consumer behavior is elaborated in Chapter 4. Finally, conclusions are provided in Chapter 5.

2. Theoretical Substantiation

The evolution of electronic media and the increasing role of online advertising within marketing strategies have created space for both researchers and practitioners to explore new areas (Jankowski et al., 2016). According to Estrada-Jiménez et al. (2017), the advent of the Internet and the Web has created a myriad of new opportunities for advertisers to target billions of people almost effortlessly.

Communication effectiveness depends on the goals of the campaign and the specific advertisement (Belanche et al., 2017). According to McGuire (1976) the consumer information-processing starts with exposure which causes attention, perception and only then it come to comprehension, leading to purchase. Therefore, in a framework of any communicational goal, it can be stated that the effectiveness of advertising highly depends on factors that attract consumers’ attention, elicit advertising recall and recognition. According to Tackx et al. (2017), the traditional view to advertising goes as follows: a company takes an action (creates and releases advertising) that has an impact on the customer (changes the perception of needs and/or expectation), such that he or she takes a subsequent action (purchases an advertised object) that modifies the firm’s position in the market. However, analyzing advertising interactivity, Jankowski et al. (2016) come to conclude that online advertising differs from traditional in its outcomes, e.g. the focus placed on maximizing user engagement in online advertising negatively affects the user experience because of advertising clutter and increasing intrusiveness. Therefore, the specific features and influences of this marketing tool demand further consideration (Belanche et al., 2017).

Many factors influencing attention to advertising and its effectiveness have been analyzed in scientific literature. The most basic categorization of those factors might be their division into external and internal. External factors are context-specific factors depending on advertising media, e.g. television, outdoor, etc. the other category – internal factors are further classified into personal factors (laying a background for consumer segmentation) and advertising message-related factors (Walliser, 1997; Franch et al., 2013). Whereas external context-related factors are harder to control, the advertising message-related factors are the ones that marketers can gain advantage from. Therefore, advertising message-related factors are gaining their attention in scientific research (Pieters et al., 2002; Pieters and Wedel, 2004; Boerman et al., 2011).

Previous research on advertising effectiveness (see Pilelienė et al., 2015) enabled the determination of advertising message-related factors that have to be considered achieving to gain better effectiveness:

- different advertising layouts;
- visual and textual elements;
- advertising complexity level;
- advertising source.

In a context of static advertising, all its components can be classified into visual and textual. Both groups mixed together compose advertising layout (see Figure 1). Moreover, the composition of the elements (i.e. visual and textual) in a layout determines the level of its complexity.

Previous research (see Grigaliūnaitė et al., 2016) led to the conclusion that scientific research regarding the influence of message-related factors on the effectiveness of advertising is scarce; the most discussed message-related factors were found to be the headline, dominating elements, and the number of elements. Therefore, the eye-tracking procedure was performed and compositions of message-related factors influencing the effectiveness of advertising were determined:

- headline larger than the body text,
- a large number of elements with dominating textual elements, and
- the emphasised brand.
As the combination of different visual and textual elements results in layout complexity, the research was provided to determine the differences in the impact of different levels of layout complexity on advertising effectiveness (see Pileliénė and Grigaliūnaitė, 2016). The research results enabled to determine guidelines for the strategic usage of advertising layout complexity: initial usage of the low complexity of advertising layout helps organizations in creating brand awareness and familiarity; after the brand gains its position in consumer memory, the higher level of advertising layout complexity has to be provided to create an emotional value. Moreover, the results of the research provided in a framework of fast-moving consumer good category (see Pileliénė and Grigaliūnaitė, 2017) indicated that the brand should be presented in the top of the advertisement’s layout.

Considering different message-related elements of advertising, the remaining important antecedent of its effectiveness is advertising source. According to Hsu (2009), a properly selected advertising source positively affects consumer perception and confidence in a product, while an improper source can even cause negative effects. Despite the existence of many different kinds of advertising sources (mainly classified into spokes-persons and spokes-characters based on their nature), the most widely used sources are celebrities and non-celebrities - regular persons. Previous research on the effectiveness of advertising source (see Grigaliūnaitė and Pileliénė, 2015), enabled the determination of the following patterns: in order to enhance a level of consumers’ purchase intentions a celebrity spokesperson has to be chosen; however, on purpose of improving brand awareness a non-celebrity spokesperson might cause a better result than some well-known person due to vampire effect. However, if the aim of the advertising campaign is attitude formation, then selecting a celebrity as an advertising spokesperson is recommended (Pileliénė and Grigaliūnaitė, 2017). Moreover, latter research revealed that visual attention to the brand presented in the static advertisements lowers according to letter “Z” pattern and the most attention-grabbing brand position in the advertisement is the upper left corner. Nevertheless, it can be argued that visual attention to the brand presented in the static advertisement differs due to the context of the advertisement. Hence, the influence of the context of internet on the visual attention to the brand, which is required but not sufficient condition for online advertising effectiveness, is further analyzed.

3. Methodology

Based on the theoretical analysis and synthesis, if the aim of marketing communication is to form attitude or influence behavior, then recommended advertising message-related factors are:
• headline larger than the body text,
• a large number of elements with dominating textual elements,
• the emphasised brand,
• higher level of advertising layout complexity,
• celebrity spokesperson,
• brand presented in the upper left corner.

Hence, considering the internet context, the position of the advertisement with the recommended advertising message-related factors is the unknown variable analyzed in this research.

For the analysis of the influence of the context of internet on the visual attention to the brand authors chose the pattern of the first page of the most-read internet news portal in the experiment holding country. Based on the recommended advertising message-related factors, the advertisement with the well-known celebrity spokesperson and the real brand (representing the category of fast-moving consumer goods) presented in the upper left corner of the advertisement was created and approved by experts of marketing and advertising.

The same advertisement was incorporated into the pattern of the news portal four times, each time into different position (see Figure 2):

• upper position of the whole width of the news portal,
• 1/3 width, right side, upper position of the news portal,
• 1/3 width, right side, lower position of the news portal,
• 2/3 width, left side of the news portal in the bottom.

All of the positions of the experiment advertisements are real most popular positions used in the internet news portals. Under the advertisement presented in the upper position of the whole news portal, search box is presented. Above the advertisement presented in the bottom of the news portal and in the left side from the advertisements presented in the right side of the news portal the articles with the latest news are presented.

Based on such design, when all of the advertisements for the research are of the same layout, the influence of advertisements’ layout on the results is eliminated.

All of the news portal patterns with the created advertisements each time in the different position were shown to the participants in a randomized order using Matlab R2012b software package on the computer screen (resolution: 1366x768); participants looked at the advertisements at their own pace, controlling the switch of advertisements by clicking the computer mouse. Between the news portal patterns with the created advertisements, the interstimulus (black screen) appeared for two seconds in order to eliminate the influence of the last seen pattern on the trajectory of gaze. Each portal pattern with the created advertisement was shown for the participants for two times. Participants were told to read the pattern as they usually read (or not) the first page of the internet news portal.

The experiment was conducted using Tobii Eye-Tracking Glasses – mobile video-based eye tracker recording monocular gaze data from the right eye at a sampling rate of 30 Hz. This eye tracker has an accuracy of 0.5°. The system has a camera to record a scene video with a resolution of 640x480 pixels; maximum recording angles are 56° of visual angle in horizontal and 40° of visual angle in vertical direction.

Each of the participants put on the glasses and performed a standard nine point calibration. All of the participants were volunteers and had not been paid for the participation in the eye-tracking experiment. Before the experiment each of the participants was informed in detail about the experiment and signed the form of information and informed persons’ consent. The experiment was held in Lithuania, Vytautas Magnus University, April, 2017.
10 participants’ (6 females) data appropriate for the analysis were obtained. All of the participants were right-handed with normal or normal-to-corrected vision. All of the participants were at the age group of 18-29 years.

For the analysis of eye-tracing results Tobii Studio v.3.2.3 software was applied. Advertisements’ and brands’ presented in the advertisements in different news portal positions total fixation duration (average duration of all fixations within the specific element) and fixation count (average number of times the participants fixated on the specific element) were calculated. IBM SPSS Statistics v.20 and XLSTAT 2014 software packages were applied for the statistical analysis of the results obtained from the Tobii Studio v.3.2.3 software.

4. Research Results

The analysis of the research results revealed that the position of the advertisement that attracts the most visual attention is in the right side, 1/3 width, upper position. The brand presented in the advertisement that is presented in latter position attracts the most visual attention as well (see Table 1). As it can be seen, the results of total fixation duration (mean viewing time) in seconds corresponds to the fixation count (times). Moreover, the percentage of brand viewing time from advertisement’s viewing time in such case is substantial – 93.7 percent. Hence, when brand is positioned in the left upper corner of the advertisement based on the recommendations for the message-related factors, and the position in the internet portal is chosen to be upper, 1/3 width, right side, then advertisement not only attracts the most visual attention, but also does not detract attention from the core of the message – the brand. As it can be seen from the Table 1, the second position of the advertisement that attracts the most visual attention in the upper position of the whole width. Nevertheless, in latter position brand viewing time is only 35 percent from the advertisement’s viewing time. Despite this, latter position is the second regarding brand viewing time in the advertisement. In the third position is advertisement in the left side, 2/3 width, in the bottom. In this position brand viewing time is only 7 percent from the advertisement’s viewing time. Finally, the last
position regarding advertisements viewing time is in the right side, 1/3 width, lower position. In this position, brand viewing time is 62.5 percent from the advertisement’s viewing time, but it corresponds to the brand viewing time in the advertisement that is positioned in the left side, 2/3 width, in the bottom, just advertisement’s in the right side, 1/3 width, lower position viewing time is very low, hence percentage of brand viewing time from advertisement’s viewing time becomes high.

Table 1: Average Advertisement’s (Brand) Viewing Time

<table>
<thead>
<tr>
<th>Advertisement</th>
<th>Total fixation duration (s)</th>
<th>S.D.</th>
<th>Fixation Count (times)</th>
<th>S.D.</th>
<th>Percentage of brand viewing time from advertisement’s viewing time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertisement in the right side, 1/3 width, upper position</td>
<td>1.26</td>
<td>0.7</td>
<td>38.00</td>
<td>21.21</td>
<td>93.7 %</td>
</tr>
<tr>
<td>Brand in the advertisement in the right side, 1/3 width, upper position</td>
<td>1.18</td>
<td>0.82</td>
<td>35.50</td>
<td>24.75</td>
<td></td>
</tr>
<tr>
<td>Advertisement in the upper position of the whole width</td>
<td>1.20</td>
<td>0.57</td>
<td>36.50</td>
<td>17.68</td>
<td>35 %</td>
</tr>
<tr>
<td>Brand in the advertisement in the upper position of the whole width</td>
<td>0.42</td>
<td>0.36</td>
<td>13.00</td>
<td>11.31</td>
<td></td>
</tr>
<tr>
<td>Advertisement in the left side, 2/3 width, in the bottom</td>
<td>0.70</td>
<td>0.47</td>
<td>21.00</td>
<td>14.14</td>
<td>7 %</td>
</tr>
<tr>
<td>Brand in the advertisement in the left side, 2/3 width, in the bottom</td>
<td>0.05</td>
<td>0.07</td>
<td>1.50</td>
<td>2.12</td>
<td></td>
</tr>
<tr>
<td>Advertisement in the right side, 1/3 width, lower position</td>
<td>0.08</td>
<td>0.12</td>
<td>2.50</td>
<td>3.54</td>
<td>62.5 %</td>
</tr>
<tr>
<td>Brand in the advertisement in the right side, 1/3 width, lower position</td>
<td>0.05</td>
<td>0.07</td>
<td>1.50</td>
<td>2.12</td>
<td></td>
</tr>
</tbody>
</table>

Source: author’s calculations

As the data of eye tracking experiment are non-normally distributed, the Friedman test is applied (four dependent samples) in order to evaluate whether there are significant differences in visual attention to the advertisements. As the test revealed, there are significant differences in visual attention to the advertisements. To examine where the differences actually occur, Wilcoxon Signed Ranks Test with the Bonferroni adjustment (significance level equals to 0.017) is applied as the Post-Hoc test (see Table 2). As it can be seen, viewing time to the advertisement in the right side, 1/3 width, upper position is statistically significantly higher than to the advertisement in the left side, 2/3 width, in the bottom or to the advertisement in the right side, 1/3 width, lower position. Moreover, there is no statistically significant difference in viewing time to the advertisement in the right side, 1/3 width, upper position and viewing time to the advertisement in the upper position of the whole width. Hence, the upper positions in the context of the internet attract most visual attention to the advertisements.

Table 2: Wilcoxon Signed Ranks Test (for Advertisements’ Viewing Time)

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>-1.309</td>
<td>-2.879</td>
<td>-2.879</td>
<td>-1.309</td>
<td>-2.879</td>
<td>-2.879</td>
</tr>
<tr>
<td>p-value</td>
<td>0.191</td>
<td>0.004</td>
<td>0.004</td>
<td>0.191</td>
<td>0.004</td>
<td>0.004</td>
</tr>
</tbody>
</table>

Source: author’s calculations

Due to the same conditions, the same procedure is applied for the analysis of differences in visual attention to the brand presented in the advertisements. As it can be seen, there is no statistically significant difference in viewing time to the brand presented in the advertisement in the right side, 1/3 width, upper position and viewing time to the brand presented in the advertisement in the upper position of the whole width. Moreover, there is absolutely no difference in in viewing time to the brand presented in the advertisement in the right side, 1/3 width, lower position and viewing time to the brand presented in the advertisement in the left side, 2/3 width, in the bottom. Nevertheless, viewing time to the brand presented in the advertisement in the right side, 1/3 width, upper position differs statistically significantly from viewing time to the brand presented in the advertisement in the left side, 2/3 width, in the bottom and from viewing
time to the brand presented in the advertisement in the right side, 1/3 width, lower position. Furthermore, viewing time to the brand presented in the advertisement in the upper position of the whole width is statistically significantly higher than viewing time to the brand presented in the advertisement in the left side, 2/3 width, in the bottom and viewing time to the brand presented in the advertisement in the right side, 1/3 width, lower position. Hence, the upper positions in the context of the internet attract most visual attention not only to the advertisements, but the brands presented in those advertisements as well. The position in the right side, 1/3 width, upper attracts most visual attention to the advertisement and the brand presented in that advertisement, but if such positioning is not possible, then the second place that attracts most visual attention to the advertisement and the brand presented in that advertisement is in the upper position of the whole possible width.

Table 3: Wilcoxon Signed Ranks Test (for Brands’ Viewing Time)

<table>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>-1.309</td>
<td>-2.879</td>
<td>-2.879</td>
<td>-2.879</td>
<td>-2.879</td>
<td>0.000</td>
</tr>
<tr>
<td>p-value</td>
<td>0.191</td>
<td>0.004</td>
<td>0.004</td>
<td>0.004</td>
<td>0.004</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Source: author’s calculations

Based on the theoretical analysis the research results, the model of online advertising elements that influence consumer behavior, revealing the most attention-grabbing position of the advertisement in the context of the internet and recommended message-related factors, is elaborated and presented in Figure 3 below. The two outlined (marked in bold) recommended message-related factors are the ones used in this research for the analysis of the influence of the context of internet on the visual attention to the advertisement and brand presented in the advertisement.
As it can be seen from the model, based on the research results, the most attention-grabbing position of the advertisement in the context of the internet is 1/3 width, right side, upper position of the news portal. Based on the theoretical analysis, the advertisement in such position should contain headline larger than the body text, a large number of elements with dominating textual elements, the emphasised brand, higher level of advertising layout complexity, celebrity spokesperson, and brand presented in the upper left corner of the advertisement. Based on the research results, the second best position of the advertisement in the context of the internet is upper position of the whole width of the news portal. The third best position of the advertisement is 2/3 width, left side of the news portal in the bottom. The last position of the advertisement, attracting least visual attention, is 1/3 width, right side, lower position of the news portal. Despite this, not only position must be chosen, but at any position advertisement should contain theoretically determined factors influencing consumer behavior in order to be effective.

5. Conclusions

Internet has emerged as powerful channel for marketing communication leading to the concept of online advertising becoming central to the entire discipline of marketing. In a framework of any communicational goal, it can be stated that the effectiveness of advertising highly depends on factors that attract consumers’ attention, elicit advertising recall and recognition. By taking systems approach, all of the online advertising elements, that are message-related as well as context-related factors can have impact on online advertising effectiveness by influencing consumers’ attention, advertising recall and recognition, attitude, and finally behavior.

The analysis and synthesis of scientific literature leads to the conclusion that if the aim of marketing communication is to form attitude or influence behavior, then recommended advertising message-related factors are: headline larger than the body text, a large number of elements with dominating textual elements,
the emphasised brand, higher level of advertising layout complexity, celebrity spokesperson, and brand presented in the upper left corner of the advertisement.

The analysis of research results allows substantiating the theoretical assumption that message-related as well as context-related factors together can have impact on online advertising effectiveness. Research results leads to the conclusion that the most attention-grabbing position of the advertisement and the brand presented in the advertisement in the context of the internet is 1/3 width, right side, upper position of the news portal. The second best position of the advertisement in the context of the internet is upper position of the whole width of the news portal. Nevertheless, advertisements in such positions should contain well managed message-related factors in order to improve the possibility to create effective advertising campaigns influencing consumer behavior.

References


