Multiple Banner Advertisements: A Proposed Model of Consumers’ Behavioural Responses

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Abstract: Although a large number of research studies have been conducted measuring consumers’ click-through responses to banner advertisements, the responses are measured on a single advertisement. However, most people who go on-line are exposed to banner advertisements multiple times during Web navigation, and it is not known how consumers respond to multiple exposures. Therefore, the purpose of this research is to propose a theoretical model identifying the impact of multiple banner exposure on consumers’ click-through responses. Based on the theoretical model, a number of propositions are developed and theoretical as well as managerial implications are discussed.

Introduction

The interactivity of the Web, unlike conventional advertising, allows users to click on banner ads for more information and to purchase products and services. This clicking behaviour is measured by the click-through rate which is affected by banner-ad size, (Euijin & Edwards, 2002), image (Chandon, Chtourou, & Fortin, 2003), animation (Loutia, Donthu, & Hershberger, 2003), product involvement (Dahlen, Rasch, & Rosengren, 2003), advertising appeal (Kim & Leckenby, 2002; Loutia et al., 2003), and interactivity (Bezjian-Avery, Calder, & Iacobucci, 1998). These studies are, however, based on a single banner-ad exposure and the impact of multiple banner-ad exposure is still unexplored.

In traditional mass communication such as broadcast and print most media decisions are based on advertising frequency (Cambell & Keller, 2003), because it is an important determinant of advertising effectiveness, particularly influencing consumers’ cognitive (Pechmann & Stewart, 1989; Ray & Sawyer, 1971) and attitudinal (Cacioppo & Petty, 1979, 1980) responses in ways that are different from a single banner-ad exposure. Thus, it can also be expected that multiple banner-ad exposures may also elicit different click-through responses than a single banner-ad exposure. Therefore, the essential problem driving this research is:

What is the impact of multiple banner advertisement on consumers’ click-through responses?

In addition to advertising frequency, advertising appeal, product involvement, and advertisement type are important moderators in advertising communication eliciting different consumers responses. That is, consumers respond differently to emotional and rational advertising appeals (Singh & Cole, 1993), to the level of product involvement, which may be low or high (Petty & Cacioppo, 1986), and to static or pop-up banner advertisements (Cho, Lee, & Tharp, 2001). Thus, the purpose of this research is to propose a theoretical model identifying the impact of multiple banner-ad exposures on consumers’ click-through responses moderated by advertising appeal, product involvement, and advertisement type.
This research paper comprises three sections. Following the introduction, we establish a conceptual framework and research propositions. The third section briefly discusses the likely contributions and limitations of the research; theoretical and managerial implications are discussed, and a set of guidelines is provided for future research.

**Conceptual Framework and Research Propositions**

We propose a conceptual framework that consists of five constructs: an independent variable (advertising frequency), three moderating variables (advertising appeal, product involvement, and advertisement type), and a dependent variable (click-through rate). The click through rate is determined by advertising frequency and moderated by advertising appeal, product involvement, and advertisement type (see Figure 1).

**Figure 1: Model of consumers’ behavioural responses to multiple-banner ads**

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Moderating Variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising Frequency</td>
<td>Advertising Appeal</td>
<td>Click through</td>
</tr>
<tr>
<td>Advertising Type</td>
<td>Product Involvement</td>
<td></td>
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</tbody>
</table>

The dependent variable

Despite the widespread use of click-through rate as a measure of banner advertising effectiveness, much controversy still surrounds its efficacy. The major argument against it is that it only measures immediate responses. According to traditional advertising theory, the effects of advertising are not necessarily immediate, especially on sales (Vakratsas & Ambler, 1999). These delayed effects, which are measured by cognitive (e.g., brand awareness) and attitudinal (e.g., ad attitude, brand attitude, and purchase intention) responses, seem to be ignored by click-through measure. Despite these arguments, the click-through rate is a widely used measure for banner-ad effectiveness.

The popularity of the click-through rate arises for a number of reasons. Firstly, it is an accountable method as compare to the exposure-based measurement, which simply counts the number of visitors who are exposed to banner ads. Besides, click-through data is collected automatically with the aid of specifically designed software. Unlike exposure-based measures, click-through rate guarantees advertisers for as exposure and visitors’ immediate interest in the advertised brand. Finally, click-through data is free from researchers’ bias, and large amounts of data can be collected daily with minimal cost. Click-through rate is made possible by the unique Web characteristic of interactivity, discussed next.

*Interactivity.* Interactivity is a multidisciplinary concept and defined in terms of responsiveness (Ha & James, 1998), user control (McMillan, 2000a, 2000b), two-way communication (McMillan, 2000a), real-time participation (Steuer, 1992), feedback (Straubhaar & LaRose, 2000), and user experience (Blythe & Young, 2005).
1996), and interchange (Dennis, Fenech, & Merrilees, 2004) between consumers and advertisers. Moreover, interactivity leads to different kinds of activities, which were not available to traditional media. For example, interactivity made two-way communication possible between advertisers and consumers on a real time basis, which is of benefit to both consumers and advertisers. For consumers, viewing time, pace, and the order of presentation are in their control. For advertisers, they gain more opportunities to track consumers’ activities and continually evaluate their on-line behaviour through easily accessible clickstream data (Chartterjee, Hoffman, & Novak, 1998).

The independent variable

Frequency of advertising is a frequently used persuasive technique in advertising because people often believe something that they hear over and over again (Cambell & Keller, 2003). Generally, an advertising message seems to be remembered, believed, and recalled at the time of purchase the more frequently it is seen or heard (Sawyer, 1981). Therefore, understanding the functions of advertising frequency is important because it is critical to the effectiveness of advertising. Moreover, the precise number of advertising repetitions depends on a variety of moderating factors (Weilbacher, 1970) such as advertising appeal, product involvement, and banner-ad type which are discussed in the following section.

The moderating variables

A moderator is another independent variable, either qualitative or quantitative that impacts on the strength and/or the direction of the relationship between an independent and a dependent variable (Baron & Kenny, 1986).

Banner Ad Typ

Ad types may be static or pop-up. A static banner advertisement, which is usually placed at the top or along the side of a Web page, is considered passive and in turn the least intrusive (Chartterjee et al., 1998; Cho & Leckenby, 1999) since it does not interrupt visitors’ activity (e.g., Web surfing). A pop-up, on the other hand, appears on a separate small window at the top of visitors’ screen; specifically, when a visitor navigates from one Web page to another. Thus, a pop-up banner ad is considered intrusive since it interrupts visitors’ Web navigation (Edwards, Li, & Lee, 2002).

Banner ads affect consumers’ click-through (Briggs & Hollis, 1997). Statics are passive, do not interrupt visitors’ Web navigation, and cannot get users’ attention immediately; it is proposed that with repetition, consumers’ initial click-through responses would be negative. However, as statics start getting attention, it is more likely that the subsequent exposures will be clicked on. Contrarily, a pop-up achieves communication objectives in a single exposure. The impact of multiple banner advertisement exposures on consumers’ click-through responses would be negative. This is because when a consumer does not click a banner ad in the first exposure, it is less likely that banner ad would be clicked on in subsequent exposures. This leads to the following proposition:

P1: Increasing the number of banner advertisement exposures from low through moderate to high levels will result in higher click-through rates for static banner advertisements than for pop-ups.

Ad Appeal

Ad appeals may be rational or emotional (Puto & Wells, 1984). Rational means a factual, logical, objectively verifiable ad giving consumers greater confidence in their ability to assess
the merits of the brand (Puto & Wells, 1984). Further, rational appeals are based on utilitarian need and focus on functional performance, while these messages are cognitively processed and evaluated (Rothschild, 1979). On the other hand, emotional advertising associates the experience of using the advertised brand with a unique set of psychological characteristics that would not normally be linked to the brand experience to the same degree without exposure to the advertisement (Puto & Wells, 1984). Further, the emotional appeals are based on ego gratification, social acceptance, and sensory stimulation. These messages focus on self-enhancement and are affectively evaluated (Ratchford, 1987).

Advertising strategies that employ rational appeals are more effective when there is a high-level need of cognitive evaluation and rational decision criteria are used to make a purchase decision (Vaughn, 1980, 1986; Venkatraman, Marlino, Kardes, & Sklar, 1990). In this case, low levels of advertisement frequency may be sufficient to influence consumers brand attitude because learning takes place rapidly (Ratchford, 1987). On the other hand, advertising strategies that consider emotional appeals focusing on “image” are more effective when there is a low-level need of cognition (Venkatraman et al., 1990). Hence, it is more likely that BAs with rational appeal will be clicked on the first exposure rather than the subsequent ones. Based on this evidence, we propose the following.

**P 2:** Increasing the number of banner advertisement exposures from low through moderate to high levels will result in higher click-through rates for emotional advertising appeals than for rational.

**Product Involvement**

Product involvement is an important construct in marketing (Zaichkowsky, 1986), which is a function of decision importance, degree of thoughts, and perceived risk of making the wrong purchase decision (Ratchford, 1987). Buyer’s perceived risk may be functional or psychosocial (Rothschild & Ray, 1974). Functional risk refers to the post-purchase risk that the product will not perform properly, whereas psychosocial risk refers to the social embarrassment of purchasing the wrong product. Most high-priced products are considered high involvement because they are associated with high-functional risk. However, a low-priced product could also be considered a high-involvement product if the buyer perceives psychosocial risk in making a purchase decision.

Banner ads for high-involvement products are more likely to be clicked than those of low-involvement products (Daheln, Ekborm, & Morner, 2000). These results are, however, based on a single banner-ad exposure and the impact of multiple banner-ad exposures is unknown. We propose a reverse effect of repetition on product involvement as compared with the single exposure. That is, as repetitions increase a low-involvement product is more likely to be clicked than a high-involvement product. This is because when consumers’ involvement is low, they are passive and little mental activity is required to process the advertisement, and repetition is essential to build the association between a low-involvement product and consumers (Rothschild, 1979). Therefore, it is more likely that a low-involvement product will be clicked with subsequent exposures. On the other hand, when consumers’ involvement is high, they actively process advertisements (Cho & Leckenby, 2000), and it is more likely that a high-involvement product will be clicked on earlier exposures rather than subsequent exposures. Based on the above theoretical and empirical evidence the following is proposed:

**P 3:** Increasing the number of banner-advertisement exposures from low through moderate to high levels will result in a higher click-through rate for low-involvement products than for high.
Research Method

Although various research methods can be employed to test the given propositions, we suggest a laboratory experiment that enables manipulation of the independent variable and moderator variables, and complete control over banner-ad exposures required for measuring repetition effects. Further, a lab experiment permits random assignment of participants to various experimental treatments and provides relatively more control over extraneous variables (Cook & Richard, 1983). Finally, a lab experiment enables researchers to measure behavior with a greater degree of precision.

Despite a number of advantages, a lab experiment has some weaknesses. First, respondents will be exposed to banner ads in a controlled laboratory setting. The stimulus, response, and experimental setting are different from real life, and the results observed in the lab experiment may not be generalized to the population of interest. That is, a lab experiment may lack external validity, specifically in the case of a convenience sample, which may adversely affect the generalization of the results to the general population (Churchill, 1995; Malhotra, 1999). Indeed, external validity is somewhat sacrificed for greater statistical power through controlled settings, standardized procedure, and homogeneity of respondents.

Experimental Design

To test the moderating effects of each moderator, three factorial design matrixes will be developed consisting of three levels of independent variable by two levels of moderator variable. The independent variable, advertisement frequency, has three levels: low, moderate, and high. Low frequency may refer to one, moderate to four, and high to eight exposures. The three moderators are advertising type, advertising frequency, and product involvement. Advertisement type has two levels of static and pop-up, advertisement appeal has two levels of rational and emotional, and product involvement has two levels of low and high.

Click-through will be measured with the aid of scripts developed in Active Server Pages (ASP), which will record each click through that the respondents make on a banner ad during the experimental sessions. The data will be stored automatically in a back-end database developed in Microsoft Access, which will then be directly transferred to SPSS for data analysis. Chi-square analysis or logistic regression will be used as a statistical measure since both the independent variable and the dependent variable are categorical variables and generate nominal data.

Contribution and conclusions

This study contributes to the knowledge of advertising theoretically as well as practically. Theoretically, advertising repetition is an important concept among academics and practitioners because most of the media decisions are based on the frequency of advertising. However, little attempt has been made to investigate the impact of multiple banner-ad exposures on consumers’ click-through responses. This research endeavours to fill this gap. We considered three moderating factors: advertising appeal, product involvement, and banner-ad type. The identification of these moderating variables will help marketers design appropriate communication strategies. For example, if the aim of advertising is to create click through, according to the proposed theoretical model, a viable communication strategy is a high level of repetition for emotional advertising appeals, low-product involvement, and static banner ads. Contrarily, a low-level of repetition would be sufficient for rational advertising appeals, high-involvement products, and pop-up banner ads.
Also, Internet data transformation and widespread availability of broadband connection allows greater use of high-resolution banner presentations much like TV commercials, which in turn causes on-line users to spend more time and consume more advertisements (Koegel, 2004). Therefore, understanding the impact of multiple banner ads on consumers’ responses will be an important asset in the Web advertisers’ arsenal.

In summary, the purpose of this research is to extend our understanding of the relationship between advertising frequency and consumer click through to banner ads; this was done by proposing three moderating variables. The contention is that the strength of the relationship between banner-ad frequency and click through is moderated by advertising appeal, product involvement, and banner ad type. It is proposed that multiple banner-ad exposures have positive effects on consumers’ click through when the banner ad is static rather than pop-up, when the advertising appeal is emotional rather than rational, and when the product involvement is low rather than high. The major limitation of this study is the measurement of click through in a control laboratory setting. However, following the lab experiment, future research will involve a quantitative survey to confirm the results in a field setting. Finally, future research on this topic may explore the impact of multiple banner ads on consumers’ attitudinal responses.
References


