

INTRUSIVENESS OF ONLINE VIDEO ADVERTISING AND ITS EFFECTS ON MARKETING OUTCOMES

Research-in-Progress

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Abstract

Web developers have several decisions to make about presenting content and paying for that content with advertisements. In the video domain, many developers opt for video “pre-rolls” that present a brief 7 to 30 second advertisement that precedes longer video content that is of interest. Many characteristics of those ads will affect their intrusiveness; three main antecedents to intrusiveness will be manipulated: the length of the pre-roll, amount of information in the content, and amount of humor in that content. In turn, immediate consequences of intrusiveness, abandonment and ad recall will be investigated. Finally, attitude toward the ad and attitude toward the website will be assessed, along with their logical consequences, intention to purchase the product and intention to revisit the website. A panel of 1,200 adult web users will be consulted and results will be presented at ICIS.

Keywords: Online video advertising, intrusiveness, marketing, attitude, ad recall

Introduction

With rapid acceleration of online video viewing, advertisers are rushing to monetize this new media outlet with a variety of advertising types. Online video advertisement spending is growing more rapidly than other media, increasing 38% in 2009 to \$1 billion, despite total Internet ad spending that declined by 3.4% (Interactive Advertising Bureau (IAB) and PricewaterhouseCoopers 2010). Having suffered double-digit advertising revenue losses (Nielsen 2010), the traditional media industry (newspapers and magazines) is now investing aggressively in online video monetization opportunities (Brightcove and TubeMogul 2010). As a result, online newspapers and magazines are now helping to drive growth in online video publishing activity. For instance, in the first quarter of 2010, web sites of newspapers had two billion video loads (up 37% over 2009) and magazines had 1.2 billion loads (up 70% over 2009).

Advertisers, however, must carefully plan their strategies in order to achieve their goals while avoiding user backlash. Internet users have been observed to be irritated by intrusive ads (Edwards et al. 2002) that interfere with navigation and browsing activities, leading to increased avoidance. Videos broadcast on web sites often contain in-stream “pre-roll” ads shown prior to the video being viewed, with little to no viewer option to skip the ad. A challenge for marketers is that many viewers quit viewing a video during 15 to 30-second pre-roll ads. Overall, 16% of viewers abort their plans to watch a 3- to 10-minute video during even a short pre-roll ad (TubeMogul 2010a, 2010b). The trend is far more pronounced with top magazine and newspaper web sites where 25% of viewers click away. For large broadcasters, 11% of viewers click away during an ad.

Ad avoidance has led to plummeting banner ad click-through rates, which have fallen from 2% in 1995 to .5% in 1998 (Cho and Cheon 2004; Nielsen 2010), and to .09% in 2010 (MediaMind 2010). Video advertisers might believe that they have a more “captive” audience with short pre-roll video ads (running before the main content video), but may not have fully considered all of the potentially negative effects of the mandatory pre-roll ads. Prior research (McCoy et al. 2008), for example, suggests that lower viewer control over Internet advertising (e.g., with pop-up ads) can lead to decreased attitudes toward the host site. Although most prior Internet research (e.g., Cho and Cheon 2004; Edwards et al. 2002; McCoy et al. 2008) does not explore the product branding effects besides ad avoidance or brand recognition, potential ramifications for brand advertisers could be severe, since ad avoidance is associated with negative attitudes toward the advertisement and the brand (MacKenzie and Lutz 1989).

Thus, a number of interesting and important questions need to be addressed. On the Internet, will viewers stay to watch a video ad? How long will they stay? Will they perceive intrusiveness? Will their attitudes be negatively affected by the perceived disruption of video ad? Are effects of disruption different for the advertiser and the host Web site? The objective of our paper is to evaluate the potential effects of different lengths and types of pre-roll online video ad on perceived intrusiveness, and in turn, on marketing outcomes such as ad abandonment, aided recall, attitude and purchase intention.

In addition to the importance of our research questions, our study also fills the void of academic research on online video advertising. Although TV ads of varying lengths have been studied in prior marketing research, no academic marketing research, to the authors’ knowledge, has evaluated the effects of different types and lengths of online video ads. Furthermore, we will examine marketing outcomes of online video ads for both the advertiser and the host website because little prior research (besides the study by McCoy et al. 2008) has examined the effect of online video ad intrusiveness on perceptions toward host websites, whose image might be at risk. This study will provide a better understanding of Internet user motivations and stressors, which can ultimately help marketers to more effectively tailor advertising content to different audiences.

Literature Review

Characteristics of Online Video Ad

Ad Length

If TV viewing were used as a guide, almost 25% of video time would be dedicated to advertising. However, it is doubtful that goal-oriented Internet viewers (e.g., Cho and Cheon 2004; Korgaonkar and Wolin 1999) would stand for that, since the Internet is a much more goal-directed environment with unique expectations. The perception of a “fair” duration and number of Internet video ads likely varies with user expectations for the Internet environment and the length or relevance of the video. Viewer reaction to a 30 second ad before a 3-minute video might be very different from the reaction to the same ad before a half hour video. Hulu has different ad strategies for long-form content (program episodes or movies) and for short-form content (clips). For example, one streaming TV program of about 22 minutes on Hulu contained three 30-second ads and one 5-second ad, far less than on traditional network/cable TV, while a 41 second clip contained one 5-second pre-roll ad.

Internet-based research on video ad length and advertising effects is sparse, but one industry study (IAB 2008) found that 15-second ads appear to be as strong as 30-second ads for awareness and brand association, while 30-second ads did best at persuasion and conveying emotion, similar to TV ad research. However, that study included views of user-generated ads (“in banner” and “in text”), which are more voluntary for the viewer. Thirty-second non-voluntary “pre-roll” ads, on their own, performed poorly on purchase intent, suggesting that 30-second spots risked turning off a viewer waiting to watch something else. These Internet results indicate that viewers might react quite differently to interruption of Internet viewing than they would during TV viewing. Five-second spots, used on TV at the end of commercial breaks to avoid DVR ad-zapping, appear to work best for reinforcing brand benefit (Petrecca 2006). For the Internet, there are compelling reasons to investigate the short-form format in order to lessen the consumer annoyance factor (Pickard 2006). Given the relatively short duration of typical online videos, this format might provide a short brand message within a consumer's tolerance range. However, 5-second ads, especially emotional ones, have trouble conveying a message on their own, so 7 and 10-second ads are also used online (IAB 2008).

Informational and Humorous Ad

Ad effectiveness can depend on its humorous vs. informational content. Ads are more memorable when humor is both strong and related to the message (Cline and Kellaris 2007), indicating importance of humor strength and ad context. The more an advertisement is perceived as humorous and informative, the more positive is the advertisement's overall rating (Janssens and De Pelsmacker 2005; StyŠko-Kunkowska 2010), suggesting that a combination of humor and information can have positive effects on attitude toward the ad. While longer ads improve brand recall, humorous message can perform better than shorter counterparts on recall, attitude and purchase intention (Singh and Cole 1993). In addition, prior research also identified relationship between humor and product involvement. Humorous advertisements are more effective (e.g., for memory, attitude) for low-involvement products than for high-involvement products (Chung and Zhao 2003), suggesting that product characteristics play a role in humor's effectiveness.

Intrusiveness

Feelings of intrusiveness have been addressed under different names in prior non-Internet marketing research. The theory of psychological reactance has been used to explain potentially freedom-threatening events, caused by the combination of 1) consumer expectations of freedom, and 2) some threat which infringes upon that freedom (Clee and Wicklund 1980). The annoyance effect was found to be greater for television and radio than for print (Speck and Elliott 1997), which involves more active processing and more voluntary exposure. Feelings of annoyance and intrusiveness can result in negative attitudes toward

the ad, which can then affect brand perceptions and attitudes (MacKenzie and Lutz 1989) and lead to ad avoidance (Speck and Elliott 1997).

As stated earlier, compared with traditional media, the Internet is considered to be a more goal-oriented medium (e.g., Cho and Cheon 2004; Korgaonkar and Wolin 1999). The interactive element of the Web requires significant consumer involvement. For example, the typical Web user is alert and absorbed, and wants useful information quickly and easily (Korgaonkar and Wolin 1999). A state of Internet user "flow" even been conceptualized for navigation characterized by high levels of control, challenge, arousal, and focused attention (Novak et al. 2000). As a result, perhaps, Internet ads are perceived to be more intrusive when compared with other media ads (Cho and Cheon 2004; Li et al. 2002). Internet goal orientation and ad avoidance have likely contributed to the plummeting banner ad clickthrough rates noted earlier (MediaMind 2010).

Perceived goal impediment seems to be an important factor in causing feelings of intrusiveness and irritation, and has been found to be the most significant antecedent explaining advertising avoidance (Cho and Cheon 2004). Ad avoidance, furthermore, is often associated with negative attitudes toward the advertisement and the brand (MacKenzie and Lutz 1989), an obviously unfavorable outcome for marketers. Prior research regarding Internet "pop-up ads" explored how viewers define ads as irritating and how they avoid them (Edwards et al. 2002). Perceived intrusiveness was suggested as the underlying mechanism, with antecedents including congruence (relevance) of ad content and the task's intensity of cognition (focus).

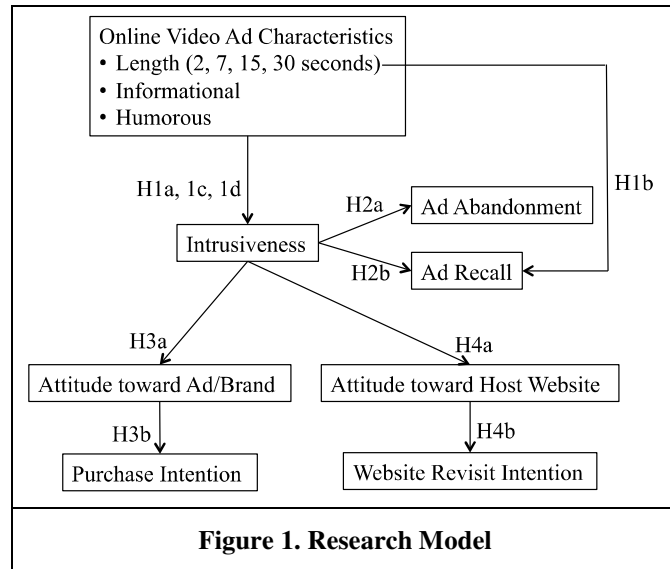
Attitude

Advertising that is liked performs better, both in perception and persuasion, than commercials that irritate consumers (Stapel 1994). Attitude toward an ad is important because people who like a commercial "a lot" are twice as likely to be persuaded (Biel and Bridgwater 1990). While a lively, upbeat approach makes a contribution to positive attitude (particularly in the food and beverage category), the most critical factor in ad attitude is how relevant and meaningful the commercial seems, which increases consumer involvement as a mediating factor to persuasion. Likeability of (or attitude toward) an online ad is affected by a combination of entertainment, information and a lack of irritation, mediated by the ad's perceived value (Ducoffe 1996). Interesting ads, for which likability is important, also score considerably higher in persuasion (Stapel 1994). Furthermore, attitudes towards brands are two-dimensional. Some attitudes are utilitarian, with rational evaluation of the product's attributes, and some are emotional, influenced by factors such as brand familiarity and subjective impressions. The emotional component is proportionately more important for products in low-involvement categories (Batra 1986).

Prior TV research reported a positive relationship between liking of television programs and television advertising (Alwitt and Prabhaker 1992), with effects moderated by commercial involvement (Murry et al. 1992), suggesting a potential relationship between website content and liking of an online video ad and its brand. Thus, commercials interrupting interesting TV shows can be more effective, since involvement with advertising tends to be consistent with program interest. The advertisement, however, must be interesting and relevant, as mentioned earlier. Interesting TV shows increase the effectiveness of interruptive but interesting commercials, but diminish the effectiveness of less interesting ones (Krugman 1983). Unfortunately, involvement and attention alone do not necessarily breed persuasion. Increased involvement enhances persuasion for a strong message but reduces persuasion for a weak one. Thus, high involvement can result in either increased or decreased acceptance (Petty and Cacioppo 1979). Similarly, while ad relevance might matter most for changing viewer's opinions, arousing or "entertaining qualities" of commercials are especially important for effects such as attention, recall and sometimes attitudes (Smit et al. 2006).

Theoretical Model

Based on the above evaluation of prior research and models of ad and effects of ad intrusiveness (e.g., Cho and Cheon 2004; Edwards et al. 2002; McCoy et al. 2008), we hypothesize that pre-roll video ad length will have a significant positive effect on intrusiveness and ad recall but significant negative effects on attitude to the ad/brand and purchase intention, as indicated in Figure 1.



Prior research into the perceived intrusiveness of video ads and programming content of different lengths has been scant, because of fixed-length TV shows or movies. One model of TV ad viewing predicts that when a highly-rated network decreases its advertising time by 10%, the median audience gain is about 25% (Wilbur 2008). Another model for TV ads recommends that commercial breaks should become more frequent toward the end of a program, and that the length of breaks should be single-peaked with the longest breaks in the middle (Zhou 2004). Thus, there appear to be potentially optimal strategies for the placement and duration of TV advertisements. In the first quarter of 2010, there were 14 minutes and 20 seconds of TV advertisements per hour, not including local commercials.

Because of the higher goal orientation on the Internet compared with traditional media (e.g., Cho and Cheon 2004; Korgaonkar and Wolin 1999), Internet ads, especially pop-up ads which interrupt flow, are perceived to be more intrusive compared with other media ads (Cho and Cheon 2004; Li et al. 2002). Internet pre-roll ads have been shown to be more unpleasant than other type of ads (Dube-Rioux et al. 1988) because they take place before one can view the main content. Logically, then, one would expect that pre-roll video ads would be especially intrusive, with perhaps less user control and greater intrusiveness than popups studied earlier (e.g., McCoy et al. 2008). Thus, we hypothesize:

H1a: Longer pre-roll online video ads will lead to increased level of intrusiveness.

All other things being equal, TV advertisers prefer longer ads, because they are better recalled. TV ad length has been shown to be the most important predictor for unaided recall and an important predictor for aided recall (Smit et al. 2006). Fifteen-second TV ads show 80% of the recall of 30-second ads, 90% of the likeability for recalled ads (Newstead and Romaniuk 2010), and 77% of the persuasion from pre- to post-brand preference (Stanton and Burke 1998) of 30-second ads. On the other hand, 15-second ads perform equally well in brand recall when ads are described (Newstead and Romaniuk 2010). It should be emphasized that these results emanated from a TV environment, in which viewers typically sit through 30-second ads. User perceptions, performance, and behavior could be quite different in the Internet environment. Furthermore, obscuring site content, with little user control, leads to greater ad recognition (McCoy et al. 2008). Thus, video ads of longer length are expected to increase ad recall. Thus, we hypothesize:

H1b: Longer pre-roll online video ad will lead to increased ad recall.

Humorous (in particular, entertaining) ads are expected to be less intrusive than non-humorous ads because humor is a more lively, upbeat approach contributing to liking (Li et al. 2002; Stapel 1994). Similarly, informational ads provides certain amount of relevant information about the product, therefore engage viewers to process such information cognitively. As a result, the viewer is less likely to perceive high level of intrusiveness (Li et al. 2002). Furthermore, humor can interplay with emotion, which is relatively more important when advertising products in low-involvement categories (Batra 1986; Biel and

Bridgwater 1990), with stronger links between ad liking and persuasion. This might be explained theoretically by returning to the goal orientation of Internet users; if a user derives benefits from the ad (either information or enjoyment through humor), a user might consider the ad to be another worthwhile goal in and of itself. We therefore hypothesize:

H1c: More informational pre-roll online video ad will lead to lower levels of perceived intrusiveness.

H1d: More humorous pre-roll online video ad will lead to lower levels of perceived intrusiveness.

Results of intrusiveness include feelings of irritation and ad avoidance. Thus, if consumers feel that an ad is intrusive and forced upon them, negative feelings and behaviors can follow (McCoy et al. 2007). Ads that are requested or provide value are less likely to be dismissed as nuisances. One limitation of some of the prior research on pop-up ads (Edwards et al. 2002) was that participants could close the ads at will, in contrast to pre-roll video ads which do not provide this option, if the user wants to view the content video. This element of control has been found to be important (McCoy et al. 2008) in most cases. Given the goal-orientation of Internet users, some viewers will just not stand for a pre-roll ad, and will stop the ad/video prior to the ad's completion. Viewers who consider the ad to be intrusive will be more likely to exit the video. Feelings of annoyance and intrusiveness can result in negative attitudes toward the ad, which can then affect brand perceptions and attitudes (MacKenzie and Lutz 1989) and lead to ad avoidance (Speck and Elliott 1997). Thus, we propose:

H2a: Higher level of perceived intrusiveness of pre-roll online video ad will result in more likelihood of video abandonment.

Perceived goal impediment is an important factor in generating feelings of intrusiveness, irritation, and advertising avoidance (Cho and Cheon 2004). Similar to prior research into Internet "pop-up ads" (McCoy et al. 2008), greater intrusiveness is expected to be associated with greater ad recall. Paradoxically, more intrusive ads are noticed to a greater extent, and lead to greater ad recall. Thus, we hypothesize:

H2b: Perceived intrusiveness of pre-roll online video ad will have a positive influence on ad recall.

Longer pre-roll ads are expected to induce greater feelings of intrusiveness and feelings of wanting to avoid the ad. However, ad avoidance is associated with negative attitudes toward the advertisement and the brand (MacKenzie and Lutz 1989). Even though prior TV advertising research has shown that longer ads tend to generate greater ad likeability, the intrusiveness of longer Internet video ads is expected to outweigh potential positive effects. Thus, greater perceived intrusiveness is expected to be associated with less favorable attitudes toward the ad.

H3a: The greater the perceived intrusiveness of the pre-roll online video ad, the lower the attitude toward the ad.

There is typically a positive relationship between attitude toward the ad and brand attitude (MacKenzie et al. 1986). Although there might be some variation in this effect depending on ad intrusiveness and any prior feelings toward the brand or product category, the overall positive relationship is expected to hold. Traditionally there has been a strong theoretical relationship between attitude and purchase intention (e.g., Fishbein and Ajzen 1980). That relationship is expected to hold in this study, although purchase intention might vary somewhat by attitudes toward the product category not reflected in the brand attitude measure.

H3b: Brand attitude will be positively related to purchase intention.

Attitude toward the host website should have a positive effect on intent to revisit the site, supporting prior Internet and attitudinal research (Galletta et al 2004; MacKenzie and Lutz 1989; McCoy et al 2008). In other words, users will be less likely to form a favorable impression about the websites that appear intrusive, and less likely to visit websites that carry longer, more intrusive video ads. We therefore hypothesize:

H4a: The greater the perceived intrusiveness of the pre-roll online video ad, the less favorable the attitude toward the host website.

H4b: Attitude toward host website will be positively related to website revisit intention.

Methodology

We use a controlled experiment, a subset of a $4 \times 2 \times 2 \times 2 + 1$ sampling design, with four different ad lengths (2, 7, 15, and 30 seconds), two different types of advertised brands (familiar – hot pepper sauce; and unfamiliar – laundry stain remover), two advertisement information content manipulations (high/low), two advertisement humor content manipulations (high/low), plus a control group with no pre-roll ad (just the content video). The chosen lengths of online video ad match typical online video ads lengths (IAB 2008). The original video ads were used to generate an independent 2×2 design with high and low information and high and low humor for testing Hypotheses H1c and H1d.

The sample size of 1500 was determined by the initial study parameters, budget constraints, and the desire to have about 50 to 100 respondents per cell. As mentioned, 15 sample cells were chosen for study: all eight manipulations of familiarity, humor, and information for the two 30-second ads; six cells to capture all manipulated lengths (2, 7, 15 seconds) for the two original ads -- the stain remover (high info/low humor) and the hot sauce (low info/high humor); and one control cell (no video ad before video content). Thus, the sample size to 1500 (100 per cell) is sufficient to test the main study variables along with potentially important demographic variables. All participants are at least 18 years of age, are from the U.S., and come from a wide range of backgrounds that reflect today's Internet user demographics (e.g., balanced gender, ages, family composition, incomes, and education). Participants will be randomly assigned to treatment conditions. A professionally-produced web page will be used with a typical-looking news portal site as the background. In order to induce anticipation of seeing the content video, participants will be allowed to choose from three different videos on this web page. Once the viewer chooses the video, a video window (480 x 320 pixels) will start showing the pre-roll ad, before showing the main content video (about 3 minutes). A post-study online survey will be used to collect data. Figure 2 shows a screenshot of the research webpage image with the three video window options.

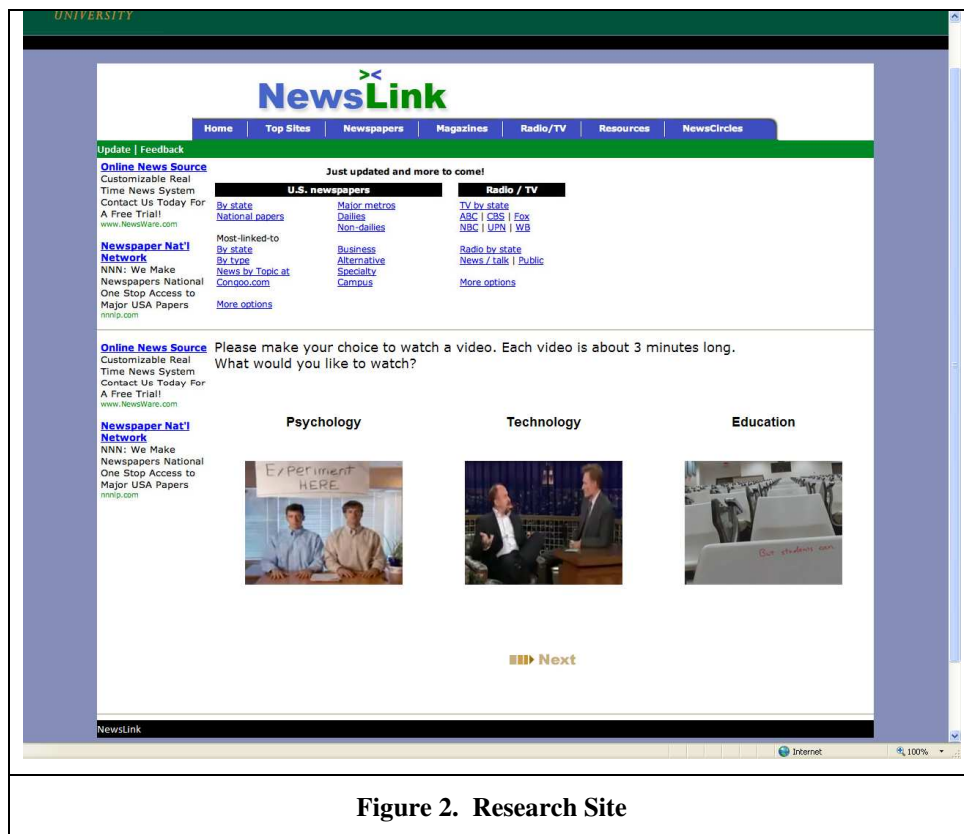


Figure 2. Research Site

Intrusiveness will be measured by adapting a recent measure in (Li et al. 2002). The seven-item, seven-point Likert scale for intrusiveness includes the following items: “When the ad was shown, I thought it

was...Distracting, Disturbing, Forced, Interfering, Intrusive, Invasive, Obtrusive.” The 10-item Personal Involvement Inventory (PII) (Zaichkowsky 1994) for advertising will be used to evaluate the perceived informational content of the ad (Hairong et al. 2002): “The ad I saw was... helpful, important, informative, and useful (Informativeness). Ad recall will be measured using a dichotomous variable (Unnava and Burnkrandt 1991), with respondents marking recalled brands from a list of companies. Both attitude toward the advertisement and attitude toward the advertised brand (and host Website) are measured by using three 7-point semantic differential scales: good/bad, pleasant/unpleasant, and favorable/unfavorable (MacKenzie and Lutz 1989). Purchase intention for the advertiser’s product will be measured with a single item (Morrison 1979) on a seven-point Likert scale (one lowest, “very unlikely to purchase” and seven highest, “very likely to purchase”). Behavioral intentions regarding the Website will be measured using three 7-point Likert scale questions: how likely would you visit the site again?, how likely would you recommend the website to others?, and how likely would you say good things to others about the website?, adapted and extended from prior research (Galletta et al. 2004).

Expected Outcome and Contribution

This study is expected to provide benefits to both researchers and practitioners. Researchers will be able to augment their understanding of static internet advertising, by becoming aware of particular issues introduced with video ads that act provide “pre-roll” delay. Researchers will know some of the effects of delays that are not empty, but rather, that are filled with video content. The strength of a large set of antecedents of intrusion will also be investigated, and the amount of variance in attitudes toward the brand and toward the host site will be derived. Practitioners will be able to make better decisions about web design, and in particular, they will understand more fully the impacts of pre-roll ads. Host site administrators will find the amount of explained variance to be quite meaningful in understanding the impacts of their design decisions. Such effects are largely unexplored to date. Advertisers will be able to determine if the findings in television ads truly generalize to the on-line environment, or if they involve an entirely different set of metrics for making the variety of decisions about ad type, relevance, and length. Both groups will understand better the central role of intrusiveness in kicking off a causal chain that could ultimately result in abandonment of the ad and even the site.

Future research will take us further along the road to a better understanding of, and better deployment of advertisements. While not all ads can be equally entertaining and/or involving, better understanding their various characteristics can lead to higher impact with lower intrusiveness, which will in turn improve attitudes and intentions.

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