Does It Really Matter That People Zip through Ads? Testing the Effectiveness of Simultaneous Presentation Advertising in an IDTV Environment

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Abstract

In an IDTV environment, which facilitates self-scheduling, skipping advertisements by zipping is an emerging ad-avoidance behavior. This study explores whether an alternative ad format, called simultaneous presentation advertising (SPA), may overcome the limitations of classical sequential advertising (CSA) in controlling zipping behavior and increasing the effectiveness of ads. The experiment revealed that SPA is more effective than CSA in reducing zipping and increasing recall, but SPA was more intrusive and produced a negative product image. There was no difference regarding cognitive avoidance. This work discusses the implications of these findings in the interactive media environment.

Introduction

INTERACTIVE DIGITAL TELEVISION (IDTV) is leading a revolution in the television industry. Using IDTV devices, a user can play back the video content of live television whenever or however he or she pleases with the ability to pause, replay, and skip the content.¹ Along with other new media technologies, IDTV has changed not only people's TV viewing habits but also the advertising environment, affecting audiences' cognitive, attitudinal, and behavioral reactions to advertisements.

As a result, alternative forms of advertising have begun to be introduced. One example is the simultaneous presentation of programming and advertising (SPA). SPA is a popular alternative format to prevent audiences from avoiding advertisements.² It is prevalent on the Internet with banner and pop-up advertising.^{3,4} Currently, SPA also appears on television networks. For example, some news channels simultaneously display multiple types of information content such as text, graphics, and pictures. Due to the simultaneous display of ads and television programs, the audience is unavoidably exposed to the ads while they watch their preferred program. While the unavoidability may reduce ad avoidance and thus increase ad recall, the effectiveness of SPA is unclear because the unavoidability may play an adverse role by increasing audiences' distraction or creating a sense of intrusiveness. Given the contradictory nature of SPA, the current study explores its effectiveness in the IDTV environment.

Hypothesizing the Effects of SPA on Ad Avoidance and Perceived Intrusiveness

Advertisement avoidance such as zipping, zapping, flipping, flicking, and grazing^{5–7} can be divided into cognitive, behavioral, and mechanical ad avoidance.⁸ Cognitive avoidance occurs through tuning out ads and shifting focus. Behavioral avoidance is shown by leaving the room or participating in another activity. Mechanical avoidance focuses on the use of mechanic devices such as using a remote control to change the channel. Whatever the means by which people choose to avoid ads, it limits the ability of commercial messages to reach their intended audiences.

One new method of ad avoidance is to fast-forward an ad, so-called zipping. The interactive media environment enables audiences to zip ads more easily. Zipping reduces advertising effectiveness by only partially conveying the ad's message.⁵ Audiences who zip ads tend to regard advertisements as intrusions on media use, regardless of the quality of the ads. In other words, audiences avoid ads simply because they are advertisements.⁹ Zipping may be considered both behavioral and mechanical avoidance because it requires the slightly complicated technical operations of pushing and holding the buttons on the devices.

In comparison with the classical sequential form of advertisement (CSA), the study first questions whether SPA leads to a different degree of ad avoidance. Specifically, researchers assume that audiences will do less zipping when

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they are exposed to advertisements with the SPA format than with the classical format because the zipping of SPA ads will disturb the flow of program viewing. In addition, the degree of cognitive avoidance may be lower with the SPA format, because this format could make it difficult for audiences to only pay attention to the program.

H1: Audiences exposed to the SPA format will do less zipping than those exposed to the CSA format.

H2: Audiences exposed to the SPA format will have lower cognitive avoidance than those exposed to the CSA format.

As a result of less zipping and lower cognitive avoidance, it is hypothesized that product recall will be higher under SPA conditions than under CSA because more people may watch the advertisement without skipping and more people may pay attention to it, regardless of their intention to do so.

H3: The frequency of ad recall will be significantly higher when audiences are exposed to the SPA format compared to the CSA format.

On the other hand, SPA may be perceived as interrupting the goal of the viewer, and therefore could be considered intrusive. Intrusiveness is a perception or psychological assessment about the degree to which advertisements in a media vehicle interrupt the flow of an editorial unit.9,10 Intrusiveness creates negative emotional reactions to ads and drives consumers to avoid advertisements. Therefore, intrusiveness is positively correlated with cognitive, behavioral, or mechanical ad avoidance under the CSA format.9 When it comes to SPA, however, perceived intrusiveness is not always congruent with avoidance due to the format's inherent unavoidability. Even though audiences do not avoid the ads, the unwilling exposure may actually increase a sense of intrusiveness. Therefore, even if audiences may be more likely to recall the advertisement, the recall may be accompanied by a feeling of intrusiveness and negative product image.

RQ1: Does the advertising format affect intrusiveness and attitudes toward brands?

H4: Audiences in the SPA environment will feel more intruded upon than those under CSA conditions.

H5: Audiences exposed to SPA with higher intrusiveness will evaluate the advertised brand more negatively than those with CSA.

Finally, assuming that zipping should be less frequent and product recall higher under the SPA format, researchers are curious which factor, either the format or the zipping, actually plays a role in increasing the recall rate.

RQ2: Does the advertising format and audiences' zipping behavior predict the product recall? If yes, which of the two plays a more significant role in increasing recall?

Methods

Participants

U.S. university were recruited for the study. It is important to bear in mind that the use of a homogeneous student sample might yield different results from that found in the general population. College students are considered an important population for predicting issues regarding behaviors or using patterns for new technology because they act as innovators and opinion leaders in the diffusion of new technology. In this case, 117 of the 128 participants (91.4%) claimed to be experienced in using current IDTV features such as DVR (digital video recorder), VOD (video on demand), and video streaming services on the Internet prior to the study.

Procedure

The study is based on an experiment. Participants were randomly assigned to one of the experimental conditions. Participants were told they would be viewing a digitally recorded version of a sitcom. Because the sitcom with ads was recorded as it was aired, a total of six ads (e.g., two clothing brands, a drugstore, a food, a cosmetic brand, and an automobile) were placed into the program. One of them, an ad from a well-known automobile brand, was redesigned to suit each condition, while the other five ads were controlled. Since the automobile ad attempted to not only deliver its positive images but also give information related to the product, including sales promotions, we assumed that variables of interest such as brand recall, message recall, and brand image could be properly measured. The program (including the six ads) was 15 minutes long. Participants were asked to assume that they were watching the television program as recorded by a DVR or VOD. Therefore, they could fast-forward or skip (using the mouse or remote control) at any time while viewing the program if they wanted. After viewing the program and the advertisements, participants filled out a questionnaire regarding whether they recalled the brand name and messages of the target ad, the ads' perceived intrusiveness, and their evaluation of the product displayed by the ad.

Stimuli: Advertising formats (CSA and SPA) by content richness

Among the six commercials, an automobile commercial was formatted differently across conditions, while the others remained exactly same. In addition, to consider the possible moderation effect of content richness (high/low), we tested two subtypes in each format, resulting in four different conditions. Stated in detail, under CSA, one subformat included traditional sequential information (Group 1), and in the other, a pop-up of the brand logo was added in the upper right corner of the screen (Group 2). Both CSA ad types were placed in the middle of the sitcom for 30 seconds. Under SPA, one format displayed only textual information, which was horizontally scrolled at the bottom of the screen (Group 3), and the other included a popup of the brand logo with text in the upper right corner of the screen (Group 4). Both SPA types of ads were exposed at the same frames of the sitcom for 30 seconds. While textual messages were unreadable during zipping, the brand logo could be seen and appeared to be a still image. The ad messages were the same across the four conditions regarding price and finance options. For the manipulation check, the formats were assessed by a group of advertising experts to ensure that they were appropriate, and necessary adjustments were made before the experiment commenced.

A total of 128 college students (female = 63; age, M = 20.5, SD = 2.65) from a communication course at a large eastern

Variables and measures

To answer the research questions, the intrusiveness was measured using seven items, such as distracting, disturbing, forced, interfering, intrusive, invasive, and obtrusive, derived from Li et al.'s study,⁹ with a 7-point Likert scale ($\alpha = 0.962$). Cognitive ad avoidance was measured by a single 7-point item measuring the participants' attention to the ad. Behavioral ad avoidance was measured by asking whether participants zipped to skip the automobile commercial. For the measure of recall, two kinds, brand and message recall, were tested separately. The attitude toward a brand was evaluated using four items such as favorable, like, high quality, and appealing,^{11–13} with a 7-point Likert scale ($\alpha = 0.934$).

In addition to the above variables, program involvement and previous attitudes toward television commercials in general were measured. Program involvement was measured by three items: program involvedness, likeness, and attention ($\alpha = 0.912$). Previous attitudes were measured using seven items on a 7-point scale: distracting, disturbing, forced, interfering, intrusive, invasive, and obtrusive ($\alpha = 0.847$). Additionally, participants were asked whether they had seen the sitcom before (yes/no).

Research design

The comparison between the two ad formats, CSA and SPA, are of interest in this study. We employed a 2×2 between-participants factorial design to measure the impact of ad formats and the content richness of ads on both ad intrusiveness and attitudes toward a brand image.

Results

Before testing the hypotheses and research questions, the Pearson correlations among the four different variablesperceived intrusiveness, cognitive ad avoidance, zipping, and attitude toward brand-were calculated to show the relationship among variables. Results revealed a significant positive correlation between perceived intrusiveness and cognitive ad avoidance (r = 0.36, p = 0.00) and a significant negative correlation between perceived intrusiveness and zipping (r = -0.23, p = 0.03) and between perceived intrusiveness and attitude toward the brand (r = -0.46, p = 0.00). Results also indicated that cognitive ad avoidance was correlated with zipping in a positive way (r = 0.36, p = 0.00) and correlated with attitude toward a brand in a negative way (r = -0.34, p = 0.00). No significant correlation was found between intended behavioral avoidance and perceived product image (r = -0.05, p = 0.67). In addition, results from an independent t test showed no difference between CSA and SPA groups in terms of program involvement, t(125) = -01.76, p > 0.05, and previous attitudes toward television commercials in general, t(126) = -0.30, p > 0.05, which confirmed that the samples were randomly selected.

Consistent with H1, the results of the cross-tabulation revealed a significant difference in terms of the zipping frequency across different formats, $\chi^2(3, N = 126) = 14.67$, p < 0.01. While there was no statistically significant difference between subtypes within both CSA and SPA, $\chi^2(1, N = 62) = 0.00$, p > 0.05; $\chi^2(1, N = 64) = 1.75$, p > 0.05, CSA and SPA were different when the test combined the subgroups, $\chi^2(1, N = 126) = 13.45$, p < 0.01. Contrary to the prediction of H2, the independent *t* test showed that cognitive avoidances were not significantly

different between audiences exposed to the SPA format group (M = 3.41, SD = 1.98) and the CSA group (M = 2.84, SD = 1.97), t(87) = -1.35, p > 0.05. To compare the four groups, a one-way ANOVA also indicated that there was no significant difference, F(3, 88) = 1.28, p > 0.05.

H3 was supported by a chi-square test. For brand recall, the results showed that the audiences exposed to SPA had a higher recall rate than those exposed to CSA, $\chi^2(1, N = 128) = 4.60$, p < 0.05. Message recall also showed the difference, $\chi^2(1, N = 127) = 6.74$, p < 0.01. However, there was no significant difference for either brand or for message recall between subtypes within each ad format.

For RQ1, impact of ad formats, content richness of ads on ad intrusiveness, and attitude toward the brand image were measured by means of an independent t test and a 2×2 between-participants factorial design. H4, which predicts high intrusiveness under SPA, was also supported. The independent t test showed that audiences exposed to SPA (M = 4.48, SD = 1.74) felt more intrusiveness than audiences exposed to CSA (M = 2.80, SD = 1.27), t(87) = -5.06, p < 0.01. The t test for brand image was also consistent with H5, showing a more negative evaluation among SPA groups (M = 3.09, SD = 1.44) than CSA groups (M = 3.89, SD = 1.11), t(92) = 2.92, p < 0.01. In addition, two-way ANOVA analyses were conducted to examine whether ad formats as well as content richness influenced intrusiveness and brand image. The results indicated that only ad format, whether it was SPA or CSA, affected ad intrusiveness, F(1, 85) = 25.36, p < 0.01, but neither content richness nor their interaction was significant. Another two way-ANOVA test also confirmed that the ad format had a significant influence on attitude toward the brand, F(1,90) = 9.14, p < 0.01. However, content richness of the ads and their interaction were not significant. The results for H1 through H5 are summarized in Table 1.

Finally, to examine RQ2, logistic regression analyses were conducted. This study tested logistic regressions in two steps; first, the advertising format was tested, and second, both advertising formats and zipping behaviors with other independent variables such as age, gender, whether or not the program had been previously viewed, program involvement, and attitudes toward TV commercials in general were analyzed to determine whether advertising formats and zipping behaviors affected recall. While the model in the first step was not significant, the second model was significant, $\chi^2(1) = 34.80$, p < 0.01. In this case, for the participants who actually recalled the ad, the model prediction was highly accurate (85.9%). For students who did not recall the ad, the model prediction was less accurate (74.3%).

Logistic regression revealed that zipping was the only factor that was significant and positively associated with a log-odds of recall (b = 2.95, p < 0.001), holding the other predictors in the model constant. The expected odds of recall for nonzipping were 19.1 times greater than the odds of recall for zipping. In this case, the effects of advertising format on recall, which were tested for H3, were removed because zipping behavior was highly affected by the advertising format. Other independent variables were not statistically significant (see Table 2).

Conclusions and Discussion

Along with the prevalence of interactive media, zipping behavior emerges as crucial behavioral ad avoidance. Given

TABLE 1. FREQUENCIES AND MEAN SCORES FOR TESTED VARIABLES

	Zipping		Cognitive avoidance ^a	Brand recall		Message recall		Intrusiveness ^b	Attitude toward brand ^c	
	Yes (%)	No (%)	M (SD)	Yes (%)	No (%)	Yes (%)	No (%)	M (SD)	M (SD)	
CSA	32 (51.6)	30 (48.4)	2.84 (1.97)	40 (62.5)	24 (37.5)	12 (18.7)	52 (81.3)	2.80 (1.74)	3.89 (1.11)	
Group1	16 (51.6)	15 (48.4)	3.05 (1.82)	22 (70.9)	9 (29.1)	5 (16.1)	26 (83.9)	2.96 (1.24)	3.95 (0.88)	
Group2	16 (51.6)	15 (48.4)	2.61 (2.15)	18 (54.5)	15 (45.5)	7 (21.2)	26 (78.8)	2.61 (1.31)	3.82 (1.38)	
SPA	13 (20.3)	51 (79.7)	3.34 (1.98)	51 (79.6)	13 (20.4)	25 (39.6)	38 (60.4)	4.48 (1.27)	3.09 (1.44)	
Group3	10 (25.6)	29 (74.4)	3.70 (2.05)	29 (74.3)	10 (25.7)	15 (39.4)	23 (60.6)	4.44 (1.82)	3.29 (1.44)	
Group4 Total (N)	3 (12.0)	22 (88.0) 126	3.00 (1.83) 89	22 (88.0)	3 (12.0) 128	10 (40.0)	15 (60.0) 127	4.54 (1.64) 89	2.80 (1.42) 94	

Note: Cognitive Avoidance, Intrusiveness, and Attitude toward Brand were tested with only those who recalled the ad.

a(t = -1.35, p > 0.05).

^b(t = -5.06, p < 0.01).

c(t = 2.92, p < 0.01).

the significant role of IDTV and zipping behavior as common behavioral ad avoidance, this study explored the effectiveness of an alternative ad format SPS that may restrain ad avoidance.

Compared to the traditional CSA format, the study found that SPA led to less zipping and greater recall than CSA. The effects of ad formats were the same regardless of content variation, as shown by the lack of difference between the subtypes defined by content richness. These findings indicated that format itself may be more important than the details of advertisement content in determining audiences' ad behaviors and recall. Moreover, the result of logistic regression confirms that zipping matters more than the format itself in predicting viewers' recall. In other words, whatever the advertisement format might be (not necessarily SPA per se), advertising strategies that hinder viewers from zipping may help advertisements win more product recall.

Other findings of the study, however, reflect that it is not easy to simply conclude that SPA is superior to CSA. Our study results showed that the SPA format actually heightened perceived intrusiveness and negative product image. In other words, although SPA may be able to prevent viewers from zipping, it cannot reduce perceived intrusiveness. In an even worse scenario, if viewers just gave up attempting to fast-forward so as not to miss the content they were watching, the involuntary compliance to ad exposure could aggravate the feeling of intrusiveness, resulting in a more negative image of the product. The lack of difference between SPA and CSA formats in terms of cognitive avoidance confirms the previous argument,^{7,9,14} that advertising is already perceived as something intrusive that should be avoided, regardless of its format. When audiences have to watch something they want to avoid, the natural consequence is a negative reaction against the intrusive content. Thus, certain fundamental issues remain: How do advertisers reduce audiences' generalized negative attitudes toward advertising? Will the rising alternative ad formats be able to create a conceptual shift that changes advertisements from something to be avoided to something curious, interesting, and anticipated?

One important limitation of this study was that it did not include pretesting of respondents' preexisting images of the advertised product. Accordingly, the study could not articulate the variance caused by a preexisting perception toward a product in determining the ad effects. If the product was more affordable to college students or a more favorably accepted brand, the results of ad intrusiveness or product image might be different. Another limitation was derived from the experimental devices researchers created: the recorded advertising formats. Although experts considered the devices' qualities to be appropriate, the formats were not as perfect as real advertisements. The artificial appearance could have produced more intrusiveness than would have been the case in reality.

While this study provides insight into the influence of ad formats on ad effects, it does not assess causal relationships

	В	SE	Wald	Sig.	Exp(B)	95.0% C.I.	
Age	-0.13	0.09	1.86	0.17	0.88	0.73	1.06
Gender	0.35	0.58	0.37	0.54	1.42	0.46	4.40
Ad format	0.03	0.58	0.00	0.96	1.03	0.33	3.18
Zipping	2.95	0.58	25.89	0.00	19.14	6.14	59.68
Pre-watched	0.67	0.54	1.54	0.22	1.95	0.68	5.63
Program involvement	0.26	0.19	1.89	0.17	1.30	0.89	1.88
Attitudes toward general TV commercial	0.11	0.22	0.25	0.61	1.12	0.72	1.74
Constant	-0.37	2.57	0.02	0.89	0.70		

TABLE 2. LOGISTIC REGRESSION IN THE SECOND STEP ASSESSING RECALL

among the examined factors. This assessment could be a project for future research.

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