Consumers' Attitudes toward Commercial E-mail Spam and Web pop-ups: Interference, Perceived Loss of Control, and Irritation

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1. Abstract

The appeal of commercial e-mail and pop-up communication is evident today, because e-mail and pop-up are both cost effective and time efficient. There is no doubt that e-mail and pop-up is becoming one of the major direct channels for marketers. As the use of commercial e-mail and pop-ups increases, it is more and more important for direct mail marketers to understand the process through which e-mail and pop-up campaigns influence consumer attitudes and behavior-mail marketing offers great opportunities for businesses. Marketing activities supported by e-mails and pop-ups allow companies to directly communicate with their consumers without time or location barriers. The topic of advertising via e-mails is of major interest. It addresses consumers with individualized advertising messages via e-mails. This paper discusses its relevance and investigates antecedents of consumer attitudes toward advertising via e-mails and pop-ups. The analysis is based on a consumer survey. For this purpose, a quota sample of 800 Internet users in India has been interviewed. By understanding consumers, attitude toward advertising, designers and marketers can better strategize their advertising designs. A better understanding of interactivity can also help to improve the effectiveness of interactive media such as the Internet. A methodology for studying the factors that contribute to consumers’ perceptions of ads is proposed, and implications for Internet-based advertising are discussed.

Keywords: attitude, e-mail spam, privacy, intrusion, advertising medium

2. Introduction

Except for the work by Chittenden and Rettie (2003) and Dufrene et al. (2005), there are very few studies on internet users' attitudes toward commercial e-mails. In fact, little research looks at psychological variables in order to account for users' attitudes toward pop-up (Dufrene et al., 2005). Thus, it seems interesting to gain insight into the antecedents of consumer attitudes toward e-mails. Vriens et al. (1998) were the first to dissect the process of responding to a pop-up offer. According to these authors, the content of the mailing influences the probability of taking notice of the offer made and the attractiveness of the offer increases the probability of responding. Given that little attention has been paid in the literature to internet users' attitudes toward e-mail, we first conducted a qualitative, exploratory study on twelve internet users using a convenience sample. The main results provided insight into the antecedents of attitudes toward e-mail and pop-ups, such as the person's overall opinion of the company's website (interest,
trust, irritation, interference) and personal data privacy. Previous findings suggest that the internet user needs to know the direct marketers to be reassured about the use of personal information.

Several studies have reported that consumers despise advertisements, especially those that pop up or under a site, and sometimes feel “violated” and “molested” by their presence (Wegert, 2002). Ad intrusiveness has been recognized as a leading cause of annoyance (Bauer & Greyser, 1968). Although Rust and Varki (1999) predicted ads in new media to be less intrusive, Li et al. (2002) report that online consumers are goal-oriented and perceive online ads as even more intrusive than those in other media, leading to negative attitudes, and impairing intentions to return to the site.


This study outlines three factors that may predict consumer attitudes toward commercial spam e-mail and pop-ups.

Perceived Advertising Interference. One construct that could influence consumer attitudes is perceived ad interference. Previous studies have indicated that perceived ad interference consists of the following dimensions: interference with one's privacy (Sipior and Ward 1995; Teeter and Loving 2001), cognitive process and/or task performance (Li, Edwards, and Lee 2002), and/or media content (Ha 1996). Based on these dimensions, perceived ad interference can be defined as the degree to which an unwanted marketing communication interferes with an individual’s cognitive process and tasks, as well as the interference with media contents including offensive materials.

From the perspective of consumer privacy, intrusion can be defined as invading an individual's solitude, including intrusion of one's private affairs (Sipior and Ward 1995; Teeter and Loving 2001). Sturges (2002) defines solitude as a space around an individual that is "to be left alone". While these definitions suggest a more legal aspect of consumer privacy, they are applicable to advertising since ads may intrude upon one's personal space (the mailbox, computer hard drives) and pop-ups that emerge while a consumer is surfing the internet.

From the standpoint of web-advertising research, on-line consumers are goal-oriented and perceive ads to be even more intrusive than when they are viewed in other media (Li et al. 2002). These negative attitudes can affect brand perceptions (MacKenzie & Lutz, 1989) and lead to ad avoidance (Abernethy, 1991). A dual-process theory would predict that users prefer to avoid more effort intensive processing caused by additional, peripheral information (Smith & DeCoster, 2000).

H1: Consumers are likely to find commercial e-mail spam more intrusive than pop-up.

Privacy refers to the degree to which personal information is not known by others (Rust et al., 2002). Customer privacy has always been a critical issue in marketing, but has assumed a greater significance in recent years with the rise of Internet-based commercial transactions (Rust et al., 2002). Moreover, advertising via electronic communications media, such as telephone, fax or e-mail is prohibited by law in

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several Western European countries unless the consumer agrees explicitly to receive the message. Privacy issues are therefore very important when using electronic devices in addressing the consumers. This calls for application of permission marketing (Krishnamurthy, 2000; Tezinde et al., 2002; Kent and Brandal, 2003). Before receiving advertising messages via e-mail, consumers need to empower a marketer to send promotional messages in certain interest categories to them. Typically, this is done by asking the consumer to fill out a survey indicating his or her interest when registering for a service. After that, the marketer can match advertising messages with the interests of the consumer (Krishnamurthy, 2001). These processes allow a new kind of about customers (Stewart and Pavlou, 2002).

H2a: Ad interference caused by commercial e-mail spam negatively correlates with attitudes toward the advertising.

H2b: Ad interference caused by pop-up negatively correlates with attitudes toward the advertising technique.

Ads that interfere with users’ primary tasks will be intrusive, especially when interference is disturbing (Li et al., 2002). Users are particularly frustrated by ads that obstruct information, like pop-up ads, because they are an unwanted interruption (Chan et al., 2004) and require more attention and effort. Users feel imposed upon because they have no choice but to act in order to remove the ad (Benitez, 2002).

H3: The level of perceived loss of control by consumers will be greater for commercial e-mail spam than pop-up.

H4: Perceived loss of control mediates the relationship between ad interference caused by spam and ad irritation.

Indignity people feel when being addressed by ads has a very great influence on people's attitude toward advertising (Shavitt et al., 1998). ‘When advertising employs techniques that annoy, offend, insult or are overly manipulative, consumers are likely to perceive it as unwanted and irritating influence’ (Ducoffe, 1996, p. 23). E-mail advertising may provide an array of information that confuses the recipient and can be distracting and overwhelming the consumer with information (Stewart and Pavlou, 2002). Consumers may feel confused about them and react negatively. Another point of possible annoyance is unwanted messages, commonly known as spam. Spam intrudes into consumers’ privacy and stifle consumer acceptance. Therefore, we conclude that irritation caused by an incomprehensive or unwanted e-mail advertising message may reflect negatively on the perceived advertising value of e-mail marketing.

H5: Consumers are likely to experience a higher level of advertising irritation from e-mail spam than pop-up ads.

H6a: The degree of advertising irritation caused by spam is negatively correlated with attitudes toward the advertising.

H6b: The degree of advertising irritation caused by pop-up is negatively correlated with attitudes toward the
advertising.

4. Method

The purpose of this study was to examine the effects of pop-up and commercial e-mail spam on ad irritation perceived by consumers. Three constructs, ad interference, perceived loss of control as suggested by Psychological Reactance, and ad irritation, were measured to assess how these variables may influence one another, as well as the level of ad irritation based on the different types of direct marketing communication channels.

4.1 Participants

Senior secondary, college and university students across India were recruited to voluntarily participate in a survey for this study. After conducting a pilot study (N=83) to check reliabilities of the measures, participants for the main survey (N=238) were randomly assigned to either the pop-up (n=124) or commercial spam survey (n=114). The surveys were different only when the items pertained specifically to their attitudes about the interference and irritations of either pop-up or commercial e-mail spam.

The final sample size contained 35% male and 65% female participants. The mean age of the sample was 22.1 years. With regard to education level, the sample consisted of senior secondary who were (65%), juniors (44%), and seniors (10%). In addition, a majority of the participants have at least one major debit card in their own name (92%), have purchased goods through mail order (43.8%), have purchased goods through the Internet (891.6%), and have an e-mail account other than the institution’s (80.7%). These characteristics are important because they are likely to increase the chances of these participants having some experience with both pop-up and commercial e-mail spam.

5. Measures

Items were modified from previous studies to measure five constructs (including potential covariates for this study): (1) perceived loss of control; (2) ad interference of either pop-up or commercial e-mail spam; and (3) ad irritation of either pop-up or solicited commercial e-mail; as well as (4) attitudes towards the advertising medium (spam or pop-up); and (5) attitudes toward direct marketing as a practice in general (measured as a potential covariate).

*Psychological Reactance (perceived loss of control)*. Modifying items from the scale created by Dowd, Milne, and Wise (1991), Psychological Reactance was measured using a scale from 1 (strongly disagree) to 7 (strongly agree) with items such as "I have a strong desire to maintain my personal freedom," "I resent authority figures who try to tell me what to do," and "I enjoy debates with other people." (a=.83).

5.1 Ad interference. Using the advertising interference scale from Li, Edwards, and Lee (2002), participants were asked if they strongly agreed (1) or strongly disagreed (7) that spam or pop-up was distracting, disturbing, forceful, interfering, intrusive, and obtrusive (a=.97).
5.2 Ad irritation. Using a seven-point semantic differential scale anchored with 12 items such as "appealing/unappealing," "positive/negative," and "pleasant/unpleasant" (Fritz 1979), ad irritation caused by either pop-up or commercial e-mail spam was measured (a=.97). Positive adjectives received a score of 7 and negative adjectives received a score of 1. The average score of these 12 items was used to represent the "ad irritation" variable (1=most irritating; 7=least irritating).

5.3 Attitudes toward the Advertising Medium. Mackenzie and Lutz's (1986) six-item semantic differential scale with items such as "good/bad," "favorable/unfavorable," "pleasant/unpleasant," and "convincing/unconvincing" was used to measure attitudes toward either pop-up or commercial e-mail spam (a=.92). Positive adjectives received a score of 7 and negative adjectives received a score of 1. The average score of these 6 items was used as the "attitudes toward the advertising medium" variable (1=least favorable; 7=most favorable).

5.4 Direct marketing attitudes. A total of eleven items (Table 1) were used to measure general attitudes towards direct marketing practices. Six items from Akhter and Durvasula (1991) such as "Direct marketers sell high quality merchandise" and "Direct marketers are trustworthy" and five items derived from the focus groups conducted by Chang and Morimoto (2003) such as "Direct marketers provide useful products/services" and "Direct marketers do not offer product/services targeted toward me" were used (a=.82).

6. Results

Prior to testing the hypotheses, several t-tests were conducted to assure that there would be no difference between the two groups other than the effects from the research induction (pop-up and commercial e-mail spam). The first independent sample t-test examined differences between commercial e-mail spam and pop-up in terms of attitudes toward general direct marketing practices. The results indicated that there was no statistical significance in terms of attitudes toward general direct marketing practices between pop-up (mean=3.45) and spam (mean=3.49).

Because of the skewed sample between male and female participants in this study, four independent sample t-tests were conducted for the variables: ad irritation, ad interference, perceived loss of control (Psychological Reactance), and attitudes toward direct marketing in general to see if there was any gender effect. Focus group research by Chang and Morimoto (2003) found that women may be more susceptible to direct marketing communications that have to do with shopping than men. However, the results indicated that there was no statistical significance in the mean differences of all of the measures in terms of gender (Table 2).

To test the potential confounding effect of direct marketing attitudes on the dependent measures, bivariate correlations were conducted. The results showed that direct marketing attitudes correlated with ad interference (r=.27, p<.01) and ad irritation (r=.310, p<.01) but no correlation was found between direct marketing attitudes and perceived loss of control. Thus, direct marketing attitude was treated as a covariate when testing H1 and H5.
7. Testing the Hypotheses

**H1:** Consumers are likely to find commercial e-mail spam more intrusive than pop-up.

An analysis of covariance (ANCOVA) was performed (Table 3), controlling for attitudes toward direct marketing. The results indicated that commercial e-mail spam was perceived as more intrusive (mean=1.93) than pop-up (mean=4.24; F=116.40, df=2, 97, p<.01). H1 was consistent with the data.

**H2a:** Ad interference caused by spam negatively correlates with attitudes toward the advertising.

**H2b:** Ad interference caused by pop-up negatively correlates with attitudes toward the advertising.

A bivariate correlation was conducted only on data from the group that answered questions on commercial e-mail spam (n=90). The results indicated as the degree of ad interference increased (1=most intrusive; 7=least intrusive; in this case, the mean score becomes smaller), participants tended to find the advertising medium less favorable (r=.32, p<.05). Another correlation performed on data from the group that answered questions on pop-up (n=82), indicated that when the participants found pop-up less intrusive (1=most intrusive, 7=least intrusive; in this case, the mean score becomes larger), they found the advertising medium more favorable (r=.42, p<.01). Therefore, the data supported the second hypothesis: as the degree of ad interference increases, the favorability of the advertising medium (spam/pop-up) decreases.

**H3:** The level of perceived loss of control by consumers will be greater for spam than pop-up.

A one-way ANOVA was administrated with the advertising type (pop-up or spam) as an independent variable, perceived loss of control as a dependent variable (1=loss of control, more reactance; 7=less reactance), and attitudes toward direct marketing as a covariate. The results (Table 3) showed that there was no statistically significant difference (F=1.13, df=1, 104, p>.01) between the pop-up group (mean=4.50) and the commercial e-mail spam group (mean=4.31) in terms of perceived loss of control.

Furthermore, when conducting a correlation analysis, the correlation between advertising interference and perceived loss of control was not significant for commercial e-mail spam (r=-.155, p=.309) or direct mail (r=-.012, p>.01). Therefore, the data did not support H3.

**H4:** Perceived loss of control mediates the relationship between ad interference caused by spam and ad irritation.

To test the mediation effect of perceived loss of control, the method originally proposed by Baron and Kenny (1986) was used. According to the researchers, the following three conditions must exist if a variable serves as a mediator: 1) the independent variable affects the mediating variable; 2) the independent variable also affects the dependent variable; and 3) the mediating variable affects the dependent variable. Additionally, when adding the mediator to the relationship between the independent and dependent variables, the effect of the independent variable should be reduced (Baron and Kenny 1986). Three sets of regression analyses were
conducted to test this hypothesis. The result of the first regression with ad interference as an independent variable and ad irritation as a dependent variable suggest that ad interference had a significant effect on ad irritation (Y=1.41+.55X+e, R²=.17, p<.01).

However, the second regression with ad interference as an independent variable and perceived loss of control as a dependent variable indicated that ad interference did not have a significant effect on perceived loss of control (Y=4.59-.16X+e, R²=.02, p>.05). In addition, a multiple regression was performed with both ad interference and perceived loss of control as independent variables and ad irritation as a dependent variable (Table 4). The results suggest that while ad interference (X1) remains as a significant predictor of ad irritation, perceived loss of control (X2) does not have an effect on ad irritation (Y=.272+.63X¹+.23X²+e, R²=.23, p<.01 [ad interference ], p>.05 [perceived loss of control]). Since perceived loss of control did not have an effect on the dependent variable, ad irritation, the data do not support H4. Thus, perceived loss of control did not mediate the relationship between ad interference and ad irritation.

H5: Consumers are likely to experience a higher level of advertising irritation from spam than pop-up communications.

The results of an ANCOVA with ad irritation as a dependent variable and attitudes toward direct marketing as a covariate (Table 3) suggest that consumers find commercial e-mail spam more irritating (mean=2.46, on a scale from 1=irritating and 7=least irritating) than pop-up (mean=3.87, F=46.31, df=2, 93, p<0.01). Therefore, H5 was supported by the data.

H6a: The degree of advertising irritation caused by spam is negatively correlated with attitudes toward the advertising technique.

H6b: The degree of advertising irritation caused by pop-up is negatively correlated with attitudes toward the advertising technique.

A bivariate correlation between ad irritation (1=most irritating, 7=least irritating) and attitudes toward the advertising medium (commercial e-mail spam; 1=least favorable, 7=most favorable) was conducted with the data from participants answering questions on spam (n=98). The results indicate that the more participants felt that spam was irritating, the less favorable their attitudes toward spam became (r=.84, p<.01). The result of another correlation using respondents who answered questions on pop-up suggest a similar outcome (r=.89, p<.01). Therefore, the data support H6.

8. Discussion

As a result of the continued use and increasing popularity of online advertising methods among marketers, this study sought to understand consumer perceptions of online advertising methods such as pop-ups in comparison to commercial e-mails spam. Based on focus groups conducted by Chang and Morimoto (2003), several possible factors were identified as reasons for the perceived differences between the two types of direct marketing communication channels. Three of those factors were explored in this study: the interference
of a direct marketing effort, a perceived loss of control in consumers over their e-mail accounts as predicted by Psychological Reactance, and levels of irritability caused by advertisements.

The statistical analyses indicted that there was a significant difference in how intrusive consumers perceived pop-up and commercial e-mail spam (spam). Specifically, participants felt that spam was much more intrusive than pop-up. It was expected that participants would feel spam was more intrusive than pop-up because of the nature of spam, such as inappropriate content and an excessive amount of spam that consumers receive in their mailbox every day. Furthermore, while many e-mail marketing efforts are cost efficient, many of them are untargeted and thus useless to recipients. On the other hand, pop-up requires a financial investment upfront, such as the designing of the communication, printing, and mailing costs, which indicates that investing in the contact information for potential audiences could make the message more effective and efficient.

It was hypothesized that feelings regarding the interference of direct marketing could be related to the loss of control that consumers feel. According to Psychological Reactance, audiences are likely to reject communication efforts because they perceive a loss of control over the type of material they are receiving through the Internet.

Surprisingly, there was no significant relationship between pop-up methods and Psychological Reactance. It is possible that the results indicated no correlation between direct marketing interference and loss of control because the participants tested are part of an audience that is continuing to grow accustomed and tolerant of online communications. Thus, while spam may be considered intrusive, it is not perceived as a loss of control on the audience's part because it has become an inherent characteristic of the technology that this study's sample population has grown accustomed to. Particularly because the respondents were all students, the use of commercial e-mail accounts (Gmail, Yahoo, Hotmail, etc.) and/or their institution assigned e-mail account is a necessity for them to communicate with professors, friends, and family. Thus, it is expected that they will receive spam each time they log into an account, and therefore not perceived as a loss of control. These rationales and hypotheses should be further explored in future studies.

This research study sought to predict how irritating pop-up was in comparison to commercial e-mail spam. The results indicated that the participants perceived spam to be more annoying than pop-up. If users of electronic mail are logging onto their account, they are not checking to see the interesting spam that they have received. Rather, users are logging on because they have a specific purpose or task that they are attempting to achieve. The addition of spam forces the users to filter unwanted messages so that they may utilize their e-mail accounts. Regardless if they are hoping to have received a response from a friend, send an e-mail to their parent, receive confirmation that their online purchase has been shipped, or exam scores from a professor, there is a direct and personal purpose to the action of logging onto their account. Thus, if this purpose is interrupted and takes away from the time that they will have to do what is necessary, then it is inconvenient and considered irritating.

9. Conclusion
It appears that among direct marketing practitioners, the use of commercial e-mail spam will continue to be a preferred communication tool due to its cost effectiveness and hyperactivity (Hoffman, Novak, and Chatterjee 1995; Mehta and Sivadas 1995; Verity et al. 1994). However, upon examination of the trends and spending levels between advertising techniques, it also seems that traditional pop-up continues to remain popular among marketers. Like traditional advertising and promotion campaigns in which marketers typically employ multiple communication strategies to reach the target audience (Rotzoll, Hall, and Haefner 1996), direct marketers also tend to use several communication channels to maximize the reach to the target audience.

For successful direct marketing campaigns, advertisers are encouraged to understand consumer perceptions of various communication channels including pop-up and spam, and the psychological effects triggered by these communication channels. Thus, it is important to investigate the potential causes of consumer irritation toward ads, as well as some factors that positively affect consumer perceptions of ads since they are likely to influence consumers' purchase intention in the end (Batra and Ray 1986; MacKenzie, Lutz, and Belch 1996).

In this regard, this study has demonstrated that the perceptions between pop-up and unsolicited commercial e-mails are very different. Specifically, pop-up is considered intrusive and irritating to recipients. As a general guideline then, it is recommended that all direct marketing communications at least serve some purpose for the recipient.

10. Limitations and Future Research

The use of only students could be a concern because they are a unique population that does not allow for this study to be generalized to other populations. Secondly this study was conducted in India so it may not be globally generalized. Their uses, experiences, and comfort level on the Internet might have presented some responses that might not be true to other recipients of spam and pop-up. However, because these participants represent consumers who are accustomed to both traditional forms of direct marketing and new technologies, the results obtained from this population is valid for how direct marketing should move in the future, since these participants represent the next generation of consumers.

Another variable that could have influenced levels of irritation regarding spam could be the inconvenience that e-mail users experience when they are accessing their accounts with the intention of receiving messages from familiar sources. Thus, the inconvenience that consumers experience may also contribute to the levels of irritation toward commercial e-mail spam.

As a contribution to Psychological Reactance theory, future studies should attempt to identify causes of the audience feeling of advertising interference, reactance, and advertising irritation. For example, untargeted communications delivered to recipients could cause consumers to feel higher levels of irritation. In turn, if consumers feel that they are irritated by these marketing communications, this may cause consumers to feel that they do not have control over their own e-mail accounts. Higher levels of irritation directed toward the advertisement could lead to an increased perception of their loss of control regarding their own e-mail.
accounts.

References:


Benitez, Tina (2002) Pop-ups fizzle in a flash, Incentive, 176, 11, 14

Benitez, Tina (2002) Pop-ups fizzle in a flash, Incentive, 176, 11, 14


Benitez, Tina (2002) Pop-ups fizzle in a flash, Incentive, 176, 11, 14


Sturges, Paul (2002), "Remember the Human: The First Rule of Netiquette, Librarians and the


### Table 1

<table>
<thead>
<tr>
<th>Items used to measure attitude towards direct marketing methods in general (alpha=.82) (1=strongly Disagree and 7=strongly Agree)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct marketers sell quality merchandise (^a)</td>
</tr>
<tr>
<td>Direct marketers tend to confuse customers. (^a)</td>
</tr>
<tr>
<td>Direct marketers provide service satisfaction. (^a)</td>
</tr>
<tr>
<td>Direct marketers charge more money for delivery. (^a)</td>
</tr>
<tr>
<td>Direct marketers provide better mix of products. (^a)</td>
</tr>
<tr>
<td>Direct marketers are trustworthy. (^a)</td>
</tr>
<tr>
<td>It is safe to order products from direct marketers. (^b)</td>
</tr>
<tr>
<td>Direct marketers provide full information. (^b)</td>
</tr>
<tr>
<td>Direct marketers products are relevant to my needs. (^b)</td>
</tr>
<tr>
<td>Direct marketers provide beneficial products. (^b)</td>
</tr>
<tr>
<td>Direct marketers do not offer products services targeted at me. (^b)</td>
</tr>
</tbody>
</table>

Items from Akhter and Durvasula

Items based on Chang and Morimoto
## Table 2 Independent Sample T-test Results on Gender Difference

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<thead>
<tr>
<th>Dependent variables</th>
<th>t</th>
<th>df</th>
<th>Sig. (2t)</th>
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<td>-0.385</td>
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<td>Psychological reactance</td>
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<td>Attitude towards direct marketing</td>
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<td>0.511</td>
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Independent variable = Gender

## Table 3 ANCOVA/ANOVA Results (H1, H3 & H5)

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<thead>
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<th>Dependent measures</th>
<th>F</th>
<th>df</th>
<th>Mean square</th>
<th>significance</th>
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<tr>
<td>Ad interference ATDM (covariate)</td>
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<td>2.97</td>
<td>131.99</td>
<td>.001*</td>
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<tr>
<td></td>
<td>15.00</td>
<td></td>
<td>17.00</td>
<td>.001*</td>
</tr>
<tr>
<td>Perceived loss of control</td>
<td>1.14</td>
<td>1.105</td>
<td>.88</td>
<td>.29</td>
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<tr>
<td>Ad irritation ATDM (covariate)</td>
<td>46.32</td>
<td>2.94</td>
<td>44.80</td>
<td>.001*</td>
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<tr>
<td></td>
<td>11.62</td>
<td></td>
<td>11.24</td>
<td>.001*</td>
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</tbody>
</table>

Independent variable= advertising type (commercial e-mail or pop-up. Sig at p<.01

## Table 4 Tests of Perceived Loss of Control as a Mediator

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Dependent variable</th>
<th>β</th>
<th>R²</th>
<th>t</th>
<th>significance</th>
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<tbody>
<tr>
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<td>.560</td>
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<td>3.061</td>
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<td>.020</td>
<td>-1.031</td>
<td>.310</td>
</tr>
<tr>
<td>Ad irritation And perceived loss of control</td>
<td>Ad irritation</td>
<td>.640</td>
<td>.230</td>
<td>3.260</td>
<td>.002*</td>
</tr>
</tbody>
</table>

Independent variable= advertising type (commercial e-mail or pop-up. Sig at p<.01
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