



# Observing Online Responses to Internet Advertising after Exposure to Magazine Advertising

Linda Jo Calloway and Helen H. Li  
School of Computer Science and Information Systems  
Pace University  
1 Pace Plaza  
New York, NY 10038  
Phone: (212) 346-1207 Fax: (212) 346-1863  
[lcalloway@pace.edu](mailto:lcalloway@pace.edu), [helenli66@earthlink.net](mailto:helenli66@earthlink.net)

## ABSTRACT

*Advertising is an important tool to alert consumers about products and services. Before the Internet era, firms used traditional media such as television, print, radio, and/or billboard to get their messages to their audiences. Since 1994, firms have begun to advertise their products and services on the Internet. Internet advertising can reach a wide variety of audiences, while traditional advertising is targeted to specific consumer segments. It is valuable to firms if they know which types of advertising are the most effective, and whether there are synergies among different media.*

*This paper reports the results of a pilot study field experiment that interviewed and observed fourteen respondents surfing the web. Half were exposed to print magazine advertising and all were asked to browse the Internet for 15 minutes. The study explores the online behavior and advertisement recall of users exposed to print advertising and Internet advertising, and to assess the study design. The results show evidence that traditional advertising (print) does not contribute to the effectiveness of Internet advertising, that the recall of print ads is higher than the recall for Internet advertising, and that many of the participants do not pay much attention to the ads as they surf on the Internet. These results are indicative only, since this is a pilot study that has limitations.*

## INTRODUCTION

Internet technologies are evolving rapidly. Currently, almost all firms have their own websites that promote and provide products, information, and services to a wide variety of consumers. Some important aspects that drive firms to advertise on the Internet are the media richness and interactivity. The Internet can reach anyone anywhere in the world. However, firms usually must wait for Internet users to pull the information. Traditional advertising cannot reach the same audience base as Internet advertising can, but information on the products and services is pushed to the consumer.

The purpose of this study is to investigate whether a correlation exists between Internet advertising and traditional magazine advertising. Is Internet advertising effective because the consumers have seen the same ad in traditional advertising formats such as print, television, and/or billboards? Are consumers clicking on Internet advertising formats such as banner ads, pop-up ads, hyperlinks, and websites because these advertisements have triggered their memory of the ads shown on other media? To investigate these questions, participants in this study were separated into two groups. One of the groups first read a *Newsweek* (April 8, 2002 issue) magazine before surfing the Internet, while the other group did not. Then both groups of participants were asked to browse the Internet. While they were on the Internet, we observed their attitudes toward Internet advertisements. At the end of the study, each participant was asked to complete a questionnaire that we designed. We

hoped to gain understanding about the types of responses to expect from a more extensive field experiment, whether they are reasonable in light of literature and to evaluate the questionnaire. There were limitations in this pilot study. The sample size was small (14 participants), and the online experience was not completely controlled. The participants, therefore, did not come across the same number and formats of advertisements. Furthermore, the same companies that appeared in the print advertisements did not appear online necessarily. The study is not a true experiment then, but a field experiment instead.

Regardless of the limitations in the pilot study, the study design and the results are interesting windows into the effectiveness of these two venues. The study results and discussion are of interest to those researchers who may wish to administer a similar field experiment, and also to those advertisers who manage the media mix.

## LITERATURE REVIEW

The Internet enables us to read newspapers without going to the store, shop for products without going to the mall, and perform banking transactions without going to the bank. The Internet not only increases the efficiencies of individuals, but also helps companies to promote their products and services to a wider variety of potential customers.

According to Briggs (1999), Internet advertising consists of three broad kinds of advertising. There are placed advertisements (banners, Rich Media ads, interstitials, pop-ups, and animated cursors), sponsored elements within sites, and company marketing sites. A main distinction between traditional advertising and Internet advertising is that consumers are the ones who have control of their experiences when they encounter Internet advertisements (Pavlou & Stewart, 2000). Consumers are passively exposed to the message when they encounter television or magazine advertisements (Bezjian-Avery et al., 1998).

According to the Internet Advertising Bureau (1999), 55% of all online advertisements were banners, 37% were sponsorships, and 8% were hyperlinks, interstitials, and pop-ups. According to Rodgers and Thorson (2000), interstitial advertisements are like pop-up advertisements, but they are usually full-screen ads that run in their entirety between two content pages. They do not interrupt the user's interactive experience since they run while the user waits for a page to download. However, the user does not have the option to stop the interstitials while they are running. Pop-up advertisements appear in a separate window on top of content that is already on the user's screen. The users have the option to close the window at any time. Sponsorship advertisements appear as part of the content of the advertisers' web pages. The Internet users can connect to the sponsors' websites directly if they are interested. According to the Rodgers and Thorson case study, the structural features found in each medium became more complex as the

channels moved from print to broadcast to the Internet. "It could be argued that broadcast subsumes aspects of print, whereas the Internet subsumes aspects of broadcast and print" (Rodgers & Thorson, 2000).

The two types of advertisement features are objective (which is advertiser-controlled) and subjective (which is consumer-controlled). The Internet objective ad features include color, size, typeface, product class, appeal type, animation, audio, number of scenes, sound level, sound clarity, movement, interactivity, telepresence, vividness, realism, and number of choices. The Internet subjective ad features include adjective checklists, exciting, interesting, boring, engrossing, creates empathy, flow, "friendly" navigation, current information, attitude toward the ad, and attitude toward the website. Internet users have objectives, motives, and goals when they go onto the Internet (Rodgers & Thorson, 2000). Internet advertising effectiveness can depend on what the Internet users are doing when they are online.

Another study mentioned that the effectiveness of Internet advertising depends on whether the consumer prefers receiving the advertising information in a visual or verbal format and whether the advertising content is inherently visual or verbal in impression (Bezjian-Avery et al., 1998). The results from this study showed that Internet advertising is not always superior to traditional advertising. It depends on the type of user.

Another factor that contributes to the effectiveness of Internet advertising is the Internet users' perceptions of the design of the websites. Eighmey (1997) conducted a study that concluded that when consumers are assisted by information placed in an enjoyable context, they are more attracted to these types of websites, since they have clear and attractive structures that convey the missions of the companies.

A Briggs and Hollis (1997) study on Internet advertising mentioned there are five factors that could drive Internet users to "click-through" Internet advertisements. These five factors are separated into two categories – audience-related and advertising-related. Audience-related factors include innate tendency to click on advertisements, immediate relevance of the product to the audience, and pre-existing appeal of the brand or company. Advertising-related factors are immediate relevance of the message to the audience, and involvement or intrigue created by the ad (Briggs & Hollis, 1997).

## SUMMARY OF RESEARCH ISSUES AND RESEARCH QUESTIONS

A consumer's response to an Internet advertisement depends on several different factors. Some of these factors include the Internet user's motives, objectives, and goals when going onto the Internet, the user's preference on receiving information through verbal or visual formats, the user's personal tendencies to click on ads, and the design of the websites. The following general questions informed the study design:

1. Does exposure to advertising in magazines contribute to the recall of Internet advertising?
2. As the number of traditional print advertisements recalled increases, does the positive response to Internet ads increase? (Do people click on the ads more often or recall the company, product or service?)
3. If the traditional advertisements Internet users see are perceived as attractive, does the response to Internet ads increase?
4. As the number of Internet advertisements Internet users see increases, does the positive response increase?

## DESCRIPTION OF PILOT STUDY

### General Methodology

The participants were separated into two groups – Group A and Group B. Group A was first presented with a *Newsweek* (April 8, 2002 issue) magazine. Participants read the magazine for 15 minutes, and then went onto the Internet to browse 4 designated websites (Yahoo, CNN, ESPN, and MSN) for 10 minutes. They also had the choice of going to any websites they chose for 5 additional minutes. Group B was not presented with the magazine. These participants only browsed the Internet in the same designated websites as Group A for 10 minutes, and also any sites of their choice for 5 additional minutes. As the partici-

pants were browsing the Internet, their reactions and attitudes toward any advertisements they saw were observed. The participants were then asked to complete a questionnaire on their experience browsing the Internet and reading the magazine.

### Sample

Participants in the pilot study were 14 full-time white-collared people working in the Information Technology field for a large financial institution.

### Data

From the *Newsweek* magazine, a list of advertisements were compiled. Data collected included company name, product or service advertised, URL of the advertisers, and attractiveness of the ad on a scale of 1-10.

During the participants' Internet experience, the websites that participants chose, the number of advertisements that appeared, the companies advertised, the advertisement features used in the advertisement, and the participants' attitudes toward the advertisements were recorded as completely as possible. Group A's questionnaires (participants who read *Newsweek* magazine before their Internet session), requested participants to recall the companies and the products or services they remembered seeing advertised while reading the magazine and while surfing the Internet. It also requested participants to recall the kinds of advertisement features that they remembered seeing used in the ads, whether they saw any print ads that were attractive enough to make them find out more when they went online, and whether there were any ads appealing to them because they had seen them before. Group B's questionnaire (participants without the magazine), requested participants to recall the products or services they remembered seeing advertised while surfing the Internet, the kinds of advertisement features that they remembered seeing used in the ads, and whether there were any ads appealing to them because they had seen them before.

*Note: Observations and questionnaires used in the pilot study can be found online at <http://helenandjimmy.com/conference>*

## PILOT STUDY RESULTS

Magazine Advertisements (*Newsweek* April 8, 2002 issue):

- 9 out of 29 advertisements were attractive based on our opinions and judgments on a scale of 1-10.
- 3 out of 29 advertisements did not provide a URL in the ad.

### Group A (participants who read the *Newsweek* magazine before surfing the web):

- 5 out of 7 participants remembered seeing advertisements while reading the magazine.
  - 3 of these 5 did not remember the exact companies, but identified the products correctly.
  - 2 of these 5 remembered seeing advertisements during their online experience.
  - None of the 5 found out more about the advertised companies when they were online.
- Only 1 out of 7 participants found an ad attractive enough that he would want to find out more about the product or service when going onto the Internet. However, the participant did not find out more about it while on the Internet.
- 4 out of 7 participants remembered seeing advertisements during their online experience.
  - 3 participants remembered the exact companies, products or services that were advertised.
- 2 out of 7 participants clicked on Internet advertisements.
  - Both of these participants clicked on one banner ad only.
  - Only 1 of these 2 participants remembered seeing ads in the magazine.

- All participants immediately closed any of the pop-up advertisements when they appeared on the screen.
- Only 1 out of 7 participants found the ads appealing because of seeing the ad before.

**Group B (participants who did not read the magazine before surfing the web):**

- 6 out of 7 participants remembered seeing advertisements during their online experience.
  - 4 of these 6 did not remember the exact companies and/or the products or services that were advertised.
  - 2 of the 6 only remembered the pop-up ad format. Both of them assumed that it was a certain company that frequently advertises through pop-ups, and therefore, closed it immediately. However, it was not the same company.
- Only 1 out of 7 participants found the ads appealing because of seeing the ad before.
- None of the participants clicked on any advertisements during their online experience.
- All participants immediately closed any of the pop-up advertisements when they appeared on the screen.

### ANALYSIS OF PILOT STUDY RESULTS

- (1) As the number of traditional print advertisements recalled increases, does the positive response to Internet ads increase? (Do people click on the ads more often or recognize the brand?)

Although 5 out of 7 participants remembered seeing advertisements while they were reading the magazine, none of them went to the websites of the products or services advertised during the time that they could do whatever they wanted online. From this result, it appears that traditional advertising (print) was not a factor that contributed to a positive response to Internet advertising. However, two participants exposed to the magazine ads did click on Internet advertisements. Of the participants that were not exposed to the magazine, none clicked on any ads.

- (2) Does exposure to advertising in magazines contribute to the recall of Internet advertising?

In Group A, which consisted of the participants who read the magazine, 2 out of 7 participants remembered seeing both print and Internet advertisements. In Group B, which consisted of the participants who did not read the magazine, 6 out of 7 participants remembered seeing online advertisements. It appears that seeing print advertisements does not necessarily increase the attention that Internet users would pay to Internet advertisements.

- (3) If the traditional advertisements Internet users see are perceived as attractive, do the responses to Internet ads increase? (Reminder: response is defined as clicking on ads or remembering them)

*Table 1: Results of questionnaires and observations about Magazine experience*

Questions and observations:	Participants (n=7)
Did not remember seeing advertisements	2
Remembered seeing advertisements	5
Remembered company and product/service	3
Remembered product, misidentified the company	2
Expressed desire to find out more about the company online	1
Found out more about company online	0

*Table 2: Results of questionnaires and observations about Online experience*

Questions and observations:	Group A: Magazine and Online (n=7)	Group B: Online only (n=7)
Remembered seeing ads	4	6
Remembered company product or service correctly	3	2
Did not remember company, product or service	1	4
Misidentified company		2
Clicked on ads	2	0
Immediately closed pop-ups	7	7

We found 9 out of 29 advertisements attractive, based on our own opinions and judgments, and that 3 out of 5 participants remembered seeing the same ads that we found attractive in the magazine. None of these 3 remembered seeing any ads during their online experience. Therefore, it appears that in this study, the attractiveness of print ads does not affect the Internet user's attitude toward Internet ads.

- (4) As the number of Internet advertisements Internet users see increases, does their positive response increase?

In the study, as the number of Internet advertisements the Internet users saw increased, the percentage of them having a positive response toward the ads did not increase. Although 6 out of 7 participants in Group B remembered seeing ads during their online experience, 4 of the 6 participants did not remember the exact companies and/or the products or services that were advertised. When combining results from both groups, only 2 out of 14 participants found Internet advertisements appealing because they had seen the ads before. It appears that some Internet users do not think about advertisements after they are done with their online experience. Finally, all 14 participants immediately closed any pop-up ads that appeared on the screen during their online experience.

### DISCUSSION RELATING TO THE LITERATURE

The objective of the pilot study was to gain an understanding about the types of responses to expect from a larger sample field experiment, and to evaluate the questionnaires. Several study findings reflect the results found in studies by other researchers. All participants that were observed had specific objectives that they wanted to accomplish while they were online. For example, many of the participants were reading news headlines, finding the cheapest vacation packages, downloading tools for their handheld devices, searching information on their hobbies, or checking their favorite stock quotes, sports teams' status, or game scores. Since all users had their own missions, it is impossible to assess the impact of their motives, objectives, and interests on the effectiveness of Internet advertising (Rogers & Thorson, 2000).

It also appears that an Internet user's preference on the verbal or visual format for absorbing information also may play a role in the effectiveness of Internet advertising (Bezjian-Avery et al, 1998). There were 3 participants who only remembered print ads but not Internet ads. These participants remembered the print ads that we rated visually attractive.

Regarding the organization and design of the websites' affect on Internet advertising, the websites designated for the participants in the study appeared to have design sense and decent organization of content. However, only 2 participants responded to any Internet advertisements. Most did not remember seeing any ads at all while online, and many of them commented that they do not pay attention to any Internet ads.

One questionnaire was filled out by the observers and one by each participant in each group. The questionnaires filled out by the observers were difficult because the exact ads that appeared online were not controlled. In a study with control over the advertisements that appear, filling out this form would only require an assessment and observation of the participants, not of the advertisements online. Furthermore, a controlled exposure would allow us to study whether magazine ads affect

online "click-through" behavior. The participant's questionnaires are sufficient for this study, although some revisions might be necessary.

### FUTURE DIRECTIONS

In a larger study, the online content to which the participants are exposed will be controlled. In this field experiment, the participants did not necessarily see the same companies, products, and services advertised online and in the magazine. As noted, the sample size is also meager.

Another direction for future exploration is to investigate the interactions among more traditional media advertising and advertising on wireless devices. As time goes by, more advanced technologies are going to emerge (e.g., see Black, 2001). Firms will have many other choices to inform potential consumers and customers about their products and services.

### REFERENCES

- Bezjian-Avery, A., Calder, B., & Iacobucci, D. (1998). New media interactive advertising vs. traditional advertising. *Journal of Advertising Research*, 4, 23-32.
- Black, J. (2001, July). Online advertising: It's just the beginning. *Business Week Online*. Retrieved February 23, 2003 from [http://www.businessweek.com/technology/content/jul2001/tc20010712\\_790.htm](http://www.businessweek.com/technology/content/jul2001/tc20010712_790.htm)
- Briggs, R. (1999). How Internet advertising works. ESOMAR "Net Effects" Conference, February 21-23, London.
- Briggs, R. & Hollis, N. (1997). Advertising on the web: Is there response before click-through? *Journal of Advertising Research*, 37 (2), 33-45.
- Eighmey J. (1997). Profiling user responses to commercial web sites. *Journal of Advertising Research*, 37 (3), 59-66.
- Garrubo, G. (n.d.). What makes women click?. Internet Advertising Bureau. Retrieved February 5, 2002 from <http://www.iab.net/advertise/adsource.html>
- Hoffman, D. & Novak T. (2000, May). How to acquire customers on the web (Statistical Data included). *Harvard Business Review*, 78, 179-185.
- Hyland, T. (n.d.). Why Internet advertising?. Internet Advertising Bureau. Retrieved February 5, 2002 from <http://www.iab.net/advertise/adsource.html>
- Li, H. & Bukovac, J. L. (1999). Cognitive impact of banner ad characteristics: An experimental study. *Journalism and Mass Communication Quarterly*, 76 (2), 341-353.
- Pavlou, P. & Stewart, D. (2000). Measuring the effects and effectiveness of interactive advertising: A research agenda. *Journal of Interactive Advertising*, 1 (1). Retrieved January 30, 2002, from <http://jiad.org/vol1/no1/pavlou>
- Rodgers, S. & Thorson, E. (2000). The interactive advertising model: How users perceive and process online ads. *Journal of Interactive Advertising*, 1 (1). Retrieved January 31, 2002, from <http://www.jiad.org/vol1/no1/rodders/index.html>

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