

The Relative Effectiveness of Sound and Animation in Web Banner Advertisements

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This research note reports the findings of two web based surveys, both of which incorporated experimental designs. The purpose of the first survey was to test the relative effectiveness of four versions of a banner ad, incorporating sound and/or animation. The purpose of the second study was to extend the experiment with these elements. The two studies used a similar experimental design, but differed in the way respondents were recruited. As it transpired, obtaining acceptable sample sizes from the Web was not as easy or successful as expected, and the conclusions that can be drawn from the experiments are limited. Despite this, the results provide some useful information about banner ad design that may be useful when designing further studies.

Key Words: web, banner advertising, sound, animation

Introduction

Advertising on the World Wide Web has increased at a phenomenal rate since it first began in October 1994, mainly due to an astronomical growth in Web traffic. Marketers generally recognise the Web's huge potential but continue to ask two questions: "Does Web advertising work?" and "How can the effectiveness be maximised?" With Web advertising revenues expected to reach US\$8.1 billion by the end of the year 2002, the question becomes increasingly important (ZDNet CyberStats 1998).

The most common form of Web advertising is banner advertising, which currently represents an estimated eighty percent of all online advertising placements (Millward Brown Interactive 1997). Banner advertisements take the form of a rectangle, standardised to 468 pixels wide by 60 pixels high, typically placed at either the top or bottom of a Web page (IAB 1996). By clicking on the banner, the viewer can access the advertiser's site or generate more information. Banner ads have two main functions: one is to generate a click-through, that is, get people to visit the advertiser's site; the second is to increase awareness.

From an advertiser's viewpoint, a major problem with banners is that viewers generally do not click on them, and may therefore receive little or no information about the company or product (Griffith 1996). However, a study by *MBinteractive*, in conjunction with HotWired and the IAB, concluded that banner advertisements can impact upon the advertising awareness, brand awareness, brand perceptions, and potential for sales, all from one exposure (Hotwired 1996; Briggs & Hollis 1997; Millward Brown Interactive 1997).

Apart from the Millward Brown study, there has been little research into the effectiveness of banner advertising. Yet, as Web advertising increases, so does the clutter. It is therefore of some importance to an advertiser to know that the ads they commission effectively cut through this clutter. Until recently, most banner ads were static, although creative and effective use was made of colour, graphics and clever copy. However, increasing use is being made of animation, and it is possible to use sound in ads as well. So far, however, the relative effectiveness of these features is unknown.

The purpose of this research note is to report the findings of two web based surveys, both of which incorporated experimental designs. The purpose of the first survey was to test the relative effectiveness of four versions of a banner ad, incorporating sound and/or animation. The purpose of the second study was to extend the experiment with these elements. The two studies used a similar experimental design, but differed in the way respondents were recruited.

As it transpired, obtaining acceptable sample sizes from the Web was not as easy or successful as expected, and the conclusions that can be drawn from the experiments are limited. Despite this, the results provide some useful information about banner ad design that may be useful when designing further studies.

Method

Experimental Design: Study 1

Study 1 was a survey of the clients of a local Internet provider. It was designed to experimentally investigate two forms of a purchase intention scale. At the end of the questionnaire, respondents were asked for permission to contact them at a later date for a short follow-up survey. Then, after submitting the last page of the questionnaire, respondents were taken to the home page of the *Marketing Bulletin*, where they were exposed to one of four, randomly assigned, versions of a banner ad (see Table 1, Treatments 1,2,3,4). They were then free to browse this page or go elsewhere. Respondents were unaware that the banner was the subject of the follow-up study.

Respondents who agree to be included in the follow-up survey (Phase 2) were sent an email message describing the survey, inviting participation, and directing them to the survey Web site. They were also offered an incentive in the form of a prize draw for \$50 cash. Half were randomly allocated to a group which received this invitation one day after completing the Phase 1. The rest received the same invitation four days after completing Phase 1.

The questionnaire in Phase 2 had two pages. Page one was designed to measure unprompted recall of information related to the banner advertisement placed at the end of the previous survey. Page two was designed to measure prompted recall, and obtain information to assess the brand building effects of that ad.

Experimental Design: Study 2

The purpose of Study 2 was to test the effects of sound and animation on the click-through rate and recall of a banner ad. Respondents were recruited by posting a notice on five New Zealand related newsgroups, on four separate occasions. The first three postings were at four-day intervals; the final posting was made eleven days after the third. An incentive in the form of a prize draw for \$50 cash was offered to encourage participation.

As in Study 1, this study also had two phases. In Phase 1, respondents simply completed demographic questions. When they submitted this page, they were taken to the home page of the *Marketing Bulletin*, which contained a banner ad. Eight versions of this page were used, each using one of the treatments listed in Table 1.

The sample for Phase 2 comprised all respondents who completed Phase 1 and agreed to participate in a follow-up survey. These respondents were sent an email message explaining the follow-up survey, inviting participation, and directing them to the survey Web site. An additional incentive in the form of a second prize draw for \$50 cash was offered to encourage continued participation.

Table 1. Attributes tested within each treatment.

Treatment	Banner Ad Attribute(s)
1	Animation, sound
2	Animation
3	Static, sound
4	Static (control)
5	Animation, sound, "click here →" sign
6	Animation, "click here →" sign
7	Static, sound, "click here →" sign
8	Static, "click here →" sign

Note: Control = neither animation nor sound

Banner Ads

The basic banner ad used in the two studies is shown in Figure 1.



Figure 1. The basic banner

A "Click here →" message was placed at the right hand side in four treatments used in Study 2. The static ads were identical to that in Figure 1; for the animated ads, the text cycled through the following phrases:

THE FIND'EM KEEP'EM TOOLKIT

Am I wasting money on advertising?

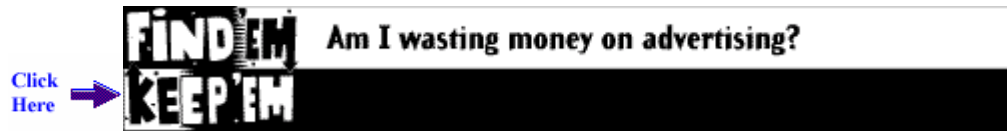
Why am I losing old customers as fast as I'm getting new ones?

I'm really good at what I do so why aren't I reaping the rewards?

I want to change things, but where do I start?

Good practical help is only a click away.

For treatments with sound, the ads were accompanied by a spoken message, in a male voice, that said: " Please visit Find'em Keep'em". [click here to hear the sound clip](#)



Note. [Click on the banner to see the animation;](#)

Figure 2. The animated banner

Results

Click-through

The effect of the various banner ad elements on “click-through” are summarised in Table 2. The most notable result is the very low click-through rate; only 5 (3%) of respondents in Study 1 and 6 (4%) in Study 2 clicked on the banner ad. As a consequence, it is difficult to draw conclusions about the different combinations of elements, except to say that no combination had any great effect on click-through.

Table 2. The effect on “click-through” of sound, animation and “click-here → “ combinations.

Treatment	Study 1		Study 2	
	N	n	N	n
Animation + Sound	42	1	19	1
Animation	42	1	23	0
Sound	37	2	17	1
Control	34	1	16	0
Animation + Sound + “click here →”	-	-	18	1
Animation + “click here →”	-	-	19	0
Sound + “click here →”	-	-	16	2
Control + “click here →”	-	-	16	1
	155	5	144	6

Note: Control = neither animation nor sound

The effects due to the individual elements are summarised in Table 3. While the effects are small, there are consistent results across the two studies that suggest that animation had a negative impact on click-through, while both sound and the “click here →” directive did increase click-through rates.

Recall

The levels of unprompted and prompted recall of the banner ad are summarised in Table 4. Again, the levels are low, and there is not a great deal of variation across treatments. Also, some caution is required when interpreting these results, as the recall period ranged from 1 to over 30 days, even though all respondents were contacted between 1 to 4 days after being exposed to the banner ad.

Table 3. The separate effects on “click-through” of animation, sound and “click-here →”.

Treatment	Study 1			Study 2		
	N	n	%	N	n	%
Animation	84	2	2.3	79	2	2.5
No animation	71	3	4.2	65	4	6.2
Sound	79	3	3.8	70	5	7.1
No sound	76	2	2.6	74	1	1.4
“Click here →”	-	-	-	69	4	5.8
No “click here →”	-	-	-	75	2	2.7
Overall	155	5	3.2	144	6	4.2

Table 4. Effect of sound, animation and message on recall of banner ad

Treatment	Unprompted		Prompted	
	N	n	N	n
Study 1				
Animation + Sound	32	3	29	7
Animation	31	0	27	6
Sound	21	1	16	7
Control	14	2	13	4
	98	6	85	24
Study 2				
Animation + Sound	10	2	10	5
Animation	13	0	13	6
Sound	7	0	7	1
Control	6	1	7	2
Animation + Sound + “click here →”	6	1	3	1
Animation + “click here →”	5	1	5	3
Sound + “click here →”	10	2	9	4
Control + “click here →”	9	1	8	3
	66	8	62	25

Note: Control = neither animation nor sound

The overall level of unprompted recall of the banner ad was in the order of 12%, reaching 40% for prompted recall (see Table 5). In Study 1, both unprompted and prompted recall were higher for the non-animated banner, and when sound was used. In Study 2, the effects on unprompted recall were more pronounced for sound and “click here”, but absent for animation; for prompted recall, both animation and “click here →” had a marked effect, but sound was less effective than no sound.

Table 5. Effect of animation, sound and directive on recall of the ad

Treatment	Unprompted			Prompted		
	N	n	%	N	n	%
Study 1						
Animated	63	3	4.8	56	13	23.2
Not animated	35	3	8.6	29	11	37.9
Sound	53	4	7.5	45	14	31.1
No sound	45	2	4.4	40	10	25.0
Overall	98	6	6.1	85	24	28.2
Study 2						
Animated	34	4	11.8	31	15	48.4
Not animated	32	4	12.5	31	10	32.3
Sound	33	5	15.1	29	11	37.9
No sound	33	3	9.1	31	14	45.2
“Click here”	30	5	16.7	25	11	44.0
No “click”	36	3	8.8	37	14	32.8
Overall	66	8	12.1	62	25	40.3

A final observation worth noting is that although a high proportion (around 80%) of respondents said they had a sound card, less than 5% of those exposed to the sound treatment recalled hearing the sound.

Discussion

The results of this study are obviously limited, as the samples were small, and only a single ad was tested. However, the consistency of the results across the two studies suggests that, at least in some situations, “click-through” and both unprompted and prompted recall can be improved by making simple adjustments to a banner ad design. The use of sound and the use of a “click here →” message did tend to improve the effectiveness of the ad, whereas the

animation did not. The relative ineffectiveness of the animation was unexpected. However, in this ad the animation involved text, not graphics. Perhaps the animated text distracted the viewers from realising that the ad was a clickable link. Further research into the relative effectiveness of textual versus graphical animation in banner ads is required.

It is, of course, unlikely that research of this nature will uncover a set of general principles that could be used to ensure the construction of effective ads. There are too many factors to control. However, the study does demonstrate how easy it is to compare alternative ad designs. This approach could easily be used to pre-test ads. The main requirement is to put the ads on a site that has sufficient traffic to provide adequate data in an acceptable time frame.

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