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# World Wide Web banner advertisement copy testing

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“Never has advertising appeared so pale and lifeless”, wrote Rust and Oliver (1994, p. 71). Those authors pointed to increased criticism of advertising’s effectiveness as well as lower advertising expenditures. Technological change, the blame for much of these trends, will only increase in the future. A recent survey of leading US advertising executives questioned about advertising’s future (Ducoffe *et al.*, 1996) found that the most important factor for the future of advertising was “new media technologies” (e.g. the Internet and the World Wide Web).

The Web and other new media are not merely “fragmenting” audiences, they are atomizing them, creating one to one relationship opportunities for marketers. Consumer relationship marketing takes advantage of computerization to shift from short-term transactional strategies to a holistic approach increasing the bond between consumers and producers. The Web facilitates this communication strategy. Databases target services with direct-response advertising, focusing on customer retention instead of acquisition.

Relationship marketing necessitates more, and better, advertising research. Novak and Hoffman (1997) emphasize that new media are integral to the future of advertising research. “Media researchers need to stop working on reach and frequency models for mass media and focus on methods of communicating with customers on the information superhighway” (Rust and Oliver, 1994, p. 76). By reporting the results of a simple pilot study with four experimental conditions, the current paper demonstrates one such method.

## **Advertising on the World Wide Web**

Corporate Web sites serve a variety of purposes such as direct selling, projecting corporate image, providing product information, generating qualified leads, dispensing electronic coupons, and handling a variety of post-purchase tasks (Berthon *et al.*, 1996; Hoffman and Novak, 1996). Companies generate Web site traffic off line through active promotion of the address uniform resource locator (URL) in collateral advertising material and online through registration with search engines, hypertextual links with other Web

sites and in some cases paid banner advertisements on other Web sites. It is this latter method of generating traffic that concerns us and to which we turn now.

*Advertising banners*

Advertising banners are usually small (120-500 pixels wide  $\times$  45-120 pixels high), rectangular displays on a Web page (Novak and Hoffman, 1997). Clicking on the banner takes the visitor from the current Web page to the advertiser's Web page. Much as a TV, radio or print advertisement would direct the audience to call an 800 number or direct mail would have the receiver mail in a reply, a banner moves the Web visitor to the advertiser's Web page. Even if not clicked, advertisement banners may influence the attitude of the visitor and help build the brands being advertised (Elliott, 1996).

As banner advertisements increase in popularity, so do calls for advertisement banner research. Web advertisers question traditional media's cost per thousand (CPM) pricing model based on impressions, often insisting on paying for results, click-throughs, as well as, or instead of, impressions. Advertisers want to understand who is clicking on the banner, and which factors lead to higher click-through rates. Answers to the above questions will help companies incorporate Web sites into their overall marketing communications mix and improve decision making through advertising response modeling.

*Click-through rates*

Measuring and increasing advertisement banner click-through rates are important both for the advertiser and the Web site sponsoring the advertising. As banner pricing moves away from CPM and towards click-through rates, both parties will work towards increasing click-through rates. For the advertiser or advertising agency shopping rate cards, click-through rates will help determine which Web site offers the better buy.

Click-through rates vary tremendously owing to a multitude of known and unknown factors, with a typical click-through rate around 2 per cent. Methods to increase response rates include animation (25 per cent), cryptic messages (18 per cent), posing questions (16 per cent), call to action phrases (15 per cent), color and animation, with a sense of urgency tending to decrease response rates (DoubleClick and I/PRO, 1996). Targeting banner advertisements based on the content of a Web site should tend to increase response rates. For example, Jumbo's Web site offers over a million Web pages featuring software, delivering advertisements for PC software on the PC-related pages and advertisements for Mac-based software on the Mac-related pages and advertisements. Repeated exposure to a banner decreases the response rate, with early research indicating that response rates fall markedly after the first exposure to a banner (DoubleClick and I/PRO, 1996; Modahl and MacQuiddy, 1996).

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**Copy testing**

Traditional copy testing or communication-effect research, often uses a paper and pencil test after exposure to an advertisement, measuring the reported change in recall, recognition or attitude towards a product. These measures are based on a hierarchy-of-effects, innovation-adoption or attention, interest, desire, action (AIDA) model, assuming that the buyer passes through cognitive, affective and behavioral phases (Gelb *et al.*, 1985), in various sequences.

As described above, Web banner copy testing via click-through rates has at least one major difference when compared to most copy testing in other media; that actual behavior can be recorded and analysed. Behavioral instruments are generally recognized as superior to survey instruments (Haskins and Kendrick, 1993). The target page may be a source of further marketing communications, or it may offer direct online selling. In that case, a certain percentage of click-throughs could be converted to sales. In addition, the click-through could be an important source of revenue in its own right, as would be the case when the advertised target page itself contains advertising.

Traditional mass media models such as hierarchy-of-effects, innovation-adoption or AIDA may not be appropriate for modeling advertisement banner click-through. As Novak and Hoffman (1997) suggest, the direct response paradigm may be more appropriate. Direct marketing concepts of “direct order”, “lead generation”, and “traffic generation” are applicable to advertisement banners (Novak and Hoffman, 1997), as are the empirical effects associated with direct marketing (e.g. Basu *et al.*, 1993; Smith and Berger, 1996). In a similar vein, sales response models to single-source panel data are relevant. For magazine or text advertisements, the closest parallel would be studies employing measures which reveal that the respondent wishes more information. Recent results with such measures are reviewed next.

*Specific language communications effects*

Our experiment focused on mechanical aspects of wording choice, rather than message variables (Rossiter, 1981). In a landmark review of wording choice, Percy (1983) identified a number of key issues and findings concerning word concreteness, familiarity, sentence length, active or passive voice, negation and interrogative elements in advertising copy. Another review followed by Gelb *et al.* (1985), and more recently by Percy and Rossiter (1992), who pointed out the key place in the literature of such variables as linguistic complexity and framing.

Rossiter (1981) addressed how a variety of psycholinguistic factors might relate to advertisement and brand recognition, as well as readership for an advertisement. From our point of view, the latter measure would seem to be most relevant. One Starch score for an advertisement “Read most”, indicates the number of respondents who read most of the advertisement. Since a click-through is an attempt to receive more information about a product or service, an analogy between “Read most” and our current criterion variable is tempting.

Rossiter (1981) found that readership was negatively affected by an imperative in the headline, and positively by a determiner such as "a" or "the". Some factors having no effect on readership included the number of adjectives, nouns, verbs or total words in the headline, presence of personal references, and use of an interrogative form. In some cases these factors affected either recognition of the advertisement or the ability of the respondent to associate the brand with the advertisement. For example, use of personal references (you, your) in the advertisement had an effect on both advertisement recognition and brand association.

Motes *et al.* (1992) had subjects rate a set of 24 telecommunications company advertisements, varying in the use of active and passive voice, use of personal pronouns, colorful or vivid language, and physical layout. Those authors used a variety of criterion measures including ratings of the advertisement's appeal, believability, clarity, attractiveness, and overall reaction variable. Also included was the likelihood of reading the advertisement, a dependent variable perhaps somewhat related to the click-through. Motes *et al.* (1992) found that all three linguistic variables interacted in a complex way in terms of their effect on the likelihood of reading the advertisement. The personal, active and colorless advertisement resulted in the highest score, at least when the text layout was not in a block format.

### **The experiment**

The current pilot experiment involved four different banners randomly assigned to visitors arriving at a shopping-oriented Web page. During the fall of 1996 this page received about 1,600 hits (requests for viewing) per week, which made it a good candidate for timely execution of the experiment. The experiment was conducted over 18 days in the fall of 1996. The banner advertised a small nationwide personal services company.

#### *Experimental design*

There were four treatment conditions, or banners, which were identical except for one line of copy. The four separate examples read: "Specializing in finding your soulmate", "Find your soulmate", "Click here to find your soulmate" or just "Click here".

The language used to create Web pages is called the hypertext markup language (HTML). The protocol used to send HTML and other Web files from server to browser is called the hypertext transfer protocol (HTTP). One of the markups, or commands, often included in a Web page is the IMG markup which tells the browser to include an image at that point in the page. The home page for the banner contained the following HTML: <IMG SRC="/cgi-bin/image.cgi">. Most often, the SRC parameter in an IMG markup points to an image file. In the case of our experiment, however, the SRC parameter pointed to a computer program. This program generated a random number and then used that number to pick one of the four experimental banners. At that point the program issued an HTTP location directive to the server so that the

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appropriate banner would be sent across the Internet to the visitor's browser. The program then wrote a log record so that what the visitor did on the page, such as click on the banner, could be correlated with which banner had been exposed to the visitor on the home page. The page was retrieved numerous times by the authors, and checked against these log files, to make sure that the relation worked. The program was written in the Perl language, a Unix scripting language frequently used to facilitate Web services.

### *Working hypotheses*

Since the literature contained no other Web copy testing experiments, we developed some exploratory hypotheses using our previous experience and practitioner reports. First, the client on whose behalf we were advertising had previously used the first banner with some reasonable success. For practical considerations, we then used that banner as a starting point. We developed a second banner in a simple attempt to demonstrate that Web copy testing could improve the efficacy of a banner. While there is some information suggesting that it is possible to improve the click-through rate by a factor of three or four (DoubleClick and I/PRO, 1996), we wanted to find out if we could empirically improve click-through rates under rigorous, randomized experimental conditions, and do so in a way which would allow us to statistically generalize to the population of visitors to the page containing the banner.

The second banner contained cleaner copy: "Find your soulmate". Even though some evidence exists that more complex sentences improve readership (Chamblee *et al.*, 1993), the type-token ratio used by Chamblee *et al.* (1993), for measuring complexity is the same for both the original and modified slogans. Also, the second phrase is a sentence in the active voice, a linguistic condition associated with high-readership performance (Motes *et al.*, 1992). For that and for intuitive reasons, we thought that the second banner would outperform the original.

A second goal was to evaluate the common Web advertising practice of using the phrase "Click here" on banner advertisements. Evidence reported by DoubleClick and I/PRO (1996) suggested that "Click here" does add to banner advertisement effectiveness. For the third advertisement we added the phrase "Click here" to create the copy, "Click here to find your soulmate" and hypothesized that this banner would outperform the simpler version without the phrase "Click here".

Finally, as a control condition, we dropped the "Find your soulmate" element and included an advertisement with the simple phrase "Click here". This advertisement would then allow us to compare the presence or absence of both "Click here" as well as "Find your soulmate" copy elements. As the simple phrase "Click here" lacks any presentation of benefits, we hypothesized that "Click here" would perform worse than "Click here to find your soulmate". In addition, the phrase "Click here" is an obvious imperative, a style previously found to reduce readership (Rossiter, 1981).

To summarize, our a priori expectation was that the click-through rates would increase as we went from:

- specializing in find your soulmate;
- find your soulmate; and
- click here to find your soulmate

with “Click here” performing somewhat worse than “Click here to find your soulmate”.

In addition, we wanted to look at the possibility that some visitor segments had a higher click-through rate than others. Conversations with practitioners suggested that visitors from the .edu domain might click on banner advertisements more often than visitors from other domains. Since many individuals from .edu are students, this seemed reasonable enough to adopt as a fourth working hypothesis.

### *Results*

Several important decisions must be made before analysing Web log data owing to the specific way that Web browsers interact with Web servers and the HTTP specification. For one thing, since the text portion of a page ordinarily contains far fewer bits than any embedded images, the text portion often arrives at the browser first. At this point the visitor can abort the retrieval of the image file. Also, if the user visits a link on the page before the arrival of the image file, the retrieval of the image may again be aborted. If they return to the original page, the browser once again asks the server for the embedded image since it did not make it there the first time. Another complicating factor is identifying unique Web page visitors. HTTP is a connectionless protocol; the server tracks the domain name and IP address but no unique visitor identification *per se*. A new HTTP feature, “cookies”, helps identify unique individuals, but “cookies” are controversial and not widely applied at this time.

To address these issues, we turned to Novak and Hoffman (1997) for the definition of a visitor, one or more log records from the same domain or IP address within a 30-minute period. Further, we studied only visitors who retrieved exactly one banner from the server, for the reasons specified above.

The 18-day experiment yielded 2,272 usable visitors. Cross-tabulating the four treatment conditions against banner clicks or not gave a four × two table. The table’s chi square analysis revealed that the experimental conditions had a strong impact on the banner click rate, with a chi square value of 32.194 with a probability of 0.001 with three degrees of freedom. Click-through rates for the four conditions appear in Table I. As shown, the most effective wording was simply “Click here”, followed by “Click here to find your soulmate”, “Find your soulmate” and last was “Specializing in finding your soulmate”.

To test our first hypothesis, we restricted the analysis to “Specializing in finding your soulmate” versus “Find your soulmate”. We expected that the latter copy would outperform the former. A chi square on one degree of freedom

of 5.215,  $p = 0.022$  confirmed the imperative copy's better performance. In this case we have doubled the hit rate from the original advertisement.

Our second hypothesis was that "Click here to find your soulmate" would prove better than "Find your soulmate". Although the results were in the right direction, this finding was not statistically reliable with a chi square on one degree of freedom of 0.818,  $p = 0.366$ .

Our third expectation was that "Click here" would fare worse than "Click here to find your soulmate". Obviously, this did not happen as the "Click here" copy had the best performance overall. In fact, the chi square statistic was 6.214; which on one degree of freedom has a probability of 0.013. *Post hoc*, it seems clear that "Click here" was far better than "Click here to find your soulmate".

Finally, we segmented visitors into those from an .edu domain and those from some other top-level domain. Since some browsers do not send a domain name, our sample was smaller than the previous analyses, netting 111 .edu and 1,801 non-.edu visitors. The .edu visitors clicked through at a 9.91 per cent rate and the others at 5.66 per cent. Unfortunately, given the sample size, this effect was not statistically reliable (chi square was 3.39 on one degree of freedom,  $p = 0.066$ ), although it was close.

Copy	Click-through rate		
	Rate (%)	Frequency	<i>N</i>
Specializing in finding your soulmate	2.87	16	558
Find your soulmate	5.59	33	590
Click here to find your soulmate	6.88	39	567
Click here	11.13	62	557

**Table I.**  
Click-through rates  
for the four conditions

### Conclusions

Copy testing can improve banner advertisement effectiveness, but the quirks and unique features of online media will require new theories and new studies. Our results show a spread from 2.87 per cent to 11.13 per cent, a huge range of advertisement effectiveness that could imply millions of additional visitors to a Web site and millions of dollars of additional revenue.

Our most surprising result was that the basic imperative phrase "Click here" outperformed all of the other conditions, contrary to what Rossiter (1981) found for print readership. Turkle (1995) suggests that people behave differently in the real and virtual worlds. While our results are obviously preliminary, perhaps theory and prediction based on the former will not generalize well to the latter. Maneuvering through the virtual world is quite easy, and the curiosity factor for the "Click here" advertisement may have driven those visitors who are hedonically experiencing the Web (Holbrook and Hirschman, 1982) to see what

sort of product was behind the advertisement. We are also tempted to think of the "Click here" advertisement as being a relatively "peripheral" type of advertisement as compared to "central" in the sense the Elaboration Likelihood Model (e.g. Petty and Cacioppo, 1986). A short, cryptic headline may match the hedonic mode of most visitors to the site, inducing them to click without much cognitive effort being expended.

It would also seem to be important for researchers to consider the different uses of the various media and the sorts of gratifications (Newhagen and Rafaeli, 1996) sought by users of print versus online media. The relative mix of linear sequential processing versus searching, exploratory, or experiential activity would seem to be quite different in the case of print versus online worlds.

#### *Future research*

Banners need not be clicked to be effective. Hotwired's study conducted by Millward Brown used Hotwired's Web site (<http://www.hotwired.com>) to show three test advertisements or a control advertisement to 1,232 people (Elliott, 1996). Survey responses showed an increase in consumer loyalty ranging from 5 per cent for Microsoft Internet Explorer to more than 50 per cent for Dockers khakis and AT&T Worldnet. Other traditional copy testing measures such as purchase intent, awareness or brand preference showed positive results. Future research using survey instruments and following traditional copy testing measures of recall, recognition and attitudes towards a brand should be further applied to advertising banners.

High click-through rates will increase traffic to a Web site, but that does not guarantee a Web site's success. Bringing visitors to a Web site is just one part of incorporating the site into a company's marketing communication mix. In addition, a question arises as to who are the additional visitors brought in by a more effective advertisement banner. Are they surfing aimlessly, or carefully searching for something? What sorts of banner execution and site designs match each other most effectively for the communication goal?

There are a potentially huge number of simple physical manipulations that need to be looked at. Mechanical features of traditional advertisements such as color (Meyers-Levy and Peracchio, 1995) or layout (Chamblee and Sandler, 1992) have proved to be important. No doubt these should have an impact on Web advertising as well. Newspapers generally sell advertising space by area or the column inch (Jacobs and Poillon, 1992). How does the click-through rate change as a function of the banner's height, width or area?

Frequency of advertisements is important to traditional advertising (Haugtvedt *et al.*, 1994; Hughes, 1992). Even though practitioner evidence suggests that click-through rates, at least, decrease after repeated exposures of advertising banners, it would be interesting to see what happens to traditional measures such as recall, recognition or attitude towards a brand name with repeated exposures to the same banner.

While our results showed only a modest difference between the users in different domains, further research might take a more detailed look at this. For

example, does the .com domain have a different click-through rate than the .edu or .org domain? As Plummer (1986) noted, copy testing should vary for different countries. Different countries' domains end in a two letter code such as .ch for Switzerland or .au for Australia. Are there differences between visitors from different countries?

Location or placement is critical in traditional advertising. Advertisers buy billboard space according to drive-by characteristics. Print advertisers choose a magazine or newspaper to target a specific market segment, not to mention a certain section in the magazine or newspaper. Radio and TV buys depend on the programme's content and rating. We are aware of practitioner research which seems to show that banner click-through rates vary according to the placement Web page. The click-through rates for the Web page we used, ranging from 2.87 per cent to 11.13 per cent, were all greater than today's norm of 2 per cent. Future research should address both the banner and the page that provides its backdrop.

As Web technology continues to improve and increased bandwidth owing to cable modems and other technologies becomes a reality, advertisement banners will take on more TV like characteristics. Full motion video or talking banners are two such possibilities. The importance of advertisement presentation modality (Unnava *et al.*, 1996) makes us wonder what effect these dynamic banners will have on click-through rates and traditional measures of recall, recognition and brand preference. Ducoffe (1996), Novak and Hoffman (1997), and others argue that the nature of the Web itself makes advertising on it different. The differences suggest many potential research avenues in the years ahead.

### References

- Basu, A.K., Basu, A. and Batra, R. (1993), "Modeling the response pattern to direct marketing campaigns", *Journal of Marketing Research*, Vol. 32, May, pp. 204-13.
- Berthon, P., Pitt, L.F. and Watson, R.T. (1996), "The World Wide Web as an advertising medium: toward an understanding of conversion efficiency", *Journal of Advertising Research*, Vol. 36 No. 1, January/February, pp. 43-53.
- Chamblee, R. and Sandler, D. (1992), "Business-to-business advertising: which layout style works best", *Journal of Advertising Research*, Vol. 32, November/December, pp. 39-46.
- Chamblee, R., Gilmore, R., Thomas, G. and Soldow, G. (1993), "When copy complexity can help advertisement readership", *Journal of Advertising Research*, Vol. 33, May/June, pp. 23-8.
- DoubleClick and I/PRO (1996), "Banner effectiveness tips", October 10, *Web in Perspective: Advertisement Response*, research report, <http://www.doubleclick.net/nf/general/bantiset.htm>.
- Ducoffe, R.H. (1996), "Advertising value and advertising on the Web", *Journal of Advertising Research*, Vol. 36 No. 5, September/October, pp. 21-35.
- Ducoffe, R.H., Sandler, D. and Secunda, E. (1996), "A survey of senior agency, advertiser, and media executives on the future of advertising", *Journal of Current Issues and Research in Advertising*, Vol. 18 No. 1, Spring, pp. 1-19.
- Elliott, S. (1996), "Banner advertisements on Internet attract users", *New York Times on the Web*, December 3, <http://www.nytimes.com/library/cyber/week/1203ads.html>
- Gelb, B.D., Hong, J.W. and Zinkhan, G. M. (1985), "Communication effects of specific advertising elements: an update", *Current Issues and Research in Advertising*, Vol. 2, pp. 75-98.

- Haskins, J. and Kendrick, A. (1993), *Successful Advertising Research Methods*, NTC Business Books, Chicago, IL.
- Haugtvedt, C.P., Schumann, D.W., Schneier, W.L. and Warren, W.L. (1994), "Advertising repetition and variation strategies: implications for understanding attitude strength", *Journal of Consumer Research*, Vol. 21, June, pp. 176-88.
- Hoffman, D.L. and Novak, T.P. (1996), "Marketing in hypermedia computer-mediated environments: conceptual foundations", *Journal of Marketing*, Vol. 60, July, pp. 50-68.
- Holbrook, M.B. and Hirschman, E.C. (1982), "The experiential aspects of consumption: consumer fantasies, feelings, and fun", *Journal of Consumer Research*, Vol. 9, September, pp. 132-40.
- Hughes, G.D. (1992), "Realtime response measures redefine advertising wearout", *Journal of Advertising Research*, Vol. 32, May/June, pp. 61-77.
- Jacobs, L. and Poillon, C.L. (1992), "White space in newspaper grocery advertising: some findings", *Journal of Current Issues and Research in Advertising*, Vol. 14 No. 2, Fall, pp. 69-75.
- Meyers-Levy and Peracchio, L.A. (1995), "Understanding the effects of color: how the correspondence between available and required resources affects attitudes", *Journal of Consumer Research*, Vol. 22, September, pp. 121-38.
- Modahl, M.A. and MacQuiddy, R. (1996), "Internal advertising", *The Forrester Report, Media and Technology Strategies*, Vol. 1 No. 1, September, Corporate Research Report, <http://www.forrester.com/template/sep96mdr.htm>
- Motes, W.H., Hilton, C.B. and Fielden, J.S. (1992), "Language, sentence, and structural variations in print advertising", *Journal of Advertising Research*, Vol. 22, September/October, Vol. 5, pp. 63-77.
- Newhagen, J.E. and Rafaeli, S. (1996), "Why communication researchers should study the Internet: a dialogue", *Journal of Computer Mediated Communication*, Vol. 1, March, <http://www.usc.edu:80/dept/annenberg/vol1/issue4/vol1no4.html>
- Novak, T.P. and Hoffman, D.L. (1997), "New metrics for new media: toward the development of Web measurement standards", *World Wide Web Journal*, Vol. 2, Winter, pp. 213-45, <http://www2000.ogsm.vanderbilt.edu/novak/web.standards/webstand.html>
- Percy, L. (1983), "A review of the effect of specific advertising elements upon overall communication response", *Current Issues and Research in Advertising*, Vol. 2, pp. 77-118.
- Percy, L. and Rossiter, J.R. (1992), "Advertising stimulus effects: a review", *Journal of Current Issues in Research in Advertising*, Vol. 14 No. 1, Spring, pp. 75-90.
- Petty, R.E. and Cacioppo, J.T. (1986), *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*, Springer-Verlag, New York, NY.
- Plummer, J.T. (1986), "The role of copy research in multinational advertising", *Journal of Advertising Research*, Vol. 26, October/November, pp. 11-15.
- Rossiter, J.R. (1981), "Predicting Starch scores", *Journal of Advertising Research*, Vol. 21 No. 5, October, pp. 63-8.
- Rust, R.T. and Oliver, R.W. (1994), "Notes and comments: the death of advertising", *Journal of Advertising*, Vol. 23 No. 4, December, pp. 71-7.
- Smith, G.E. and Berger, P.D. (1996), "The impact of direct marketing appeals on charitable marketing effectiveness", *Journal of the Academy of Marketing Science*, Vol. 24, Summer, pp. 219-32.
- Turkle, S. (1995), *Life on the Screen: Identity in the Age of the Internet*, Simon & Schuster, New York, NY.
- Unnava, H.R., Agarwal, S. and Haugtvedt, C.P. (1996), "Interactive effects of presentation modality and message-generated imagery on recall of advertising information", *Journal of Consumer Research*, Vol. 23, June, pp. 81-8.