

Qualitative Effects of Newspapers on Advertising Effectiveness

*by*

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## Qualitative Effects of Newspapers on Advertising Effectiveness

**Abstract:** This study presents a quantitative examination of the qualitative impact of newspapers on advertising effectiveness. Previous research has identified 44 distinct experiences involved in reading newspapers. Here we show that the large majority of these experiences are related to advertising effectiveness. The more readers, for instance, experience a newspaper as “making them smarter,” the more effective an ad in the newspaper is. It is further shown that these effects are robust over a representative sample of 101 newspapers for a national sample of consumers in the United States.

Advertising obviously depends on both the quality of the product being advertised and the quality of the ad itself. A third factor is equally obvious, but receives relatively less attention: the medium in which the ad appears. The traditional concern of media planning is with evaluations of size, reach, and frequency issues associated with a medium’s audience. The medium itself is most often viewed as a vehicle that provides exposure, or “eyeballs,” for an ad. Any consideration of the quality of the medium itself as something that might affect reactions to an ad, if considered at all, is typically based on subjective judgments of alternative, and otherwise comparable, media buys.

Although there are demonstrations in the research literature that media can provide a context that exerts an influence on advertising effectiveness, there is no systematic approach in the literature or in practice to exploring such effects. The purpose of this study is to develop a general approach to relating the qualitative aspects of newspapers (as apart from traditional “quantitative” issues such as recency or frequency of exposure) to advertising effectiveness. To do this it is first necessary to determine the relevant qualitative experiences associated with a medium of interest. By experiences we mean the thoughts and feelings involved in the actual use of the content of the medium (see Calder and Malthouse, 2004). Once these experiences have been established, they can then be related to the effectiveness of a particular ad appearing in the newspaper.

The first step in this approach, determining the relevant qualitative experiences, has been completed for newspapers. The methodology and results are reported in Calder and Malthouse (2004) and are summarized here. An initial qualitative research phase sought to ground (see Calder, 2001) the work in the actual experiences reported by consumers. Over 300 hour-long interviews were conducted focusing on one newspaper in each of seven different newspaper markets. Each focused on a single newspaper that the consumer regularly read. This covered a total of seven newspapers. These interviews were used to generate items that reflected specific experiences that were common across newspapers. We refer to these as *experience items*. One experience item for newspapers, for instance, was “*I get ideas from the newspaper.*” An example of a negative item was “*Reading this newspaper makes me feel like I am drowning in the flood of news that comes out each day.*” The wording of the items reflects the way consumers typically expressed themselves in the qualitative interviews.

This work generated large pools of experience items that were then included on subsequent quantitative surveys in order to identify general experiences reflected by related specific experience items. A total of 275 items were included on the survey. Respondents were asked to indicate how much they agreed or disagreed with each experience item on five-point scales. From this data we used factor analysis to identify 44 general newspaper experiences. See the aforementioned paper for details of the factor methodology. Note that each of the experiences is measured by multiple experience items and thus can be regarded as a multi-indicator scale. The item “*I get ideas from the newspaper*” thus loads on an experience we label *It makes me smarter*, along with other items such as “*Even if I disagree with things in the newspaper, I feel I have learned something*” and “*The newspaper has columns that give good advice.*” Each experience scale is unidimensional and has high reliability.

In this previous work we also examined the relationship of these experiences to overall usage of the newspapers (using measures developed in Malthouse and Calder 2002 and Calder and Malthouse 2003). These analyses not only showed that many of the experiences related to current usage of specific newspapers but also that this relationship

was robust across newspapers. That is, the experiences relate to usage in general and not just for certain newspapers (Calder and Malthouse 2004).

Having established a set of qualitatively grounded, reliably scaled, and robust measures of newspaper experiences, we now turn to the second step, which is the focus of this study. Do experiences with newspapers affect ads in the newspaper?

The general question we have posed cannot be answered by any one study. Our goal is rather to provide evidence that the experiences we have identified can affect a specific ad where the ad is not related to content and is relatively “generic” in terms of product and execution. Stated differently, if we hold product and execution constant, does the effectiveness of a representative ad depend on the experience individual consumers have with the newspaper that it appears in?

To answer this question we conducted a quasi-experimental study. We sought nationally representative samples of readers *and* newspapers in the United States. The objective is to determine if the way a person experiences a newspaper affects how they respond to an ad in the newspaper. For example, do people who are higher on “It makes me smarter” (experience 13) have more favorable reactions to an ad in a newspaper and, if they do, is this effect general across newspapers or limited to just some? For all the experiences we have identified, we want to understand which experiences influence attitude towards advertising and whether these relationships hold across newspapers.

In this study we tested one ad that we created for the purposes of this study. So again we emphasize that the issues raised here cannot be settled with one study. At the same time positive results would ultimately point to extremely important conclusions. If we find, for instance, that when readers experience a newspaper as making them smarter, they are more responsive to ads, then a newspaper that has a high level of this experience is worth more to an advertiser than in one with a low level of experience on this factor. Suppose newspaper A has an average of 4.0 on making readers smarter while newspaper B has an

average of 3.0. Qualitative effects of this kind would need to be accounted for in media planning.

### **Methodology**

A key feature of this research is that we wanted to test whether any effects of experiences on advertising are common across publications within a medium or are restricted to some publications. This issue of the generalizability of effects is an empirical question to be examined by the research. We therefore used a sample of 101 newspapers to provide a strong test of whether the effects of experiences on advertising are common across newspapers.

Our study is part of a longitudinal study of readers of a random sample of 101 US daily newspapers. The details of the first wave of the sampling plan are provided in Calder and Malthouse (2003) and summarized briefly as follows. We first drew a stratified random sample of 101 U.S. daily newspapers. Newspapers were stratified on circulation, urbanicity, competition, and extent of geographical distribution. All “types” of newspapers are represented in our sample, ranging from small-town newspapers, to large urban newspapers.

*Data was collected via a mail survey. In the year 2000, we mailed 115,890 surveys to consumers in the 101 newspaper markets, 37,036 responded, giving a response rate of 37% after dropping undeliverables. This survey did not include questions about the experience of reading a newspaper and will not be discussed further here. The results presented in this paper come from a follow-up survey of 4,444 responders to the original survey. We drew a random sample of 15,664 readers from the 37,036 responders to the first wave.*

*Advertising Quasi-Experiment: Test Ad, Effectiveness Measures, and Control Variables*

We hypothesize that a person’s qualitative experience with a newspaper affects the way the person reacts to advertising in the newspaper. We evaluate this hypothesis by including an advertisement (see Figure 1) in the survey. Respondents were told: “This section asks about your reactions to an ad that will appear in the \_\_\_ newspaper. This ad is for a new bottled water product.” We created the bottled-water brand “Pure” and an advertisement for the Pure. To our knowledge, there is no bottled water product under this name. We selected the water category because it is at least potentially relevant to almost all consumers. The advertising execution was intended to be representative of typical print advertising. Prior sections of the survey contained the experience scales.

*Attitude toward the ad.* We developed a multi-item scales to measure attitude toward the ad. Respondents were asked “How well does each of the following words describe the ad for Pure in the \_\_\_ newspaper?” The study included the items “Interesting, Believable, Warm, and Valuable” (7-point scale from “Does not describe the ad at all” to “Describes the ad very well”). We factor analyzed the responses to the items and computed coefficient alpha. The factor analysis suggested that these four items form a scale, with only one eigenvalue greater than 1 and all factor loadings 0.82 or greater. Coefficient alpha is 0.88, indicating a highly reliable scale.

Comment: See skew3:  
np/survey2/pure/fa.sas



*Covariates.* We included a covariate to control for another factor that might affect the attitude towards the ad. A person’s current bottled water consumption could have a positive relationship with the person’s rating of the ad. We “control” for this by including data from the following question in our models: “In a typical month how many bottles do you drink of any brand of bottled water?” Responses to this question were measured the six response bins none, 1-3 bottles, 4-5 bottles, 6-7 bottles, 8-9 bottles, and 10 or more bottles. Using these bins eliminates the possibility of outliers exerting a strong influence on the analysis.

## **Models Relating Experiences and Advertising Effectiveness**

We studied the dependence of attitude toward the ad on experiences using hierarchical linear models (HLM). Attitude toward the ad is the dependent variable and the independent variables are the experience factor, the bottled water consumption control variable. We estimate this model for each of the 44 newspaper experience factors. More precisely, we estimate the model

$$y_{ij} = (\alpha + a_i) + (\beta_1 + b_{1i})x_{1ij} + (\beta_2 + b_{2i})x_{2ij} + e_{ij},$$

where the subscript  $j$  indexes people and  $i$  indexes newspapers. The attitude towards the advertisement is  $y_{ij}$ , the value of the experience factor is  $x_{1ij}$ , and the amount of bottled water consumed by the respondent is  $x_{2ij}$ . The industry intercept is  $\alpha$ ,  $\beta_1$  is the industry slope for an experience factor, and  $\beta_2$  is the industry effect for current bottled water consumption. Random variables  $a_i$ ,  $b_{1i}$ , and  $b_{2i}$  are specific effects for newspaper  $i$  having normal distributions, each with mean 0 and standard deviations  $\sigma_a$ ,  $\sigma_{b1}$ , and  $\sigma_{b2}$ , respectively. For example, the effect of an experience on advertising attitude for someone reading newspaper  $i$  is thus the sum of the industry-wide effect ( $\beta_1$ ) and the newspaper-specific effect ( $b_{1i}$ ). By including random effects for the intercepts and slopes, each newspaper can have a different slope and/or intercept.

The effects of the newspaper experience factors on the attitude toward the ad, sorted in descending order of effect size, are given in Table 1. The third column gives the slope for the experience averaged across newspaper ( $\beta_1$ ). The fourth column gives the  $P$ -value testing the null hypothesis that the slope is zero ( $H_0: \beta_1=0$ ) versus a two-sided alternative. All but six of the newspaper experiences have significant effects (at the 5% level) on the attitude towards the bottled water ad. The largest slope is for newspaper experience 11 (High quality, unique content) with  $\beta_1=0.71$ , indicating that the more stories in some newspaper are unique with high quality, the more favorable the reader is to the bottled water ad. Other newspaper experiences with particularly large effects on attitude as indicated by their slopes include 13 (Makes me smarter), 13 (All sides of the story), 2 (My personal timeout), 4 (Touches and inspires me), and 16 (Ad usefulness). It is particularly interesting that many of the experiences that have the strongest relationship with attitude toward the ad are not explicit advertising experiences.

Some of the experiences also have significant negative effects on attitude toward the ad. Newspaper experience 14 (“Wasting my time”), for example, has a negative effect indicating that the more people feel a newspaper wastes their time, the less they like the advertisement. Other newspaper experiences having a negative effect include 17 (“Annoyed and unimpressed by ads”), 40 (“Lacks distinction”), 9 (“Too much”), and 22 (“Skim and scan”). These findings are true across all newspapers, as indicated by the insignificant  $P$ -values for  $H_0: \sigma_{b1}=0$ .

The only six newspaper experiences that do not have significant slopes, indicating that they have no effect on attitude towards the ad, are 42 (Political bias), 6 (Regular part of my day), 28 (Media multi-tasking), 19 (Makes me anxious), 32 (My dining companion), and 31 (Drowning in the news). The fifth and sixth columns quantify whether these slopes vary across newspapers by giving  $\sigma_{1b}$  and a  $P$ -value testing whether  $\sigma_{1b}=0$ . For *these five of the six* experiences the variation across newspapers is not significant, suggesting that these experiences do not affect the ad for any newspaper. Experience 6 (Regular part of my day) is an exception with  $\sigma_{1b}=0.0562$ , indicating that for some newspapers this experience can affect advertising effectiveness.

There is significant variation across newspaper for only a few of the other experience factors. For example, consider experience 2 (My personal timeout), where  $\beta=0.55$  and  $\sigma_{b1}=0.057$ . The  $P$ -value for  $\sigma_{b1}$  is .0030, and so we conclude that there is significant variation across newspapers in the effect of this experience on the attitude towards the ad. For some newspapers the effect (slope) of this experience is stronger than for others. Invoking the normality assumption, we conclude that 68% of newspapers have slopes between  $0.55 \pm .057$ . Note that the slope is positive for all newspapers, meaning that having this experience has a positive effect on attitude toward the ad across newspapers. However, the effect is stronger for some newspapers than for others.

We do not report the slopes for the control variables in each of the 44 models. The estimates are provided on our web site. For each of the experience factors, the effect of current bottled water consumption is positive and around  $\beta_2=0.10$ . This indicates that the

more people drink bottled water, the more they like this ad. The results we report thus control for any potential confounding due to this variable.

The fact that most experiences have a significant effect on attitude toward the ad across newspapers after controlling for general ad interest and current consumption provides strong evidence in support for the hypothesis that these qualitative experiences affect advertising effectiveness in a robust way.

### **Conclusions**

This research demonstrates that the way a person experiences a newspaper can affect the way the person reacts to advertising in the publication. For example, people who find the stories in a newspaper to be unique with high quality also have more positive reactions to the advertising in the newspaper. Therefore, other things being equal, an advertisement in a newspaper with unique, high-quality content is worth more to the advertiser than the same ad in a newspaper without this characteristic.

The most striking thing about the results reported here is just how many of the different experiences identified for newspapers are related to advertising effectiveness. Thirty-eight of the 44 different newspaper experiences are related to effectiveness. Most of the experiences people have with newspapers are associated with differences in advertising effectiveness. The negative experiences that people have with newspapers also seem to affect effectiveness. To the extent that a newspaper is experienced as a waste of time, too much, and something to skim or scan, advertising suffers. Or if the paper itself seems to lack distinction or the reader is annoyed in general by the ads in the newspaper, the advertising is less effective. But, in any case, the overriding pattern is that experiences seem to translate into more advertising impact.

This conclusion is of course subject at this point to the limitations of the methodology of this study. Two points should be kept in mind. Only one ad was used in the research. No matter how “representative” the ad might be further research is obviously called for to examine different product categories and types of advertising execution. For example, the

slope for experience 13 (“Makes me smarter”) may be even stronger for a new high-tech product than for our bottled water ad.

It would also clearly be desirable if possible to conduct future research with actual insertion of ads in newspaper pages. Besides whatever value this might have in being a more “realistic” methodology this later point raises interesting theoretical issues. The present results are best thought of in terms of the “chronic” experience of the medium, how it is typically experienced over time. One can distinguish between this and the “acute” experience of content adjacent to the ad. Actual ad insertions could be used to explore the possible differences between chronic and acute effects in future research.

Taking into consideration the limitations of this study, we conclude, based on a systematic exploration of the distinct qualitative experiences associated with newspapers, that that the effects of these experiences on advertising effectiveness is potentially pervasive and in great need of further investigation.

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Table 1: Effects of newspaper experiences on attitude towards the advertisement after controlling for current bottled water consumption.

Number	Label	$\beta_1$	P-Value	$\sigma_{b_1}$	P-Value
11	High quality, unique content	0.7094	<.0001	0.0000.	
13	Makes me smarter	0.7068	<.0001	0.0371	0.3209
12	All sides of the story	0.5656	<.0001	0.0000.	
2	My personal timeout	0.5466	<.0001	0.0568	0.0030
4	Touches and inspires me	0.5228	<.0001	0.0000.	
16	Ad usefulness	0.5171	<.0001	0.0501	0.0069
25	Turned on by surprise and humor	0.4735	<.0001	0.0071	0.4930
8	Grabs my visually	0.4633	<.0001	0.0553	0.0026
1	Looks out for my interests	0.4447	<.0001	0.0394	0.2635
5	Something to talk about	0.4133	<.0001	0.0529	0.0017
43	Ad credibility	0.3841	<.0001	0.0263	0.4162
18	Makes me more interesting	0.3714	<.0001	0.0366	0.3365
7	Clip and save	0.3528	<.0001	0.0325	0.3382
24	Commands my attention	0.3267	<.0001	0.0686	0.0011
20	People I know	0.2420	<.0001	0.0506	0.0030
10	I connect with writers	0.2206	<.0001	0.0516	0.1473
15	Shows me diversity	0.2073	<.0001	0.0496	0.1567
44	Pick up or take with me	0.1803	<.0001	0.0310	0.3499
41	Guide me	0.1745	<.0001	0.0714	0.0007
39	Pass it around	0.1715	<.0001	0.0162	0.4508
38	Makes me want to read	0.1605	0.0002	0.0536	0.2108
36	Taking a stand	0.1593	<.0001	0.0514	0.1950
30	Value for my money	0.1538	<.0001	0.0669	0.0494
3	Reading on the web	0.1065	0.0006	0.0925	0.0003
35	Unwilling to share	0.0647	0.0322	0.0689	0.1029
	Reader behavior score	0.0492	0.0087	0.0276	0.1772
42	Political bias	0.0390	0.216	0.0378	0.2814
6	Regular part of my day	0.0020	0.9477	0.0562	0.0007
28	Media multi-tasking	-0.0425	0.0626	0.0000.	
19	Makes me anxious	-0.0488	0.1883	0.0338	0.3435
32	My dining companion	-0.0581	0.0545	0.0352	0.2895
31	Drowning in news	-0.0835	0.0787	0.0000.	
27	Gender bias	-0.1890	<.0001	0.0506	0.2338
29	Awkward to handle	-0.1949	<.0001	0.0000.	
23	Poor service	-0.2113	<.0001	0.0260	0.4073
33	News junkie	-0.2204	<.0001	0.0372	0.3242
37	Uninformative ads	-0.2218	<.0001	0.0627	0.0008
21	Lack of local focus	-0.2223	<.0001	0.0574	0.1944
34	Unappealing stories	-0.2235	<.0001	0.0579	0.1620
26	Like to critique	-0.2348	<.0001	0.0655	0.0005
22	Skim and scan	-0.2385	<.0001	0.0341	0.3600
9	Too much	-0.2530	<.0001	0.0000.	

40 Lacks distinction	-0.3930	<.0001	0.0220	0.4477
17 Annoyed and unimpressed by ads	-0.5053	<.0001	0.0380	0.3149
14 Wasting my time	-0.5235	<.0001	0.0459	0.2949

Figure 1: Advertisement used in quasi-experiment.

