

Qualitative Effects of Magazines on Advertising Effectiveness

by

Edward C. Malthouse
Integrated Marketing Communications
Northwestern University
1845 Sheridan Road
Evanston, IL 60208-2175
Phone 847-467-3376
Fax 847-491-5925
Email ecm@northwestern.edu.

Bobby J. Calder
Kellogg School of Management
2001 Sheridan Road
Evanston, IL 60208
Phone 847-491-5925
Fax 847-491-2498
Email calder@northwestern.edu

Author Sketch and Acknowledgements

Edward C. Malthouse (Ph.D., Northwestern University), Associate Professor of Integrated Marketing Communications, Medill School of Journalism, Northwestern University, ecm@northwestern.edu

Bobby J. Calder (Ph.D., University of North Carolina), Charles H. Kellstadt Distinguished Professor of Marketing, Kellogg School of Management, Northwestern University, calder@northwestern.edu

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Abstract: This study presents a quantitative examination of the qualitative impact of magazines on advertising effectiveness. Previous research has identified 39 distinct experiences involved in reading magazines. Here we show that the large majority of these experiences are related to advertising effectiveness. The more readers, for instance, experience a magazine as “making them smarter,” the more effective an ad in the magazine is. It is further shown that these effects are robust over a representative sample of 100 magazines 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. It is 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 (e.g., see Aylesworth and MacKenzie 1998; DePelsmacker, Geuens, and Anckaert 2002; Lynch and Stripp 1999; Cannon 1982;), 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 media (as apart from traditional “qualitative” 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. “Involvement” and “qualitative measures” have been discussed in the advertising literature for many years (Marc 1966;

Philport 1993; D'Amico 1993), but experiences are meant to be more general. The term qualitative measure is often defined to include measurements of different aspects of a reader's *usage* such as the number of reading days, number of reading occurrences, time spent reading, places of reading, circumstances of reading, regularity of reading, and origin of copies read. Attitudinal measures are also used such as "the magazine is one of my favorites," "I would miss this magazine," or "the ads are useful." Several of these usage measures will be used here and these attitudinal measures will be indicators of the experiences proposed here, but our experiences will capture a broader set thoughts and feelings that people have while reading magazines.

Once these experiences have been established, they can be related to the effectiveness of a particular ad appearing in the medium. This will be done through a quasi-experiment, which is described below. We show that experiences have a strong association with advertising effectiveness. Thus, an advertisement placed in a magazine that provides its readers with a high level of this experience will be more effective than the same advertisement in a different magazine that provides lower levels of this experience. Understanding experiences will be shown to be useful in media planning.

The first step in this approach, determining the relevant qualitative experiences, has been completed for magazines (Malthouse, Calder, and Eddy 2003). An initial qualitative research phase sought to ground (Calder 2001) the work in the actual experiences reported by consumers. For magazines, one hundred hour-long interviews were conducted. Each focused on a single magazine that the consumer regularly read. This covered a total of 68 different magazines. These interviews were used to generate items that reflected specific experiences that were common across magazines. We refer to these as *experience items*. One experience item for magazines was "It updates me on things I try to keep up with." The wording of the items reflects the way consumers typically expressed themselves in the qualitative interviews.

This work generated a large pool of experience items that were then included on subsequent quantitative surveys to identify general experiences reflected by related

specific experience items. A total of 220 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 these data we used factor analysis to identify 39 general magazine experiences. Note that each experience is measured by multiple items. The item “It updates me on things I try to keep up with” 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 magazine, I feel I have learned something” and “The magazine stimulates my thinking about things.” 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 media. These analyses not only showed that many of the experiences related to current usage of specific magazines and newspapers, but also that this relationship was robust across magazines. That is, the experiences relate to usage in general and not just for certain magazines. Having established a set of qualitatively grounded, reliably scaled, and robust measures of magazine experience, we now turn to the second step, which is the focus of this study. Do experiences with magazines affect ads in the medium?

The general question we have posed cannot, of course, 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 this 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 magazine that it appears in?

To answer this question, we conducted a quasi-experimental study. We sought a nationally representative sample of readers and magazines in the United States. The objective is to determine if the way a person experiences a magazine affects how they respond to an ad in the magazine. For example, do people who are higher on “It makes me smarter” (experience 2) have more favorable reactions to an ad in the magazine and, if they do, is this effect general across magazines or limited to just some magazines? For

all the experiences we have identified, we want to understand which experiences influence attitude towards advertising and whether these relationships hold across magazines.

In this study we tested on ad that we created for the purposes of this study. Again, we emphasize that the issues raised here cannot be settled with one study. At the same time positive results would point to eventually extremely important conclusions. If we find, for instance, that when readers experience a magazine as making them smarter, they are more responsive to the ads, then a magazine that has a high level of this experience is worth more to an advertiser than a magazine with a low level of experience on this factor. Suppose magazine A has an average of 4.0 on making readers smarter while magazine B has an average of 3.0. Qualitative effects of this kind would need to be accounted for in media planning.

Methodology

Magazine Selection. A key feature of this research is that we wanted to reach conclusions about the experiences involved in reading magazines. Any one magazine may no doubt involve some experiences that are unique to it. But this research postulates and attempts to show that there are some experiences that exist across magazines. Our approach is to use magazines with the largest audiences. By definition, these magazines cover the reading experiences of a large number of people and span the MRI (Mediamark Research, Inc.) categories. Specifically, we screened for readers of the top 100 MRI magazines. These magazines represent 96.2% of net readers of all MRI-measured titles. (See our web site for the categories of magazines.) Two titles were excluded; one no longer published and another that did not contain advertising as content. Two business magazines were added to better represent that category.

Qualitative Phase. Qualitative research generated the initial set of experience items. One hundred hour-long interviews were conducted with readers. Each interview

focused on one of the 100 magazines. Interviews were conducted for 68 of the magazines.

The interviews followed a qualitative format but were structured around the following. Participants were first asked about what they liked or disliked about the magazine. They were then told: “I want to focus now on what reading (magazine) is like for you. What the experience of reading it is like. Do you understand what I mean? (If no, this was explained further.) I’ll ask you about this in a number of different ways. Try to tell me what reading (magazine) is really like for you personally.”

Participants were then asked about situations (times and places etc). They were probed about reading as an end in itself or as a means to an end or goal. They were asked about talking to others about what they read, how reading made them feel, what kind of mood it put them in and any behaviors that resulted from reading. They were also asked about their awareness and interest in advertising in the magazine. A final set of probes took the form of complete-the-sentence projective questions. Examples of these are: When I am not reading (magazine) I am most likely to think of it when _____. If I were to pick up (magazine) just before going to bed, I _____. A name that would better describe (magazine) would be _____. The pictures in (magazine) make me _____. I trust (magazine) not to _____. Another set of probes asked them to use a word (e.g., experience, want, anticipate, helps, worry) in a sentence about the magazine. The complete set of items generated is given our web site. These are shown in the form used in the quantitative survey. Two different orders were used in the survey.

Survey Phase. The same sample of 100 magazines that was used in the qualitative phase was used in the survey phase. Studying 100 magazines provides a strong test of whether experiences are common across magazines. We sampled readers of these magazines using a two-wave procedure. The first wave was a mail survey to identify readers of each of the 100 magazines. The second wave mailed selected responders a longer survey containing the experience items from the qualitative research.

In the first wave, we mailed 22,810 surveys to a random sample of NFO household panel members. This included an over-sampling of teenagers, Generation X, African Americans, and Hispanics. A total of 11,494 usable questionnaires were returned, giving a 50.4% response rate. The survey asked up to three members of the household to complete the survey. The three members were indicated on the survey and selected from a sampling frame provided by NFO. From the 11,494 returned surveys by households, a total of 19,004 individuals completed the questionnaire. Individuals were asked whether or not they read each of the 100 magazines at least once during a typical month. The 19,004 individual respondents yielded a total of 80,536 magazine-person combinations.

The goal of the second wave was to survey a random sample *of readers* of each of the 100 magazines. We define a reader as someone who reads or looks into the magazine at least once in a typical month. To avoid difficult problems with doing statistical inference during our analysis, we decided to interview at most one person from each of the households that returned a survey. Each person was asked about one of the magazines they read. We computed weights for each magazine-person experience and used a random sampling procedure with these weights to select roughly the same number of people for each of the 100 magazines. (The details for these weights are available from our web site.) This guarantees a *random* sample of magazine-person experiences. In total, 4,347 of the 6,085 surveys mailed were returned giving a 71% response rate to this wave of the survey. Overall the response rate was $.50 \times .71 = 36\%$. Respondents were weighted to the U.S. Census using age, gender, and race.

Measuring Consumer Experiences and Advertising Effectiveness

The survey contained the 220 items, constructed from the qualitative research, measuring the experience of reading a specific magazine. We used exploratory factor analysis and coefficient alpha to develop 39 experience factors. The details of the analysis are described in Malthouse, Calder, and Eddy (2003).

We hypothesized that a person's qualitative experience with a magazine/newspaper affects the way the person reacts to advertising in the magazine. 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 ____ magazine. 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.

We developed 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 [magazine name]?" The study included the items "Interesting, Believable, Warm, Calm, Energetic, Irritating, Imaginative, Soothing, Clever, Personal, 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. All of the items loaded on one factor with the exception of the "Valuable" item, which loaded on a second factor. Omitting the "Valuable" item, the other 10 items loaded on a single factor with one eigenvalue greater than 1 and factor loadings ranging from 0.81 to 0.69. Coefficient alpha was 0.92, indicating a highly reliable scale.

We included covariates to control for other factors 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.

Also, it is possible that people who like advertisements in general have a more favorable attitude towards the bottled water advertisement, so to control for this in the magazine study we also included the question: “How much interest do you have in the advertising that appears in [magazine name]?” The four response categories were “A lot of interest,” “considerable interest,” “some interest,” and “not much interest.” By including these variables in the model we attempt to rule out other factors that might explain differences in attitudes towards our particular ad, thereby increasing the power of the quasi-experiment. This allows us to be more confident that any differences identified by our analysis are in fact due to difference in the experience factor rather than one of these potentially confounding factors.

Results

We study the dependence of attitude toward the ad on experiences using hierarchical linear models (HLM) (Kreft and DeLeeuw 1998). Attitude toward the ad is the dependent variable and the independent variables are the experience factor, the bottled water consumption control variable, and in the magazine analyses, the general interest in advertising control variable. We estimate this model for each of the 39 magazine experiences. More precisely, we estimate the model

$$y_{ij} = (\alpha + a_i) + (\beta_1 + b_{1i})x_{1ij} + (\beta_2 + b_{2i})x_{2ij} + (\beta_3 + b_{3i})x_{3ij} + e_{ij},$$

where the subscript j indexes people and i indexes magazines. The attitude towards the advertisement is y_{ij} , the value of the experience factor is x_{1ij} , the amount of bottled water consumed by the respondent is x_{2ij} , and interest in advertising is x_{3ij} . The industry intercept is α , β_1 is the industry slope for an experience factor, β_2 is the industry effect for current bottled water consumption, and β_3 is the industry effect for interest in advertising. Random variables a_i and b_{1k} ($k=1,2,3$) are specific effects for magazine i having normal distributions, each with mean 0 and standard deviations σ_{a2} and σ_{bk} respectively. For example, the effect of an experience on advertising attitude for someone reading magazine i is thus the sum of the industry-wide effect (β_1) and the magazine-specific effect (b_{1i}). By including random effects for the intercepts and slopes, each magazine can have a different slope and/or intercept.

We estimate the model for each of the 39 magazine experience factors. The model estimates are given in Table 1. The third column gives the slope for the experience averaged across magazines (β_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 three of the magazine experiences have significant effects on the attitude towards the bottled water ad. The largest slope is for magazine experience 3 (The stories absorb me) with $\beta_1=0.60$, indicating that the more stories in some magazine absorb the reader, the more favorable the reader is to the bottled water ad. Other magazine experiences with particularly large effects on attitude as indicated by their slopes include 19 (I like some of the ads a lot), 5 (I find the magazine high-quality and sophisticated), 32 (I often reflect on it), 2 (It makes me smarter), and 4 (I trust it). It is particularly interesting that many of the experiences that have the strongest relationship with attitude toward the ad are not explicit advertising experiences.

The only three magazine experiences that do not have significant slopes, indicating that they have no effect on attitude towards the ad, are 18 (I dislike some of the ads), 26 (This magazine irritates me), and 20 (It disappoints me). The fifth and sixth columns quantify whether these slopes vary across magazines by giving σ_{1b} and a P -value testing whether $\sigma_{1b}=0$. For *these three* experiences the variation across magazines is not significant, suggesting that these experiences do not affect the ad for any magazine.

There is significant variation across magazines for most of the other experience factors. For example, consider magazine experience 3 (The stories absorb me), where $\beta=0.60$ and $\sigma_{b1}=0.053$. The P -value for σ_{b1} is 0.0021, and so we conclude that there is significant variation across magazines in the effect of this experience on the attitude towards the ad. For some magazines the effect (slope) of this experience is stronger than for others. Invoking the normality assumption, we conclude that 68% of magazines have slopes between 0.60 ± 0.0533 . Note that the slope is positive for all magazines, meaning that having this experience has a positive effect on attitude toward the ad across magazines. However, the effect is stronger for some magazines than for others.

We do not report the slopes for each of the 39 models for the control variables. 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. Likewise, the slopes for the other control variable measuring how much the respondent likes ads in general have a slope of about $\beta_3=0.25$, indicating that the more the respondent likes ads in general, the more he/she likes this ad. The results we report thus control for any potential confounding due to these variables.

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

Conclusions

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

The most striking thing about the results reported here is just how many of the different experiences identified for magazines are related to advertising effectiveness. Thirty-six of the 39 different magazine experiences are related to effectiveness. And the three unrelated experiences are all negative. The ad was unaffected by whether the magazine experience involved a general dislike of the ads in the magazine or whether the person was often disappointed or irritated by stories in the magazine. It appears that magazines

that bring any strong experience to an ad tend to increase the effectiveness of that ad, but negative experiences do not hard the ad.

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 25 (“I learn things first here”) 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 magazine 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 magazine experiences on attitude towards the advertisement, after controlling for current bottled water consumption and general advertising interest.

Number	Experience Label	β_1	P-Value	σ_{b1}	P-Value
3	The stories absorb me	0.60	<.0001	0.053	0.002
19	I like some of the ads a lot	0.55	<.0001	0.063	0.001
5	I find the magazine high-quality and sophisticated	0.53	<.0001	0.057	0.004
32	I often reflect on it	0.53	<.0001	0.072	0.000
2	It makes me smarter	0.52	<.0001	0.066	0.001
4	I trust it	0.51	<.0001	0.050	0.126
25	I learn things first here	0.50	<.0001	0.066	0.000
8	It improves me and try new things	0.49	<.0001	0.084	0.000
28	I feel good when I read it	0.48	<.0001	0.050	0.096
15	It's my personal timeout	0.48	<.0001	0.063	0.002
13	It grabs me visually	0.47	<.0001	0.066	0.001
27	It's brief and easy to read	0.47	<.0001	0.035	0.276
30	I find unique and surprising things	0.47	<.0001	0.059	0.046
35	I get a sense of place	0.46	<.0001	0.069	0.000
7	I'm inspired	0.46	<.0001	0.062	0.034
22	It's relevant and useful to me	0.44	<.0001	0.064	0.003
24	It's for people like me	0.43	<.0001	0.070	0.000
29	I like seeing people of color in this magazine	0.42	<.0001	0.053	0.001
1	I get value for my time and money	0.41	<.0001	0.061	0.001
16	It helps me look good; it's sensual, even sexy	0.41	<.0001	0.073	0.055
6	I'm touched	0.40	<.0001	0.053	0.067
10	I build relationships by talking about and sharing	0.38	<.0001	0.056	0.074
33	I like its seasonality	0.38	<.0001	0.050	0.020
14	It helps me keep track of celebrities	0.34	<.0001	0.055	0.009
17	I read the ads	0.34	<.0001	0.072	0.002
31	It's part of my routine	0.33	<.0001	0.064	0.001
38	I relate to the ads	0.32	<.0001	0.070	0.014
34	I feel I know the writers	0.28	<.0001	0.073	0.000
37	I think others in the household would enjoy this magazine	0.25	<.0001	0.068	0.001
9	It reinforces my faith	0.23	<.0001	0.077	0.005
23	I keep or share articles	0.22	<.0001	0.077	0.009
21	It leaves me feeling bad	0.16	<.0001	0.040	0.231
11	I save and refer to it	0.15	<.0001	0.076	0.000
12	This magazine's web site is important to me	0.15	<.0001	0.087	0.004
36	I want more ad information	0.14	<.0001	0.054	0.048
39	It requires me to focus	0.11	<.0001	0.063	0.024
18	I dislike some of the ads	0.03	0.3904	0.000	.
26	This magazine irritates me	0.03	0.4278	0.061	0.100
20	It disappoints me	0.02	0.5515	0.000	.

Figure 1: Advertisement used in quasi-experiment.

