

JOURNAL OF

Advertising Research

VOL. 32, NO. 3
MAY/JUNE 1992



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ESTIMATING AN ADVERTISEMENT'S IMPACT ON ONE'S CONSUMPTION OF A BRAND



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The authors gratefully acknowledge the support of this research by the Marketing Science Institute and the Amos Tuck School of Business, Dartmouth College.

The growing interest in the brand equity of consumables is resulting in new advertising objectives for strong brands (Asker and Biel, 1992).

Instead of focusing solely on greater market penetration, many versatile, high-penetration brands (ranging from breakfast cereals to bleach) are now using advertising to encourage loyal consumers to use the brand more frequently, and they are suggesting new ways to use it or new situations in which it can be consumed (Wansink and Ray, 1992). Such efforts will be referred to here as "frequency marketing." Frequency marketing is not only important for high-share brands in low-growth categories but is also important for any association or board which represents commodities (such as the Beef Industry Council, California Raisin Advisory Board, Florida Citrus Commission, National Dairy Council, etc.).

Given this importance of frequency marketing, it is becoming more evident that a manufacturer of consumable goods or a provider of a service has two ultimate goals when advertising: encouraging consumers "to choose" and "to use." To accomplish these goals, manufacturers can either promote switching ("choose") or they can promote more frequent consumption ("use"). Though strong arguments have been made for increasing a brand's penetration or market share

(Ehrenberg, 1974), increasing category volume—by promoting the more frequent use of the brand—may be a much more cost-effective way in which to build sales for many of these high-share brands in low-growth categories. In effect, if a large percentage of the people seeing a particular ad are *already* loyal to the brand, it becomes increasingly important to not simply ignore this segment when developing advertising objectives.

Unfortunately, both industry professionals and academics have criticized traditional copy-testing methods for their inability to accurately capture such consumption-related responses with brand-loyal consumers (Bell, 1988; Marketing Science Institute, 1983). This paper proposes and validates laboratory copy-testing measures that are valid and are sensitive enough to estimate how effective a variety of advertising campaigns would be in stimulating the frequency with which a product or service is used or consumed.

Consumption and (Repurchase)

The basic contention of this article is that the actual purchasing of consumable brands with high market share is of secondary interest (at least initially) since sufficient quantities of these brands (e. g., Campbell's Soup, Quaker Oats, etc.) are *al-*

ready possessed by most households and must be depleted from inventory before repurchase can occur. When consumers are highly loyal to a brand, inventory depletion will eventually lead to the repurchase of the brands, thereby increasing sales. Even though storage limitations can necessitate that a brand be consumed before more of it is purchased, measures of consumption intention are seldom examined when testing the effectiveness of an ad. Instead, the focus has been on measures of purchase intention or on measures of brand attitude (i.e., A_{brand}). Both have shortcomings.

Shortcomings of Purchase Intention Measures. Many factors mediate the impact that advertising has on one's purchase of a brand. If some degree of inventory depletion needs to occur before one will buy more of a brand, it may be that advertising can increase one's intent to consume such a brand *without* having a corresponding impact on one's purchase intentions. In effect, a measure of purchase intention may not be sensitive enough to capture the impact of consumption-related advertising.

A pilot study involving 81 northern California Parent-Teacher Association (PTA) parents examined this relationship between consumption intention and purchase intention for a number of products toward which these subjects were identified as "brand-loyal." This brand-loyal designation was based on the conservative guideline that a person can be considered to be brand loyal if he or she purchased the target brand for at least 50 percent of their category purchases (Jacoby and Chestnut, 1978). The correlation between consumption intentions and purchase intention varied from brand to brand but was only loosely correlated for non-

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perishables and for package goods such as Bisquick ($r = .11$), Quaker Oats ($r = .19$) and Campbell's Soup ($r = .27$).

To a large degree, this lack of correspondence between one's consumption of a brand and one's purchase of that brand exists because most people already have significant amounts of these products at home in their pantry. (It is estimated by the Campbell's Soup Company, for instance, that the average household has approximately nine to eleven cans of Campbell's Soup in their cupboard.) Under such circumstances, one could easily increase his or her consumption of a brand and not even think about having to purchase more of the brand for some time. For this reason, if a brand is already in a household's inventory (such as is the case with most high penetration brands), consumption would be a *precondition* to purchase. Consumption intentions would therefore be a more sensitive measure of campaign effectiveness than would be purchase intentions.

In essence, although measures of purchase intentions are appropriate when the goal of an advertising campaign is to encourage trial, these measures are less appropriate when the campaign is to encourage consumption.

Shortcomings of Preference Measures (A_{brand}). Another

measure that is often used to estimate the effectiveness of a campaign is a rating of A_{brand} . Though such measures can typically predict preference, they are less useful when asked of people who already prefer the brand.

With brand-loyal individuals, any rating of A_{brand} is likely to be insensitive to changes because it is already relatively high ("ceiling effects"). Even if some measure of attitude change would be detectable (perhaps through the use of pre-post measures), this small opportunity for change is likely to make these measures unreliable. Under such circumstances, it is doubtful that increasing (*versus* simply maintaining) A_{brand} would even be an appropriate objective in the first place.

A second problem with using measures of A_{brand} is that a change in A_{brand} is not necessary to stimulate a change in consumption. Even if exposure to an ad has no influence on A_{brand} , the ad may still have an impact on consumption if it raises the salience or awareness of the brand (Ehrenberg, 1974). Recent evidence suggests that simply raising the salience (or top-of-mind awareness) of a brand enables it to be evoked into more choice sets, thus increasing the probability that it will be selected for consumption (Nedungadi, 1990).

Evidence of a change in behavior occurring without a preceding change in attitude has occurred in experimental situations involving repeated exposures to an ad (Ray and Sawyer, 1971), and it has also been found in a field study that Seagram's conducted with aggregated data from brand-loyal consumers (Schiller, Schribner, and Belkin, 1982). In this field study, the more frequently a consumer was exposed to Seagram's ads, the more of the product he or she

consumed. What is important, however, is that this increase in consumption occurred "in the absence of any related increase in product beliefs or in attitude."

In summary, given that measures of A_{brand} are prone to inaccuracies because of ceiling effects and given that they do not capture brand salience (which can also influence consumption), they are likely to be invalid predictive measures of consumption, despite their widespread use.

Measuring Consumption Intentions

By directly measuring one's consumption intentions, copy-testing can more sensitively assess the impact of advertising on consumption than if one simply used measures of purchase intention. In addition, these measures of consumption intention do not suffer from the "ceiling" problems of A_{brand} , nor do they neglect the impact that salience can have on consumption.

Measures of one's consumption intentions (for a particular time period) can be obtained either through likelihood measures or through estimates of one's consumption volume. Likelihood measures can be directly obtained by asking an individual how likely ("Highly Unlikely" = 1 to "Highly Likely" = 7) it will be that he or she consumes the brand within a certain time period, such as "within the next two weeks." Consumption intentions can also be measured by asking one to estimate the amount (number of cans, etc.) of a brand he or she might consume within an upcoming time period, such as "within the next three months."

These two different measures of consumption intent both have advantages. With infrequent us-

ers of a brand, the amount of the brand they consume will be highly skewed since the modal number of units consumed is likely to be 0 units. Because of this, an estimate of consumption likelihood would provide more variance or more information than a volume estimate, for it would allow a greater gradation for response and would therefore be more sensitive in detecting any advertising-related effects.

With frequent or heavy users of a brand, a volume estimate is likely to be more accurate than a Likelihood estimate since the distribution of these volume estimates will be less skewed and may even be normally distributed (Sudman and Schwarz, 1989). As a result, a volume estimate of one's intended consumption is likely to provide more variance and more information about the actual consumption of heavy users than is a likelihood measure, which would undoubtedly be at or near 1.0 (100 percent probable), regardless of the effectiveness of the advertising campaign under examination.

Empirical Examination

Overview. The goal of this empirical examination is to determine which copy-testing measures are the best predictors of subsequent consumption. To examine this, subjects were recruited through northern California PTA groups, and six dollars was donated to the respective organization for each of the 239 group members who participated. Over 80 percent of the subjects were between the ages of 30 and 45, and most were not employed outside the home. Their educational background was heterogeneous.

Each individual saw an ad which was one of four different

executions for one of three popular brands (Campbell's Soup, Jell-O Brand Gelatin, or Ocean Spray Cranberry Sauce). These brands were selected because pretests indicated they have a high degree of brand loyalty and were available in most households. All the ads were presented in the form of transcripts from hypothetical TV commercials. The initial drafts were professionally edited by a copywriter who had significant advertising experience with consumer products. Exposure to these ads strengthened the salience of the brand, and the use of four different executions for each brand strengthened the generalizability of the measurement results.

Procedure. Upon beginning the experiment, the subjects were told to take alternate seats and were given a closed packet of materials which contained a cover sheet of instructions and a number of consecutively labeled booklets. Prior to actually beginning the study, subjects were asked a number of "background questions" which included how "appealing" (1 = "Unappealing"; 7 = "Appealing") they found each of 22 common brands. (The target brands were among these.) They were next told they were going to be comparing how understandable a transcript version of a commercial was when compared with a storyboard version of another commercial. They were then asked to read through a transcript for one of the three target brands and to read an unrelated storyboard. Following this, they were asked about their attitudes and intentions regarding the target brand. Three months later, subjects were phoned and asked about their actual consumption of the brand. Based upon a pretest questionnaire that was distributed to a similar group of

subjects, it was thought that this three-month lag would provide ample opportunity for each family to consume a reasonable amount of the target brands under consideration.

Dependent Measures. Measures of A_{brand} were taken using a 7-point scale. The variables were "Very bad-Very good"; "Dislikable-Likable"; "Low quality-High quality"; "Unappetizing-Appetizing," and their values were averaged together since their Cronbach alpha was .936. In addition, a "pre-post" measure of brand attitude was constructed by subtracting the measure of likability that was taken at the beginning of the experiment from the measure of likability that was obtained after exposure to the ad.

Measures of a person's consumption intent was obtained by asking subjects to estimate the likelihood that they would consume the brand in the next two weeks ("Highly Unlikely" = 1 to "Highly Likely" = 7) and by also asking them to estimate how many times they would consume this brand over the next three months (Sudman and Schwarz, 1989). Pretests had shown that measuring the likelihood of consumption over a two-week period provided a reasonable degree of variance, and, that this variance decreased with longer periods of time (because the likelihood of consumption became more certain). Last, subjects were asked how many times in the past year they consumed the target brand (Pearl, 1981), and they were then asked their age, sex, education, English speaking ability, and the number of children they had living at home.

Subjects were phoned approximately three months after they participated in the experiment and were asked how many times they consumed the target brand.

Though research has shown that one's recall of past purchase can be inaccurate (Churchill, 1979), care was taken in this study to minimize any inaccuracies. As suggested by Cassidy (1981), subjects were asked about their consumption of the brand in a number of different situations and were encouraged to take their time when recalling their use of the brand. After these prompts, subjects were then asked to estimate their total consumption of the brand over this intervening three-month time period. Such an approach of increasing involvement in one's consumption recall has been shown to produce more accurate recall (Cassidy, 1981).

The reliability of these consumption estimates was tested by asking each subject (during the experiment) to estimate their prior consumption rate (over the previous year) of one of the brands for which they had not seen an ad. When called three months later, each subject was asked about their consumption of this nontarget brand over the intervening three months. In effect, these estimates of non target brand consumption served as measures of reliability. If the consumption estimates of subjects are reliable, these "before" and "after" estimates should be similar since subjects had not seen an ad for this brand. This was indeed what was found. There was no change [$F(1,180) = 1.37; p > .10$] in the average monthly consumption of these nontarget brands.

Results

Recall that the goal of this study was to compare various measures of attitude and various measures of consumption intention to determine which measures are most valid in reliably predicting subsequent consump-

. . . the correspondence between intentions and consumption becomes most impressive when the subjects were segmented into heavy users and light users . . .

tion for consumers who currently use the brand. A "user" was liberally defined as someone who had consumed the target brand at least once in the past year. This measure of usage also turned out to be highly related to conservative measures of brand loyalty (Jacoby and Chestnut, 1978) since the typical individual in this study consumed the target brand 84 percent of the time he or she used a product from that particular product category. Of the 239 subjects participating in the study, 20 subjects were not included in the analysis because they were not considered to be users of the particular brand to which they had been assigned. Of the remaining 219 subjects, 181 agreed to participate in the call-back that was conducted three months after the experiment.

The results of this study are interesting. In spite of the strongly-held belief that measures of behavioral intention are correlated with measures of behavior (Ajzen and Fishbein, 1977), the basic correlation between consumption intentions and reported consumption were barely significant and certainly not diagnostic. This pooled correlation between consumption likelihood measures and reported consumption for all users was only .082, and the correlation between consumption volume measures and reported consumption was only .127.

As predicted, however, the correspondence between inten-

tions and consumption becomes most impressive when the subjects were segmented into heavy users and light users (for each of the three brands). These categorizations were based on how much of each brand they had consumed in the previous year. Those who consumed more than the median amount for each brand were classified as relatively "heavy users" and the rest were classified as "light users" (Jacoby and Chestnut, 1978). With both heavy and light users, measures of attitude (both pre-post and A_{brand}) were very weak predictors of consumption for each of the three brands (see Tables 1 and 2). This was not surprising since brand attitude is distantly linked to consumption and is mediated by both the salience of the brand and by one's family's interest in eating it (e.g., one may love liver and onions but would never serve it because no one else in the family likes it) (Wansink, 1992).

In general, both measures of consumption intention (i. e., likelihood and volume) were effective in predicting subsequent consumption, *but* their effectiveness depended upon how frequently a particular brand was consumed. As shown in Table 1, heavy users of the brands tended to be more accurate in estimating what they believed their *consumption volume* would be over the next three months than they were in estimating their "likelihood" of consuming these products ($t = 3.19$; $p < .05$). These correlations between each subject's predicted consumption volume and their reported consumption volume were .62, .46, and .21. In contrast, light users of the brands were unable to accurately estimate their consumption volume but were instead much more accurate in estimating the likelihood of using it within an up-

Table 1
Correlates of Brand Consumption for Heavy Users

Brands (average monthly consumption)	Attitude measures		Consumption intention measures	
	Pre-Post	A_{brand}	Likelihood of consumption	Amount of consumption
Campbell's soup (4.16 cans)	-.101	.083	.190	.618**
Jell-c) brand gelatin (1.34 boxes)	-.166	.130	.233	.462*
Ocean Spray cranberry sauce, (.41 cans)	.226	-.010	.043	.207
All brands (aggregate)	-.162	.193	.197	.597**

* $p < .05$
** $p < .01$

coming period of time ($t = 2.84$; $p < .05$). These correlations between each subject's likelihood estimate and their reported consumption were .42, .78, and .49. When contrasted with research that indicates that predictions of consumption are often very low (Pilgrim, 1957; Cassidy, 1981), this technique of varying the measurement method (based upon usage) can significantly raise the accuracy of such estimates.

The ability of one's consumption intentions to serve as accurate predictors of their reported consumption was confirmed through regression analysis. Specifically, one's reported consumption rate of a brand was regressed against one's con-

sumption intention (measured three months earlier), one's past consumption of the brand, and A_{brand} . The R^2 was .71, and although one's prior consumption of the brand was significantly related to one's predicted consumption of it ($p < .01$), so were the measures of their consumption intentions: for heavy users, their estimated consumption volume was significant at the $p < .01$ level and, for Light users, their estimated consumption likelihood was significant at the $p < .001$ level. These results indicate that these two measures of intention are valid predictors of one's consumption rate of a brand, and that they are significant even *after* accounting for the effects of one's basic attitude to-

Table 2
Correlates of Brand Consumption for Light Users

Brands (average monthly consumption)	Attitude measures		Consumption Intention measures	
	Pre-Post	A_{brand}	Likelihood of consumption	Amount of consumption
Campbell's soup (.91 cans)	.290	.374	.421 "	.151
Jell-O brand gelatin (.32 boxes)	.284	.585*	.779**	.580"
Ocean Spray cranberry sauce (.13 cans)	-.050	.186	.490*	.221
All brands (aggregate)	-.017	.257	.472*	.161

* $p < .05$
** $p < .01$

ward the brand and after accounting for the effects of one's prior consumption of it.

The significance of these consumption estimates in these regressions indicates that these estimates are independent and not simply surrogates for A_{brand} or for past consumption. In addition, the robust discrimination between the effectiveness of likelihood measures (with light users) and the effectiveness of volume measures (with heavy users) lends further credibility to the argument that these measures of consumption intentions and reported consumption are independent observations. This analysis is consistent with Campbell and Stanley's (1963) assertion that multiple methods of measurement should provide discriminating results. If the measures of consumption likelihood and consumption volume used in this study were not independent from each other and from the subsequent measure of reported consumption, the degree of discrimination seen in these results would not exist. In other words, both measures would otherwise be equally predictive with heavy users and light users. This is not the case.

Discussion

The results of this study illustrate two important issues. First, various measures of brand attitude will not always be sensitive enough to detect which of two or more frequency marketing campaigns will be most effective in increasing a household's consumption rate of a brand. Second, consumption intentions can be measured through likelihood estimates or through volume estimates, but each measure seems to be effective under different circumstances. As seen in Table 1, heavy users of a given brand tend to be more accurate when

predicting the future consumption volume of a brand than when predicting their future likelihood of consuming the brand. Conversely, light users (Table 2) tend to be most accurate when predicting their likelihood of consuming the brand.

As mentioned earlier, this variation in accuracy is likely to be a result of two factors. First, the superiority of using likelihood measures with light users exists because the distribution of volume estimates with these users is highly skewed toward 0 and would therefore suffer from variance restriction. With heavy users, the reverse is true: likelihood estimates tend to suffer from a variance restriction because the distribution of likelihood estimates would be highly skewed toward 1.0 (100 percent likely). In addition, light users may simply be less accurate in anticipating how much of a brand they will consume. Unlike heavy users, they have probably not developed habituated and stable brand consumption patterns that would provide a baseline to use when estimating their future consumption (Sudman and Schwarz, 1989). Regardless of the precise reasons for these differences, the fact that they are so severe dictates that they be considered in developing consumption intention measures for copy-testing.

Additionally, if a researcher is trying to estimate the impact that an ad will have on the consumption of a brand that—in general—is an infrequently consumed brand, likelihood measures may be more valid than volume measures. However, if the brand is one that—in general—is frequently consumed, volume measures may be more accurate. In this study, for example, the typical household ate 29.1 cans of soup per year but only 2.7 cans of cranberry sauce,

Given a larger sample of subjects, we would likely find that soup is a product category where consumption intentions are best estimated through volume measures while consumption intentions for cranberry sauce would be best estimated through likelihood measures. This relationship should be even stronger when examining the heavy users of a frequently consumed category or when examining the light users of an infrequently consumed category. Indeed, as can be seen in Tables 1a and 1b, volume estimates of soup provided relatively accurate estimates of consumption for heavy users ($r = .62$) of soup, and likelihood estimates provided relatively accurate estimates of consumption for light users ($r = .49$) of cranberry sauce.

Future Directions: "Menu-Planning" Measures

The focus of this article has been on directly measuring consumption intentions. Another promising direction for future measurement research can be pursued through a "menu-planning" approach. Such an approach might entail the recruitment of subjects for two ostensibly unrelated tasks—to provide feedback about a pilot television show that is under consideration for syndication and to provide information about how they plan their meals.

Consider the situation where three different usage campaigns are being considered for a brand (or an association that represents a commodity-National Dairy Council, etc.) that has high market share but is experiencing little or no growth. In trying to determine which of these three campaigns is most likely to en-

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courage the greater use of the product, it would be worthwhile to experiment with a menu-planning approach of copy-testing.

Such a procedure would be executed by dividing the subjects into three groups and having each group separately view a pilot show (which would include one of the three test ads for the target brand). After the show is over, subjects would be asked questions about the program and given a number of filler tasks. After being given a second cover story, subjects would then be asked to imagine that they will be responsible for planning meals for an upcoming three-day weekend. They would be given a list of products that a "typical" homemaker might have in his or her pantry, and they would be asked to plan the meals (and snacks) for this three-day weekend. The target brand(s) is included in the pantry, and its incidence of use in the "menus" of the subjects should provide a measure of their intent to consume the brand.

The relative performance of each of the three campaign executions will provide an indication of which campaign is likely to be most effective in increasing consumption. Since this method has not been widely used, research will need to examine its sensitivity and validity.

Summary

Frequency marketing campaigns have become more prevalent among high-share brands in low-growth categories. As a result, the inability of traditional copy-testing methods to accurately capture consumption-related responses has recently become an important issue for both industry professionals and academics. This paper argues that when dealing with brands that have a high degree of market penetration and that are also likely to exist in household inventory, consumption intentions are more likely to capture these consumption-related responses than are measures of A_{brand} or purchase intentions. Specifically, this study suggests that volume estimates best approximate the actual consumption of heavy users (or of frequently consumed brands) and that likelihood estimates are best used with light users (or with infrequently consumed brands). ■

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