Attribution Theory and Advertising Effectiveness

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A factorial experiment was conducted to determine the effects of advertising context on the perception of an advertisement. Kelley's attribution variables were used to define four dimensions of context: consensus, consistency over time, consistency over modality, and distinctiveness.

Attribution theory is generating considerable debate (Burnkrant 1975; Calder and Burnkrant 1977; Golden 1977; Hansen and Scott 1976; Mizerski, Golden, and Kernan 1979; Settle 1972; Settle and Golden 1974; Smith and Hunt 1978), due in part to a semantic problem. The problem stems from the fact that people think of a single attribution theory when in fact there are several theories. Attribution theory has been developed as "an amorphous collection of observations about naive causal inferences," which lacks a firm basis of interrelated deductive principles (Jones, Kanouse, Kelley, Nisbett, Valins, and Weiner 1972). The clearest dichotomy among these theories is that between the Jones and Davis (1965) theory of correspondent inference and Kelley's (1967; 1973) four-dimension ANOVA model (Kelley 1967, p. 209). The differences between these two approaches are most relevant to the present study.

Both correspondent inference and the four-dimension model are derived from Heider's (1958) concept of perceived causality. However, the theories were developed with different goals. Correspondent inference theory deals with inferences that are made about the actor whose behavior is observed. The four-dimension model deals with the inferences made about the environment in which the actor is behaving (Jones and McGillis 1976; Kelley 1967). Kelley's model (1973) also makes a distinction between the two approaches, based on the amount of information available to the observer.[1] He divides the ideas of attribution theory into the single observation case and the multiple ob-

servation case. In the first case, attribution is made by observing the behavior of a single individual toward a single stimulus object at a single point in time. Thus, psychological development in this area has been based on correspondent inferences, and directed toward perceptions of the person acting on the stimulus object rather than the stimulus object itself (Jones and McGillis 1976).

In the multiple observation case, the attributor has observed the behavior of several persons with respect to several stimulus objects over a period of time. For any particular behavior, B, the attributor knows whether a person, P, has performed that behavior toward a particular stimulus object, O. In addition, the number of situations in which P has performed B toward O, and the number of other stimulus objects toward which behavior B has been performed by P, is also known. The attributor will also know if other persons have performed B toward O. In this situation, the proper attribution theory is Kelley's four-dimension model (Jones and McGillis 1976; Kelley 1973).

In an advertising situation, the ad itself is usually considered to be the behavioral event. With this approach, research that investigates the effects of manipulations of the content of single advertisements clearly falls into what Kelley calls the single observation case; Smith and Hunt's (1978) contention that these investigations should be based on correspondent inference theory is correct. An alternative approach is to treat the ad as several events. For example, an ad may contain multiple product claims, each of which can be treated as a separate event. The multiple ob-

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[1] In his 1973 article, Kelley compared the four-dimension model to the discounting principle, and not to correspondent inferences. However, for our purposes, there are no significant differences (Jones and McGillis 1976, pp. 407–8 and 412; Kelley 1972).

FIGURE A

ADVERTISING FACTORS INFLUENCING ATTRIBUTIONS
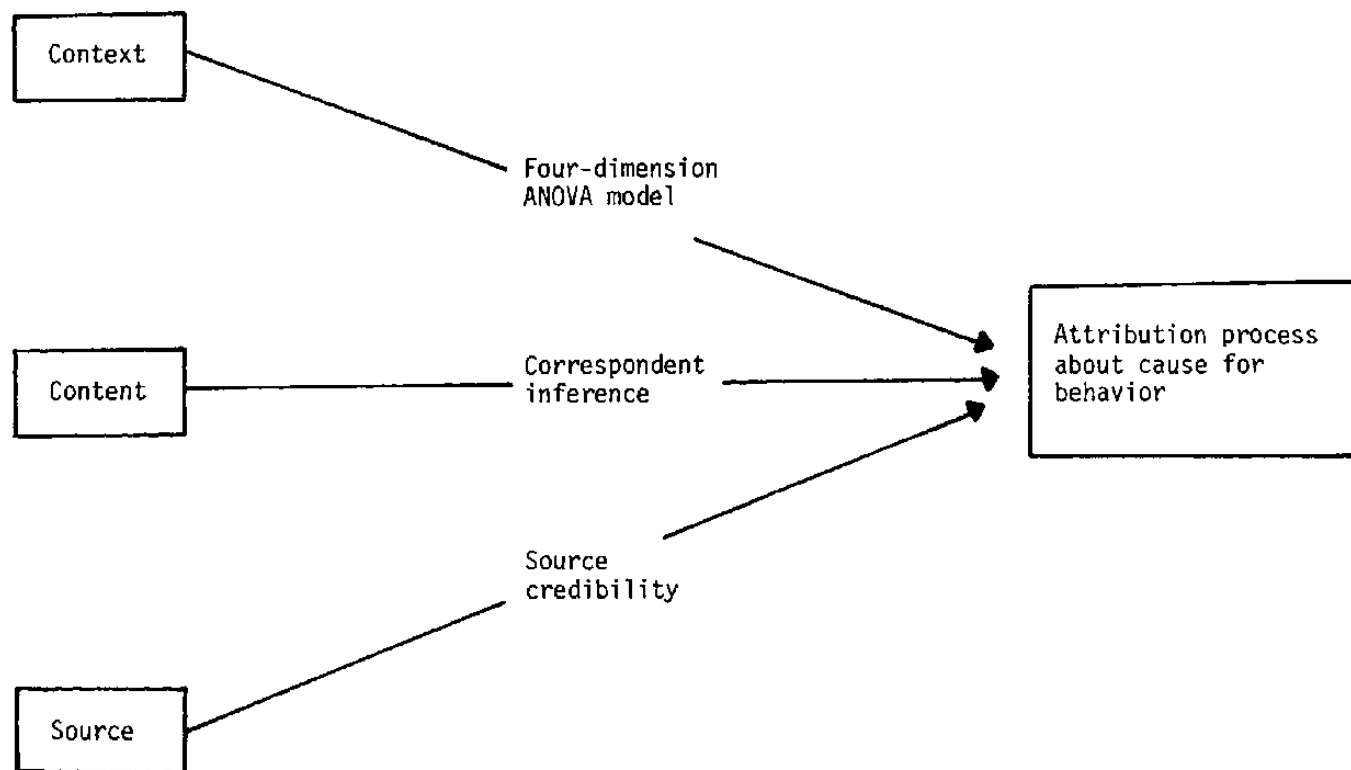
servation case could be applied to the study of attributions about individual claims advertisements conceptualized in this manner (Settle and Golden 1974).

The differences in areas of applicability between the two theories are essentially the difference between advertising content and advertising context.[2] Single observation studies are by their very nature restricted to manipulations of the *content* of individual behavioral events, whereas multiple observation studies investigate the effects of manipulations of the *context* on the perception of a behavioral event that remains constant across treatments. This is the situation for which Kelley's four-dimension ANOVA model was intended (Kelley 1973, p. 110; Jones and McGillis 1976, p. 412; McArthur 1970, p. 2).

Smith and Hunt (1978) identify three important unresolved issues relating to the application of attribution theory to advertising content:

1. Are attributional processes evoked by promotional messages?

2. Assuming their existence, what model best accounts for the behavior of these product claim attributions?

3. Do product claim attributions mediate the perceived credibility of the source?

These issues have received little attention. However, advertising content has been examined using both the theory of correspondent inferences (Smith and Hunt 1978) and Kelley's four-dimension model (Settle and Golden 1974). The only context studies have been done in nonadvertising settings (McArthur 1970; 1972). The issues raised by Smith and Hunt relative to advertising content are equally important for the application of attribution theory to advertising context. The important issues relevant to context are:

● Are attributional processes evoked by the context in which an advertisement appears? Do consumers make attributions about advertising events based on other behavioral events that were also observed?

● Assuming their existence, what model best explains these attributions based on advertising context?

Figure A integrates the concepts of advertising context and content. Whereas Smith and Hunt investigated the link between content and attribution, the purpose of this paper is to investigate the link between context and attribution. This paper is based on Kelley's four-dimension model and not on correspondent inference theory. However, neither the model pre-

[2] For an alternative analysis, see Mizerski, Golden, and Kernan (1979).

sented nor the theoretical framework are inconsistent with Smith and Hunt's work on advertising content.

THEORETICAL FOUNDATIONS

Kelley's four-dimension model is based on the covariance principle that perceived cause for a behavioral event will be the factor with which the behavior co-varies. The cognitive process leading to attributions can be explained through Heider's concept of common-sense psychology. According to Heider (1958, p. 297), people form their perceptions of the social environment in a manner analogous to the methods used in experimental design. Kelley (1967) extended Heider's experimental design analogy and his own covariance principle by suggesting that people use a procedure analogous to the F ratio used in scientific analysis of variance designs. He has hypothesized four independent dimensions for this ANOVA procedure:

1. *Distinctiveness.* Distinctiveness decreases with an increase in the number of other stimuli that elicit the same behavior. The behavior is attributed to the stimulus if it occurs only when the stimulus is present and not in its absence (maximum distinctiveness).

2. *Consistency over time.* Consistency increases with the number of occasions on which the stimulus elicits the same behavior. It is maximized if each time the stimulus is present, the reaction of the individual whose behavior is being analyzed is the same or nearly so.

3. *Consistency over modality.* Consistency increases

with the number of situations in which the stimulus elicits the same behavior. A person's behavior is most consistent if his/her reaction is consistent even though the mode of interaction with the stimulus varies. (For example, what s/he says about the stimulus in private must be consistent with what s/he says about it in public.)

4. *Consensus.* Consensus increases with the number of other persons displaying the same behavior toward the same stimulus. For high consensus, the stimulus must cause similar behavior by other actors.

For illustration purposes, Kelley reduces these four dimensions to three. Dimensions two and three are collapsed into a single dimension called consistency, which includes both time and modality. Distinctiveness and consensus form the other two dimensions of the matrix.

Figure B shows a maximum treatment on all three dimensions. Note that all persons perform behavior B toward the stimulus object O_3 at all times and under all circumstances. Further, they perform B toward no other stimulus objects. As the behavior, B, covaries with the object, the treatment will result in maximum attribution to the invariant properties of the stimulus object. Figure C shows a case at the maximum level on consistency and minimum levels on consensus and distinctiveness. For this case, behavior B covaries with the person P_2, and maximum attribution to the invariant dispositional properties of the person should occur. In Figure D, the behavior occurs only once and cannot be said to covary with anything. The behavior
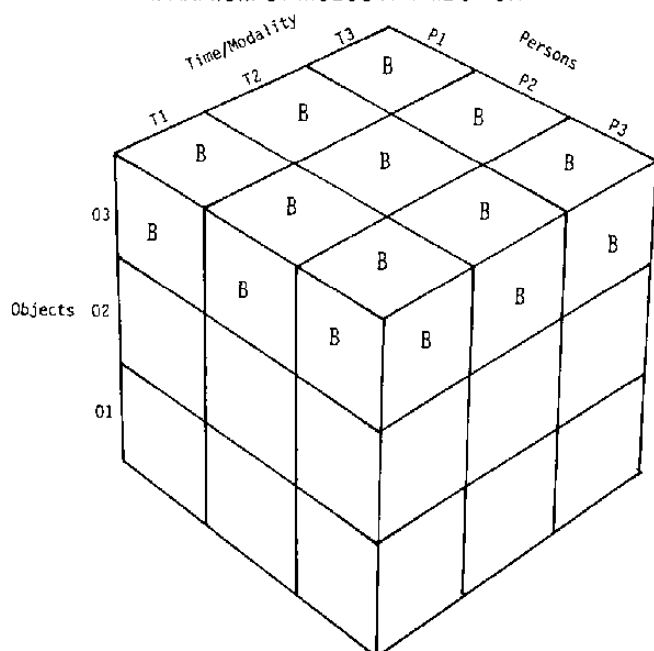
FIGURE B

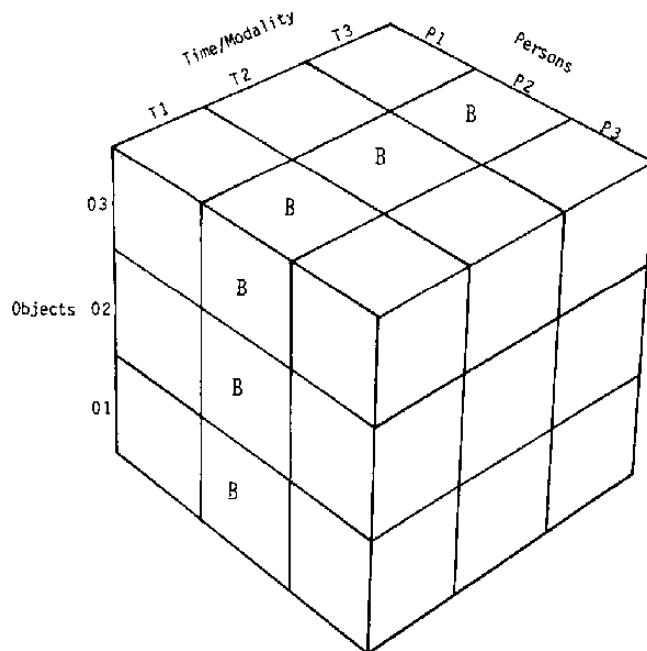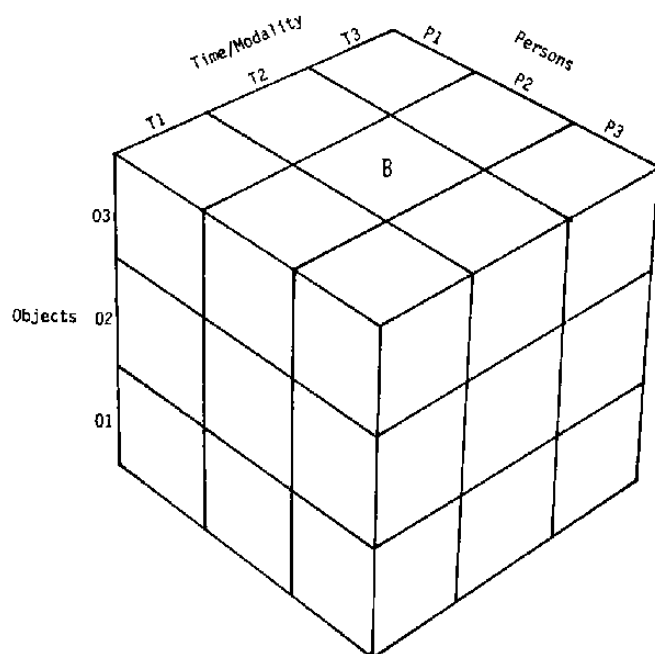MAXIMUM STIMULUS ATTRIBUTION

FIGURE C

MAXIMUM PERSONAL ATTRIBUTION

FIGURE D

MAXIMUM CIRCUMSTANCE ATTRIBUTION

Mexican American customers from all age groups. Interviewing was done by a professional market research firm. Subjects, shoppers in the mall, were approached inside the mall and asked to participate in "a survey on car ads." They were all shown the same advertising layout for a fictitious automobile identified as "Car X." Then, subjects read one of 16 scenarios that set the context for the ad. A total of 255 usable questionnaires were obtained.[3]

The 2 × 2 × 2 × 2 factorial treatment combination consisted of a high and low manipulation of Kelley's four dimensions. After subjects examined the ad, they were asked to read one of the 16 different scenarios, depending on the cell to which they had been randomly assigned. Each scenario consisted of an introductory sentence, a consensus sentence, a consistency sentence for time, a sentence for modality, and a distinctiveness sentence, in that order. The sentences contained contextual information about the spokesperson in the ad, Ralph Jones, and about the behavior of other persons toward the advertised product. For example, this scenario represents low consensus, high consistency over time, high consistency over modality, and high distinctiveness treatment:

> Ralph Jones, a Houston businessman, has recently agreed to appear in ads for a mid-size car, Car X. Several other men and women will also appear in ads for this car. Ralph has agreed to advertise Car X for the next three years. He will appear in magazine ads, TV commercials, and also make personal appearances in dealer showrooms. Ralph has never done an ad before and will not advertise any other products.

is perceived to result from some accidental combination of conditions and would generally not be expected to occur in any predictable pattern.

The applicability of the four-dimension model in a social context has been demonstrated by McArthur (1970; 1972). Her results support Kelley's theory in that she found significant ($p \le 0.001$) effects for all three dimensions on stimulus attribution; modality was not tested.

PILOT STUDY

Although context can influence attribution in non-advertising situations, the value of Kelley's four-dimension model in advertising, and in particular the influence of advertising context on attributions, has not been studied. A pilot study was designed to examine four general hypotheses:

H1: Attribution to the product will increase with increasing consensus.

H2: Attribution to the product will increase with increasing consistency over time.

H3: Attribution to the product will increase with increasing destructiveness.

H4: Attribution to the product will increase with increasing consistency over modality.

Data were collected in a field experiment conducted in a shopping mall that attracts Caucasian, Black, and

All 16 scenarios were created by forming combinations of sentences in a similar manner. Following the experimental treatment, the subject's product attribution was measured on a seven-point bipolar likelihood scale, from "extremely likely" to "extremely unlikely." This was accomplished by asking the subjects: "How likely is it that Ralph agreed to do the ad because of the good characteristics of Car X?"

The data set included several nonexperimental independent variables that correlated with product attribution. Therefore, analysis of covariance procedures were used to analyze the data. The results are shown in the Table. The four attribution hypotheses specify not only the dimensions to be tested, but also the direction of the hypothesized effect. Because each hypothesis has only one degree of freedom in the numerator, a one-tailed t test was used.

Hypothesis 1 stated that attribution to the product will increase with increasing consensus. The t statistic

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[3] Because a convenience sample was used, no exact measure of response rate was taken. However, it is estimated by those doing the field work that the cooperation rate was well above 80 percent. On the sample, 56.6 percent were Caucasians, 76 percent had graduated from high school, and 57.8 percent were 34 years old or younger.

TABLE

ANCOVA RESULTS

Source of variation	Sum of squares	D.F.	Mean square	F	t
Covariates	129.63	8	16.20	5.92[a]	
Consensus effect	11.57	1	11.57	4.27	2.07[b]
Time effect	.75	1	.75	.28	.53
Modality effect	6.41	1	6.41	2.37	-1.54
Distinctiveness effect	.05	1	.05	.02	-.14
Total explained	148.41	12	12.37	4.56[a]	
Residual	657.82	243	2.71		
Total	806.23	255			

Cell means:	High condition	Low condition
Consensus	3.40	2.99
Time	3.31	3.08
Modality	3.06	3.39
Distinctiveness	3.20	3.20

[a] Significant at 0.001 level.
[b] Significant at 0.02 level.
NOTE: Higher scores connote more product attribution

of 2.07 was significant at the 0.02 level. Thus, the first hypothesis was supported. The regression coefficient for consensus was 0.45. This means that responses on the seven-point product attribution scale were 0.45 more positive for subjects in high consensus cells.

Hypotheses 2, 3, and 4 were not supported (Table). Attribution to Car X did not increase with increased consistency over time, distinctiveness, and consistency over modality. The negative *t* statistic provides some reason to believe that modality in this advertising context may have an effect opposite to that hypothesized.

DISCUSSION

Two research questions were raised in the introduction to this paper. The first was: "Are attributional processes evoked by the context in which an advertisement appears?" The answer is "yes." Product attribution for identical ads was found to vary with the number of persons willing to advertise the product. Thus, with content constant, attributions can be changed by the advertisement's context.

The second question, "...what model best explains these attributions...?" cannot be answered from the present study. A single dimension, consensus, of Kelley's ANOVA model was shown to be useful for explaining product attributions resulting from advertising context. However, Kelley's other three dimensions were not related to product attribution.

This finding is, in part, contrary to McArthur's findings in a nonadvertising setting. She found that distinctiveness and consistency over time were significantly related to stimulus attribution. However,

McArthur manipulated the context of noncommercial behavior, and was able to produce relatively simple patterns of covariance. In a commercial setting, with product association, money, and public exposure correlated, Heider's experimental design analogy of independent variables is not applicable.

Consistency over modality and distinctiveness were also nonsignificant. These two dimensions of Kelley's ANOVA model also represent confounded variables in commercial situations. The confounding variables for consistency over modality are the same as for consistency over time. Distinctiveness confounds Ralph's willingness to advertise with the demand for his services as an advertiser. Ralph was described as a businessman, not a celebrity and not an expert. Therefore, the distinctiveness of his behavior may well be due to a lack of opportunity rather than to selectivity in accepting opportunities. This would put the covariance with opportunity and not with behavior. Thus, the distinctiveness manipulation would contain little information about Ralph's motivations.

The results of this study demonstrate that Kelley's ANOVA model should not be indiscriminately applied in an advertising context. The results do not, however, invalidate the model for the study of advertising context, because the consensus manipulations did produce the hypothesized effect, and the only ad tested was for an automobile using a noncelebrity spokesperson. It seems probable that some confounding would be eliminated with other types of products and spokespersons. In particular, a celebrity is expected to have multiple opportunities to appear in ads. Therefore, the distinctiveness dimension would represent selectivity only. Also, time and modality should not be confounded with payment if the appeal is for a charity, such as the Muscular Dystrophy Foundation.

Clearly more research is needed to determine the applicability of the ANOVA model in advertising. It would also be profitable to investigate advertising context by the direct application of the covariance principle. This would be a less structured and perhaps less appealing direction for research, but would allow for explicit investigation of factors not covered in the ANOVA model.

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