Examining The Stimulus Characteristics of Effective Marketing Communications

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Abstract

This study, utilizing an experimental design, assessed the effects of color, size, and shape on printed marketing communication materials. Attitudinal, cognitive, and physiological measures were utilized in examining the effects of the three factors. Color was found to be the most important factor in influencing attention, attraction, and retention. Some support was also found for the use of larger print materials. Finally, several marketing implications of the study are considered.

Introduction

Consumers are continually exposed to enormous amounts of marketing information. Bauer and Greyser (1980) estimate that people are exposed to an average of 1,500 advertisements daily. Exposure, however, does not guarantee that the communication will attract the consumers' attention, lead to comprehension, or that the advertiser's information will be retained. In fact, only 76 of the 1,500 advertised messages in the aforementioned study were selectively attended to by consumers.

Considering the vast amount of marketing information impinging upon us, selective attention is necessary in making sense of the world, in helping differentiate important from unimportant stimuli. Bettman (1979) explains selective attention as a necessity because information-processing capacity is limited, and, therefore, processing capacity is allocated to only information that is relevant and consistent with current interest and goals.

A number of personal and stimulus factors (Haley, 1988) have been found to influence selective attention. Personal or internal factors are defined by Harrell (1986) as those that are part of the individual person. Personal factors that affect the selective attention of marketing communications include variables such as the perceived or latent needs of the individual, degree of involvement with the stimulus (Krugman, 1966; Petty, Cacioppo, and Schumann, 1983; Rothschild, 1984), and the purpose the information serves for the individual. Past experience, motivation, and information-processing styles are also examples of personal factors that influence selective attention.

Many stimulus factors, or attributes of the communication materials themselves, have been systematically manipulated and found to affect selective attention. Studies have demonstrated that variables such as an advertisement's layout, illustration, headline, and text (Hendon, 1973), color (Bellizze, Crowley, and Hasty, 1983; Lewison and Delozier, 1982; McGraw-Hill Research, LAP report no. 3116; Sparkman and Austin, 1980), ad size, illustration size, and cover position (Hanssens and Weitz, 1980; Finn, 1988; McGraw-Hill Research, LAP report no. 3102; Rossiter, 1981; Soley, 1986; and Sparkman, 1985) all influence selective attention.

The present study was designed to assess the effect of three stimulus factors on print marketing communication materials. Several methods such as natural exposure, physiological, attitudinal, and recall measures were used to evaluate communication effectiveness.

Experiment 1

The purpose of Experiment 1 was to examine the effectiveness of color in print communications. Subjects examined one, two, and four-colored brochures using several dependent measures.

Method

Subject. Fifteen male and 15 female undergraduate and graduate students at Southern Illinois University at Edwardsville participated in Experiment 1. The ages ranged from 18 to 48, with a mean age of 24.5. Each subject received ten dollars for completing the experiment.

Stimuli. The brochures chosen for the initial portion of Experiment 1 shared identical features with the exception of color -- one, two, and four.

Another brochure was chosen for the laboratory portion of Experiment 1. These test brochures were identical with the exception of two factors -- color and company name. One brochure was produced in four-color with the letters TWA in the corner. The other two brochures were produced in two-color and one-color (black and white), with the letters AT&T and IBM, respectively. The physical attributes (i.e., size, color, position, font type) of letters comprising each company name were controlled for. The company names were varied to assess recall in a later portion of the experiment.

Procedures

Several dependent measures were used to assess the effect of color on attention, arousal, attitudes, and retention. Each of these measures is described in the order in which they were collected. The three test stimuli were individually randomized and counterbalanced, controlling for any possible order effect.

Natural Exposure. Each subject was seated in a waiting room prior to his or her participation in the laboratory portion of Experiment 1. The subject was told to relax while equipment was being calibrated for use in the experiment.

During this one minute period, the subject was placed at a table containing three program brochures. Each of the brochures was placed in front of the subject in one of three positions (left, middle, or right). The brochures were randomized and counterbalanced. A hidden videocamera then recorded the subject's response -- that is, which brochure was selected first. A brochure was operationally defined as "selected" if the subject held it for two seconds or more. Only, the first brochure "selected" was included in the analyses.

Physiological Measures. Previous research (e.g., Blackwell, Hensel, and Sternthal, 1970; Stewart, 1984; and Watson & Gatchel) has used physiological measures such as pupil dilation, voice pitch analysis, Galvanic Skin Response, and eye movements to evaluate communication effectiveness. These measures have been used rather sparingly, however, due to cost, the lack of experimenter control, and difficulty in interpreting the results. The present experiment utilized heart rate as potential indicator of communication effectiveness.

Subjects were seated and initially told to concentrate on the easel located directly in front of them for a 1 minute period. For the first 30 seconds, the subjects were asked to fix their attention on an all white stimulus (in order to obtain a baseline heart rate) and then the brochure would be introduced for the remaining 30 seconds. Subjects were told to observe the brochure presented, after which they would be asked some questions about them. During this time they were asked to refrain from any movement (that could artificially increase heart rate).

All brochures were displayed at eye level at a viewing distance of approximately 57 cm. The room illumination was held constant. Heart rates were recorded using a Beckman polygraph, model SC5322.

Attitudinal Measures. Attitudinal measures have long been used to determine communication effectiveness (for example, Batra and Ray, 1986; Fishbein, 1967; Fishbein and Ajzen, 1975; Lutz, 1981). However, the best way to capture attitude towards communication materials is still uncertain. For example, Bellar (1985) describes a single-item scale to assess the attitude toward an advertisement. Zinkham, Gelb, and Martin (1983) utilize a four-item rating scale that examines ads on the basis of whether or not they are likable, good, enjoyable, or pleasant.

In the present study, a series of seven-point, bipolar, semantic differential questions (Osgood, Suci, and Tannenbaum, 1957) were used to assess attitudes towards each of the three stimuli. The subjects were told to rate the features of the brochure itself, rather than evaluating the subject matter.

Familiarity Measures. The subjects were then asked to rate their familiarity with six companies on a 7-point Likert scale with 1 indicating "Extremely Familiar". TWA, AT&T, and IBM were included to assess the

introduction of potential bias in the recall portion of the experiment due to familiarity or past experience with a company.

Recall Measures. A cognitive measure of unaided recall was then obtained 24 hours after participation in the initial phases of Experiment 1 (see Stewart, Frese, and Kozak, 1983 for a discussion of recall as a measure of advertising effectiveness). Each subject was asked to describe everything he or she could about the brochures observed the day before. If the subject mentioned the company name (AT&T, IBM, and TWA) then the brochure was considered to be "remembered" and included in subsequent analyses.

Results and Discussion

Natural Exposure. Over one-half of the subjects (56.7%) initially selected the four-color brochure in the natural exposure portion of Experiment 1. Only 16.7% of the subjects selected the two-color brochure, followed by 13.3% who selected the one-color brochure, and 13.3% of the subjects who did not select any of the brochures ($x2 = 12.07$, $p < .005$).

Subsequent a-posteriori multiple comparison tests (Mariscuillo & Serlin, 1988) revealed significant differences between the four-color brochure and both the two-color [Z (2) = 3.81, $p < .01$] and one-color brochures [Z (2) = 4.27, $p < .01$]. These results demonstrate the attention-gaining power of the four-color brochure that was not present in either of other two brochures.

Physiological Measures. Table 1 provides the results of the physiological testing (heart rate measured in beats per minute). A 2 x 3 Repeated-Measures ANOVA was performed with the factors being type of condition (baseline or no stimulus present, stimulus present) and type of color (one, two, and four). Neither the main effects of condition and color [F's < 1], nor the condition by color interaction [$F(2,54) = 2.22$, $p < .10$] was significant.

Attitudinal Measures. In order to assess the internal consistency among the 16 attitudinal variables, coefficient alpha was computed and deemed acceptable (.84). Univariate repeated-measures ANOVA's were then calculated for the three brochure types across each dependent measure (i.e., semantic-differential question). The Bon-Ferroni procedure was used to correct for inflated Type 1 error associated with conducted a large number of separate univariate tests.

TABLE 1
EXPERIMENT 1
PHYSIOLOGICAL MEASURES

		COLOR		
		ONE	TWO	FOUR
CONDITION				
BASELINE	MEAN	78.90	80.25	79.67
	S.D.	12.03	12.23	12.39
STIMULUS	MEAN	80.11	78.86	78.89
	S.D.	12.99	11.94	11.75

Further a-posteriori tests of significance were utilized to examine mean comparisons in those ratings having significant differences across color. Student Newman Keuls tests revealed significant differences between all levels of color in most instances. Table 2 shows the descriptive statistics and ANOVA results of the attitudinal phase.

Four-color mailers appeared more exciting, lively, complex, fun, sophisticated, original, strong, and enlightening than either two-color or one-color mailers. In addition, the four-color mailer was rated as more expensive looking, superior, and better overall. One exception to this trend was that one-color mailers were rated to be "more tasteful" than two-color or four-color.

Although the three mailers were identical except for color, the four-color mailer was perceived differently on a variety of attributes. In other words, using four-color communication does more than simply add color to the presentation; it adds personality.

Familiarity Measures. The mean ratings for AT&T, IBM, and TWA (5.87, 5.77, respectively) indicated a high degree of familiarity with each of these company names appearing on the brochures. The familiarity ratings were subjected to a one-way repeated-measures ANOVA. There was no significant effect of company name [$F < 1$]. Therefore, the company names chosen for the brochures were equally familiar across all subjects and had no inherent bias on the subsequent recall measures.

Recall Measures. A brochure was considered to be remembered if the company name was mentioned in the modified, day after recall measure of Experiment 1. The percentage of subjects retaining AT&T (four-color) was 70%, while 40% mentioned IBM (two-color) and 43% indicated remembering TWA (one-color). tTukey was utilized to examine pairwise comparisons between the three groups. Only the four-color brochure was significantly different from the two-color brochure ($tTukey = 3.00$, $p < .05$).

TABLE 2
EXPERIMENT 1
ATTITUDINAL MEASURES

COLOR

ATTRIBUTE	ONE MEAN	S.D.	TWO MEAN	S.D.	FOUR MEAN	S.D	OVERALL MEAN	S.D	F-VALUE
INFERIOR/SUPERIOR	3.30	1.15	4.17	1.32	5.97	0.85	4.48	1.57	44.12***
DISTASTEFUL/TASTEFUL	4.83	1.51	4.73	1.48	6.10	0.84	5.22	1.44	9.66***
BAD/GOOD	3.97	1.40	4.43	1.30	6.03	1.00	4.81	1.52	22.67***
INEXPENSIVE/EXPENSIVE	3.67	1.77	4.10	1.27	5.80	0.92	4.52	1.64	22.04***
PASSIVE/ACTIVE	3.20	1.74	4.47	1.52	5.43	1.55	4.37	1.84	18.81***
DULL/EXCITING	3.17	1.64	3.90	1.63	5.60	1.25	4.22	1.82	19.96***
CALM/LIVELY	3.17	1.64	4.30	1.44	5.60	1.50	4.36	1.81	23.80***
SIMPLE/COMPLEX	3.67	1.54	3.80	1.81	4.90	1.47	4.12	1.69	6.11**
DRAB/COLORFUL	1.80	1.03	3.77	1.83	6.53	0.63	4.03	2.32	109.27***
UNSOPHISTICATED/SOPH	3.90	1.65	4.47	1.14	5.30	1.18	4.56	1.45	10.75***
BORING/FUN	3.37	1.61	4.10	1.71	5.93	1.08	4.47	1.83	24.05***
CONVENTIONAL/ORIGINAL	8.37	1.81	4.10	1.75	5.10	1.58	4.19	1.85	11.43***
WEAK/STRONG	3.67	1.63	4.07	1.68	5.60	1.25	4.44	1.73	12.93***
DEPRESSING/ENLIGHTENING	3.57	1.52	4.17	1.76	6.27	0.87	4.67	1.84	30.84***
MASCULINE/FEMININE	4.77	1.28	3.93	1.17	4.00	1.34	4.24	1.31	5.06**
WORST/BEST	3.33	1.30	3.83	1.26	6.00	0.79	4.39	1.62	44.01***

* p<0.05
** p<0.01
*** p<0.001
Note: Mean ratings were based on a scale of 1-7, where 1 was assigned to the first attribute in each pair listed above.

Experiment 2

The second experiment was designed to assess the effectiveness of the stimulus characteristic of **size.** Subjects judged large, medium, and small brochures using the same measures as in Experiment 1.

Method

Subjects. Thirty undergraduate and graduate students (15 female and 15 male) participated in the experiment and earned ten dollars upon its completion. The mean age was 22.2, and ages ranged from 18 to 36.

Stimuli. Three brochure sizes (3 X 5, 5.5 X 8.5, 8.5 X 11.5) were used in the natural exposure portion of Experiment 2. All other stimulus factors were identical with the exception of size.

As with the previous experiment, the remaining dependent measures were obtained with a different set of brochures. The brochures were identical with the exception of size and company name (3 X 5 with AT&T, 5.5 X 8.5 with IBM, and 8.5 X 11.5 with TWA).

Procedures. The procedures were identical to those used in Experiment 1.

Results and Discussion

Natural Exposure. The size of the brochure did not produce a significant attraction effect [X2(2) = 1.65, n.s.] in Experiment 2. The largest brochure was selected most often (30%), followed by the smallest brochure (27%) and the medium size brochure (17%). Surprisingly, 23% of the subjects didn't select any of the communication materials.

Physiological Measures. A 2 X 3 repeated-measures ANOVA was performed on the heart rate measures. The two factors were type of condition (baseline and stimulus) and size (3 X 5, 5.5 X 8.5, and 8.5 X 11.5). Type of condition was significant [$F(1,29) = 4.77$, $p < .05$], with the average baseline heart rate (78.58) higher

than the average heart rate following the introduction of the brochures (76.99) (see Table 3). However, size [F < 1] and condition by size interaction [F(2,58) = 1.57, p < .22] were both non-significant.

TABLE 3
EXPERIMENT 2
PHYSIOLOGICAL MEASURES

		SIZE		
		3X5	5.5X8.5	8.5X11.5
BASELINE	MEAN	78.24	78.01	79.50
	S.D.	10.99	10.33	9.52
CONDITION				
STIMULUS	MEAN	77.64	76.51	76.82
	S.D.	11.17	11.39	10.97

Attitudinal Measures. As in Experiment 1, coefficient alpha (.91) was first computed for the multi-item, semantic differential rating. The descriptive statistics and ANOVA results of the attitudinal phase are shown in Table 4. The Bon-Ferroni procedure was again used to correct for inflated Type 1 error.

The results of this phase of the experiment were rather mixed. In most cases, the largest mailer (8.5 X 11.5) had the greater appeal (e.g., superior, tasteful, good, expensive, active, exciting, colorful, fun, strong, enlightening, masculine, and rated the best overall). The medium size (5.5 X 8.5), however, was thought to be more lively and complex, while the smallest brochure (3 X 5) was rated more sophisticated and original. This portion of the experiment showed some support for the larger brochure -- but the effect was weak to non-existent in most cases.

It is important to note that the larger brochure was rated more colorful, expensive, fun, tasteful, etc. These attributes of the communications materials should remain relatively consistent over size. This alone has important implications in the rationale for choosing the size that is best suited to produced the desire image of the product/service that is being promoted.

TABLE 4
EXPERIMENT 2
ATTITUDINAL MEASURES

ATTRIBUTE	SIZE 3X5 MEAN	3X5 S.D.	5.5X8.5 MEAN	5.5X8.5 S.D.	8.5X11.5 MEAN	8.5X11.5 S.D	OVERALL MEAN	OVERALL S.D	F-VALUE
INFERIOR/SUPERIOR	3.60	1.40	3.63	1.30	4.30	1.51	3.84	1.40	4.29*
DISTASTEFUL/TASTEFUL	4.03	1.54	4.03	1.96	4.70	1.58	4.25	1.69	4.00*
BAD/GOOD	3.80	1.45	3.93	1.51	4.70	1.66	4.14	1.54	10.30***
INEXPENSIVE/EXPENSIVE	2.57	1.50	3.10	1.56	3.53	1.59	3.07	1.55	5.37*
PASSIVE/ACTIVE	5.77	1.25	5.70	1.18	5.80	1.30	5.76	1.24	0.11
DULL/EXCITING	4.60	1.33	4.40	1.71	4.87	1.53	4.22	1.52	1.79
CALM/LIVELY	5.20	1.24	5.63	1.03	5.53	1.36	5.45	1.21	2.47
SIMPLE/COMPLEX	4.00	1.55	4.07	1.46	3.77	1.38	3.95	1.46	0.78
DRAB/COLORFUL	1.73	0.94	1.83	1.09	2.00	1.17	1.85	1.07	0.77
UNSOPHISTICATED/SOPH	3.47	1.38	3.23	1.55	3.40	1.40	3.37	1.44	0.43
BORING/FUN	4.57	1.48	4.63	1.75	4.73	1.62	4.64	1.62	0.21
CONVENTIONAL/ORIGINAL	4.90	1.52	4.70	1.47	4.83	1.58	4.81	1.52	0.26
WEAK/STRONG	4.23	1.25	4.30	1.27	4.57	1.50	4.37	1.34	0.85
DEPRESSING/ENLIGHTENING	4.40	1.38	4.43	1.52	4.47	1.50	4.43	1.47	0.04
MASCULINE/FEMININE	6.40	1.10	6.33	1.32	6.43	1.31	6.39	1.24	0.22
WORST/BEST	3.77	1.48	4.07	1.41	4.67	1.40	4.17	1.43	6.60*

* p<0.05
** p<0.01
*** p<0.001
Note: Mean ratings were based on a scale of 1-7, where 1 was assigned to the first attribute in each pair listed above.

Familiarity Measures. The mean ratings for AT&T, TWA, and IBM were 6.40, 6.40, and 6.10, respectively, indicating a high degree of familiarity with each of these company names. A one- way repeated-measures ANOVA was performed to assess any potential bias in the subsequent recall measures. As expected, no significant differences were found between the three company names appearing on the brochure [$F(2,58) = 1.53$, $p < .23$].

Recall Measures. tTukey was computed for the recall measures in Experiment 2, however, no significant differences were found between the three brochure sizes. The 8.5 X 11.5 brochure was retained more often (87%), followed by the 5.5 X 8.5 (77%) and the 3 X 5 brochure (70%).

Experiment 3

The third experiment was designed to assess the effectiveness of **shape.** Subjects observed horizontal, square, and vertical brochures using the same measures as in the previous experiments.

Method

Subjects. Fifteen male and 15 female undergraduate and graduate students served as subjects in Experiment 3. The mean age was 24.3 years, and the ages ranged from 18 to 41. Each subject was given ten dollars for completing the experiment.

Stimuli. The brochures were identical in the natural exposure portion of Experiment 3 with the exception of shape -- horizontal (8.5 X 5.5), square (7 X 7) and vertical-fold (5.5 X 8.5).

The brochures used to obtain the remaining measures were also identical with the exception of shape and company name. The horizontal-fold brochure (8.5 X 5.5) was produced with the letters TWA. The square (7 X 7) and vertical-fold (5.5 X 8.5) brochures had the company names of IBM and AT&T, respectively.

Procedures. The same procedures were used as in Experiments 1 and 2.

Results and Discussion

Natural Exposure. The "selection" across brochures shapes was essentially equivalent in the natural exposure phase of Experiment 3. The square-shaped and vertical-shaped brochures were selected by 35% of the subjects. The horizontal brochure was chosen by 31% of the subjects. A chi-square test was performed finding no significant differences between the three groups [$x2(2) = .12$, n.s.]. Only one person did not select any of the brochures.

Physiological Measure. As in the Experiments 1 and 2, heart rates measures were subjected to a 2 X 3 repeated-measures ANOVA. Neither type of condition [$F(1,27) = 1.35$, $p < .26$] nor type of shape [$F < 1$] was significant. There was not a significant condition by shape interaction [$F < 1$]. The heart rate data is presented in Table 5.

TABLE 5
EXPERIMENT 3
PHYSIOLOGICAL MEASURES

		SHAPE		
		VERTICAL	SQUARE	HORIZONTAL
BASELINE	MEAN	85.32	85.91	85.94
	S.D.	13.68	11.85	12.38
CONDITION				
STIMULUS	MEAN	84.88	85.74	84.10
	S.D.	14.42	12.62	13.65

Attitudinal Measures. As in the previous experiments, coefficient alpha (.85) was computed among the 16 attitudinal variables. Univariate repeated-measures ANOVA's were then calculated for the three brochure shapes across each rating (see Table 6).

The results of the attitudinal portion demonstrated inconsistent findings across brochure shape. In some cases, the horizontal brochure had the greater appeal (e.g., superior, active, complex, colorful, fun, enlightening, and the best overall). The square shape was thought to be more exciting, sophisticated, and original, while the vertical was judged to be more tasteful, expensive, lively, and stronger.

Interestingly, no statistically significant differences were found in any of the variables. This portion of the experiment again demonstrated that shape does not seem to be an important stimulus factor.

Familiarity Measures. Consistent with previous experiments, the subjects were highly familiar with the company names. The highest mean rating (6.37) was obtained by AT&T, followed by IBM (6.30) and TWA (6.23). These ratings were subjected to a one-way repeated measures ANOVA, and produced no significant effect of company name [$F < 1$].

Recall Measures. The number of subjects remembering company names was extremely high for the present experiment. IBM was recalled more often (92%), than either TWA or AT&T (both 80%). A subsequent

TABLE 6
EXPERIMENT 3
ATTITUDINAL MEASURES

SHAPE

ATTRIBUTE	VERTICAL		SQUARE		HORIZONTAL		OVERALL		
	MEAN	S.D.	MEAN	S.D.	MEAN	S.D	MEAN	S.D	F-VALUE
INFERIOR/SUPERIOR	4.67	1.12	4.67	1.16	4.87	1.14	4.74	1.14	0.55
DISTASTEFUL/TASTEFUL	5.43	0.82	5.23	1.33	5.33	1.30	5.33	1.15	0.34
BAD/GOOD	5.13	1.01	4.83	1.56	5.10	1.16	5.02	1.24	0.69
INEXPENSIVE/EXPENSIVE	4.30	1.64	4.13	1.57	4.07	1.53	4.17	1.58	0.41
PASSIVE/ACTIVE	4.60	1.40	4.50	1.72	4.70	1.42	4.60	1.51	0.38
DULL/EXCITING	3.97	1.30	4.30	1.58	4.10	1.67	4.12	1.52	0.70
CALM/LIVELY	4.60	1.22	4.07	1.41	4.43	1.43	4.37	1.35	2.23
SIMPLE/COMPLEX	3.53	1.48	3.87	1.46	4.07	1.44	3.82	1.46	2.81
DRAB/COLORFUL	4.30	1.51	4.33	1.67	4.33	1.47	4.32	1.55	0.01
UNSOPHISTICATED/SOPH	4.47	1.59	4.60	1.48	4.23	1.33	4.43	1.48	1.06
BORING/FUN	4.13	1.33	4.27	1.74	4.30	1.56	4.23	1.54	0.26
CONVENTIONAL/ORIGINAL	4.03	1.45	4.40	1.67	4.20	1.38	4.21	1.50	1.02
WEAK/STRONG	4.73	1.20	4.47	1.33	4.62	1.52	4.61	1.35	0.52
DEPRESSING/ENLIGHTENING	4.73	1.20	4.73	1.23	4.93	1.26	4.80	1.23	0.52
MASCULINE/FEMININE	4.80	1.47	4.90	1.47	4.93	1.34	4.87	1.43	0.12
WORST/BEST	4.70	1.02	4.63	1.35	4.77	1.22	4.70	1.20	0.13

* $p<0.05$
** $p<0.01$
*** $p<0.001$
Note: Mean ratings were based on a scale of 1-7, where 1 was assigned to the first attribute in each pair listed above.

tTukey test revealed no significant differences in recall between company names.

Implications For Marketing Strategies

The complete research offers a number of significant implications and applications for the development of effective promotional strategies. Of the variables examined in this study, it was found that the factor of four-color presentation of printed material was most significant in creating effective marketing communications. This conclusion represents a gross measurement of the influence of color since different colors and various combinations of colors were not investigated. Additionally, non-print media (i.e., television) were not included in the study. Yet from the results of this research, one can make strong conclusions with respect to the use of color as it applies to most print media.

When researchers attempt to measure the effectiveness of promotional activities, they often resort to measurements of recognition and/or recall. These factors have traditionally been viewed as being driven by the visual and/or verbal content of a promotional activity. Most studies have concluded that recognition is primarily dependent upon visual considerations and, therefore, research which examines the impact of color is most relevant. Additionally, for measurements of recognition other structural format issues such as the size and shape of promotional offerings are valid influences for gaining recognition. This does not mean that issues of color, size, and shape are not also important for aiding recall. Color's influence on recall has been especially important when used by major corporations in a format which identifies the organization (i.e., "big blue: IBM or "golden arches" McDonalds).

An analysis of the types of attitude changes which are desired from promotion will bring about the need to conduct a cost/benefit analysis based upon additional recognition and/or recall versus the cost of structural format variations such as four-color costs vs. black and white or two-color cost. It is safe to say that four-color promotional pieces are always more costly to produce.

Traditionally the attitudinal dimensions for all marketing communications have been divided into cognitive constructs of low involvement and high involvement.

Low involvement type decisions are ones where risk is perceived to be minimal and where ones previous trial experiences with a product, service, or idea are sufficient. In turn, high involvement decisions are dependent upon the further search and evaluation of options for behavior and/or attitudinal change.

However, what is of greatest importance in determining the needed use for a type of decision (low involvement vs. high involvement) is the motivation desired. This is generally divided into information needs to reduce negative motivations and transformational messages which will "turn on" a positive motivation. These effective components of marketing communications are most in need of promotional techniques which will increase recognition and/or recall. Hence, the importance of this research in designing such messages.

In situations where transformational messages are offered, whether involving low involvement or high involvement issues, color will enhance the communication process in a significant way. For example, changing attitudes about products, services, or ideas can best be done when color is used in the communications. Additionally, color will be most important in transformational communications where processing time and the frequency of viewing of the communication is high due to low involvements. Low involvement situations are dependent upon a slow build up of attitudes whereas high involvement issues often can be addressed with less frequency of viewing. Color also should be used in high involvement transformational situations which dictate low processing time and low frequency of viewing. In such situations, color is helpful in gaining quick attention to the communication.

Limitations Of The Study

The present study strongly supports the benefits of using four-color marketing communication pieces and under some circumstances using other production based techniques for marketing communications. However, it negates both qualitative and quantitative measures bases upon the impact of different colors, the influences of various color combinations, and possibly, most important, the color psychology associated with different target market segments (i.e., Will women be impacted by various colors and their use in ways unlike the impact on men.). Also, will a mix of colors strongly influence the credibility of communication messages?

The researchers are currently replicating procedures to consider such additional variables. A further analysis will be undertaken to determine if there are variances in color preferences and influences based upon demographic and geographic segmentation factors. Color preference by geographic location and demographic factors could possibly be more important than the fundamental finding that color does enhance marketing communication effectiveness.

Suggestions For Future Research

The aforementioned limitations of the present study provide the impetus for additional research. For example, research should be conducted to explore whether the powerful effects of color witnessed in the present study are sample specific. Studies should be done with more experienced consumers to determine possible differences with respect to various demographic profiles. This research could be particularly interesting using the growing mature market as a sample.

Also, the effectiveness of four color communication should be examined in "real world" settings to determine the situation generalizability of the present research. For example, the color of ads or brochures could be manipulated in field test market for various products or services. Awareness of the ad/brochure and sales data could be tracked across the various color combinations.

In addition, the present research should be replicated with new stimuli that use different color combinations and different copy. Only then will we further our understanding of the relative effectiveness of various colors. Finally, and perhaps most importantly from the practitioners viewpoint, future research should focus on the "cost of color". This research could address the point at which the benefits of color production outweigh the cost. ❧

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