

## **The effects of message strategy and execution framework on teenage boy's processing of print advertisements in India**

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### ***Abstract***

The purpose of this paper is to explore the most effective print advertising strategy in terms of message strategy and execution framework for teenage boys in India. Teenage boys (n = 400) watched twenty advertisements in which message strategy and execution framework were manipulated in a 2x10 completely crossed factorial design and were asked to rate their attention, comprehension, retention, attitudes and purchase motivation about these advertisements. Results suggest that affective message strategy along with personality symbol as execution framework is most effective for teenage boys. Findings are then discussed.

**Keywords:** print advertising, information processing, message strategy, execution framework, teenage boys

## **1 INTRODUCTION**

The study of consumer information processing has become an important development in communication research. As creative complexity and artistic expression continue to be the norm in contemporary print advertising, a further understanding of how consumers process advertisements can only enhance future advertising efforts (Lapidus, 1991). Since the marketplace gets more competitive with hundreds, if not thousands, of advertisers competing for the consumers' attention marketers must develop a better understanding of the consumer if they are to reach their desired target audience efficiently and effectively. It is a fact universally acknowledged that matching advertisement format to a consumer's mode of information processing enhances advertising effectiveness. Most print advertisements utilize texts and pictures to communicate with consumers. Research has begun to examine how the processing of these texts and pictures are influenced by its structure (e.g., whether it is in narrative format or presented as a list of attributes; Adaval & Wyer, 2004; Escalas, 1998). When advertising format is compatible with processing mode, the ability to process information gets enhanced, making the message more persuasive and advertisement evaluations, brand evaluations, and purchase intentions more favourable than when advertising format and processing mode are incompatible. It is a matter of study for the market researchers to find out the most effective advertising strategy for the segmented target markets. In considering the many and varied effects of advertising, a very central issue is how the information in an advertisement is processed, that is, how people understand and remember what an advertisement said.

'The consumer is constantly being bombarded with information which is potentially relevant for making choices. The consumer's reaction to that information, how that information is interpreted, and how it is combined or integrated with other information may have crucial impacts on choice. Hence, decisions on what information to provide to consumers, how much to provide, and how to provide require knowledge of how consumers process, interpret and integrate that information in making choices (Bettman, 1979).'

The way in which information is received, processed and recalled by the human mind is necessary to know if advertising is to be efficiently devised and created to elicit the highest possible effect. Information processing models generally gain their power when they are applied to make predictions on what types of information will and will not be recalled.

In an attempt to understand consumer choice in advertising, the approach that has been taken is to focus on the information used by consumers and how that information is processed. "A clearer understanding of the stages of the processes involved in responding to advertisements would certainly have practical as well as theoretical importance (Harris, 1983)."

The basic approach to study the choice in advertising is to view the consumer as a processor of information; that is the consumer is characterized as interacting with his or her choice environment, seeking and taking in information from various sources, processing this information, and then making a selection among different alternatives. The purpose is to provide an integrated view of choice from an information processing perspective.

Since the right message strategy and the right execution framework will be different for different target audiences, the present research has taken into consideration the teenage boys and tries to explore the right combination of message strategy and execution framework which will be the most effective tool for each of them. The present study on information processing has been carried out by treating print advertisements as information sources and male teenagers as information processors.

### **Objective**

This study is designed to extend knowledge of cognitive processing of advertising messages by teenage boys in India. The objective of the research is to give the advertising industry a definite guideline while targeting the teenage boys. The research tries to bring forward the most effective combination of message strategy and execution framework for the teenage boys. The specific objectives of the research are as follows:

1. To find whether advertisement elements like message strategy and execution framework influence processing and understanding of advertising messages by teenage boys.
2. To explore the most appropriate strategies for creating print advertisements in terms of message strategy and execution framework while targeting towards the teenage boys of India.

## **2 LITERATURE REVIEW AND THEORETICAL FRAMEWORK**

The understanding of how the mind processes and stores information is invaluable to advertisers as they plan for message strategy and execution framework in advertisements. If there is little to no understanding of the information processing skills of the consumers with whom one is working, it would be almost impossible to design advertisements that contribute to high levels of effectiveness. However, attempting to understand the myriad theories of information processing and cognitive development can be overwhelming and contradictory. There are means of structuring advertisements, though that can incorporate the best of all of these ideas, and in order to help consumers process the information from the advertisements in the right way, advertisers must draw from all of these theories.

Advertising message strategy is a well-researched topic in both the academic as well as practitioners community. Ray (1982) classifies commercials by “format,” e.g. warmth, testimony, refutation, repetition and fear. Rothschild (1987) refers to classes of creative appeal (rational versus emotional) and execution style (slice of life, product comparison, problem/solution, music, sex and humour). Belch and Belch (1990) used the term “Appeals” (rational, emotional and combinations) and “Execution Styles” (factual message, scientific/ technical evidence, demonstration, comparison, testimonial, slice of life, animation, personality symbol, fantasy, dramatization, humour and combinations).

The quantity and quality of information retained by an individual depends largely on the perceptual and cognitive operations employed at the time of encoding (Benton, Glover & Bruning, 1983). Cognitive psychologists hold that the consumers seek and use information to assist them in decision processes in order to maximise utility, reduce levels of risk, or solve problems. McGuire suggested that the impact of persuasive communications could be understood in terms of three information-processing phases: a) attention to the message, b) comprehension of its contents, and c) acceptance of its conclusions. McGuire, in 1969, further extended the model into six steps which are as follows:

1. Presentation: at first the message recipient must be presented with the persuasive message
2. Attention: the recipient must pay attention to the message in order to produce attitude change
3. Comprehension: the overall position that the message advocates and the arguments provided with to support the position must be comprehended
4. Yielding: the recipient must yield to, or agree with, the message content that has been comprehended if any attitude change is to be detectable
5. Retention: the recipient must retain the advertisement, or store it in memory, if this is to be persisted over a period of time.
6. Behaviour: the recipient must behave on the basis of their changed mind

McGuire’s six-steps (1969) give a good overview of the information processing process of the consumers while watching the advertisements. The steps discussed in McGuire’s information processing model, have also been dealt with by other researchers. Attention, defined as the general distribution of mental activity to the tasks being performed by the individuals (Moates and Schumacher 1980), reflects both which receives mental activity (direction) and the duration of the focus. As a limited cognitive resource (Broadbent 1977; Mitchell 1983), attention can be allocated to the various degrees to the advertisement. The selective aspect of attention is under conscious control and is directed towards the need-relevant stimuli. It is also recognized, however, that the stimuli may contain properties that automatically elicit attention (Berlyne 1960). Comprehension is a function of the message characteristics, the consumer’s opportunity and ability to process the information and the consumer’s motivation (or level of involvement). Within the concepts of information processing, and in parallel with these decision-making models (and the role information plays within them), has been the study of attitude and attitudinal change. The study of attitudinal formation and change is central to promotional marketing. Particularly central to information processing and attitude formation has been the premise of ‘rational choice’, which suggests that cognitive shifts will lead to new attitudes. Among many similar treatments, Ray’s (1973) variation on these deals with the hierarchical components may have in a linear process of attitudinal change. In his version of the theory, high involvement requires initial cognitive change, followed by conative change and then behaviour (i.e. the Learn-Feel-Do approach).

Meanwhile, the literature concerning the importance of information processing in marketing has not remained static. Extant research proposed that emotions cause attention to shift towards the stimulus that causes an emotion, as a result of the limbic system’s autonomic reaction (Damasio, 1994). Further research suggests that the emotional and rational are not two conflicting things in the brain, but work together towards the survival of the organism: emotions direct attention, so that the organism recognizes things it should avoid or approach (Erik du Plessis, 2005).

There are a huge number of variables involved in information processing, ranging from cultural variables to specific experiences, from memory recall to personality traits, from motivations and attitudes to mental capacity and situation-specific criteria and so on. It is therefore a complex task to model or codify the way the mind processes information when it constructs understanding and a sense of meaning. The complexities of elements within this subject, however, also encourage recognition of the value of inductive modes of investigation when it comes to interpreting the deviations and departures in the character of processing mechanisms and the way these may be interpreted and modelled. While most of the researchers try to find out how consumers process information by developing models and theories, little attempt was made to find out the cognitive style of different segments differentiated by sex and age.

### **Hypotheses**

The initial encoding of the message by the advertiser is an area of research which might possibly receive the least amount of attention. Researchers have concentrated on information processing and associated behavioural response but have seemingly bypassed the structure (message strategy and execution framework) of the advertising stimulus. The hypotheses have been framed to bridge the existing gap in the previous research. In order to fulfill the proposed object, an experimental design was prepared, with two between-subject factors to be controlled: message strategy and execution framework. The message strategy was divided into two treatments: cognitive or rational advertisements and affective or emotional advertisements. The execution framework was divided into ten levels: animation, slice of life, testimonial, demonstration, fantasy, informative, scientific/ technical evidence, comparison, personality symbol and dramatization. The independent variables and their levels have been selected keeping in mind the seminal works of the academicians (Belch and Belch, 1990) on advertising format. As for the dependent variables, the five dependent variables have been identified in line with McGuire's Information Processing Theory. They are ability to gain attention, message comprehension, retention of the advertisement, attitude towards the advertisement and purchase motivation of the consumers by watching the advertisement. The hypotheses are as follows:

H1: The vectors of means (centroid) of teenage boy's attention, message comprehension, attitude, retention and purchase motivation remains the same across different levels of message strategies and execution framework.

Historically, following a significant MANOVA with ANOVAs on each of the  $p$  variables was one of the first methods recommended for interpreting group differences (Cramer and Bock, 1966). Once a significant interaction effect has been found, the next step is to investigate the specific differences between groups. As in ANOVA, this involves determining which groups are responsible for significant omnibus test. In addition, the follow-up analyses are used to evaluate which variables are important for group separation.

H2: The mean level of teenage boy's attention towards advertisements remains the same for all combinations of message strategies and execution framework.

H3: The mean level of teenage boy's comprehension of the advertisements remains the same for all combinations of message strategies and execution framework.

H4: The mean level of teenage boy's retention of the advertisements remains the same for all combinations of message strategies and execution framework.

H5: The mean level of teenage boy's attitude towards advertisements remains the same for all combinations of message strategies and execution framework.

H6: The mean level of teenage boy's purchase motivation remains the same for all combinations of message strategies and execution framework.

## **3 METHODOLOGICAL FRAMEWORK**

### **Advertisement treatment selection**

The  $2 \times 10$  experimental design described requires the control of twenty different experimental treatments. Therefore, twenty different print advertisements need to be selected to show the members

of the sample. The researcher took almost all print media advertisements (300) targeted towards teenage boys published in India from 2005 to 2007 by the fifteen leading advertising agencies of India and for all practical purposes the collection has considered to be exhaustive. A panel of eight judges viewed over three hundred advertisements to select twenty advertisements, a number consistent with the 20 stimulus advertisements used by Childers and Houston (1984). The twenty advertisements for teenage boys represented all permutations of two types of message strategy (Cognitive Message Strategy and Affective Message Strategy) and ten types of execution framework (Animation, Slice of life, Testimonial, Demonstration, Fantasy, Informative, Scientific/ technical evidence, Comparison, Personality symbol, Dramatization). Cognitive was defined as "appealing to the 'rationality' of the receiver" and Affective was defined as creating a mood and appealing to the emotions. The advertisements were "strong" representations of both types of appeals. All advertisements were familiar products or brands that might conceivably be purchased by the subjects. The entire selection is done through Quick-sort procedure to maintain objectivity in the research.

### Subjects and design

A total of 400 teenage boys in the age group of thirteen to nineteen years were chosen through area sampling from all over India. The sample was spread out among four different geographic areas in India, in order to ensure maximum representation: southern area (city of Kozhikode), western area (city of Ahmedabad), eastern area (city of Kolkata) and northern area (city of Delhi). The sample was equally divided among the four cities (100 individuals in each).

The 400 teenage boys are shown the 20 advertisements with different combination of the two types of message strategy and ten types of execution framework. Questionnaires were also provided to them while watching the advertisements. The five dependent variables of the research namely attention, comprehension, attitude, retention and purchase motivation are measured on a five-point semantic differential scale for each of the twenty advertisements which represent the twenty combinations of message strategy and execution framework. A random ordering of twenty advertisements were assigned to the 400 teenage boys in a  $2 \times 10$  factorial design of message strategy (Cognitive Message Strategy and Affective Message Strategy) and execution framework (Animation, Slice of life, Testimonial, Demonstration, Fantasy, Informative, Scientific/ technical evidence, Comparison, Personality symbol, Dramatization).

## 4 RESULTS

Reliability for scales with multiple items ranged from .84 to .93. The name of the advertised brand did not affect any of the measures (all  $p$ 's  $> .27$ ), so analyses were performed on aggregated data. Familiarity and involvement with the category and the perceived importance of product attributes did not differ across advertisements (all  $p$ 's  $> .10$ ).

To investigate the interaction between message strategy and execution framework on the teenage boy's attention, message comprehension, attitude, retention and purchase motivation an overall  $2$  (message strategy)  $\times 10$  (execution framework), Multivariate Analysis of Variance (MANOVA) was performed to control the overall alpha level at the desired level (.05). There was a significant interaction between message strategy and execution framework (Wilks' lambda = .92,  $F(45, 3.568E4) = 15.39$ ,  $p < .01$ ). Thus the result refutes hypothesis 1 and provides sufficient statistical evidence that the differences in teenage boys' attention, comprehension, retention, attitude and purchase motivation between cognitive message strategies and affective message strategies depend on the execution frameworks, or, the differences among execution frameworks vary with message strategies with respect to teenage boy's attention, comprehension, retention, attitude and purchase motivation. A complete summary of MANOVA results can be found in Table 1.

**Table 1: Multivariate Tests**

Effect		Value	F	Hypothesis df	Error df	Sig.
MessStrat * ExeFrame	Pillai's Trace	.085	15.246	45.000	3.990E4	.000
	Wilks' Lambda	.918	15.386	45.000	3.568E4	.000
	Hotelling's Trace	.087	15.498	45.000	3.987E4	.000
	Roy's Largest Root	.050	44.076	9.000	7.980E3	.000

Analysis of variance (ANOVA) was used to analyze the second hypothesis considering attention of the teenage boys towards the advertisement as the dependent measure. The interaction effect

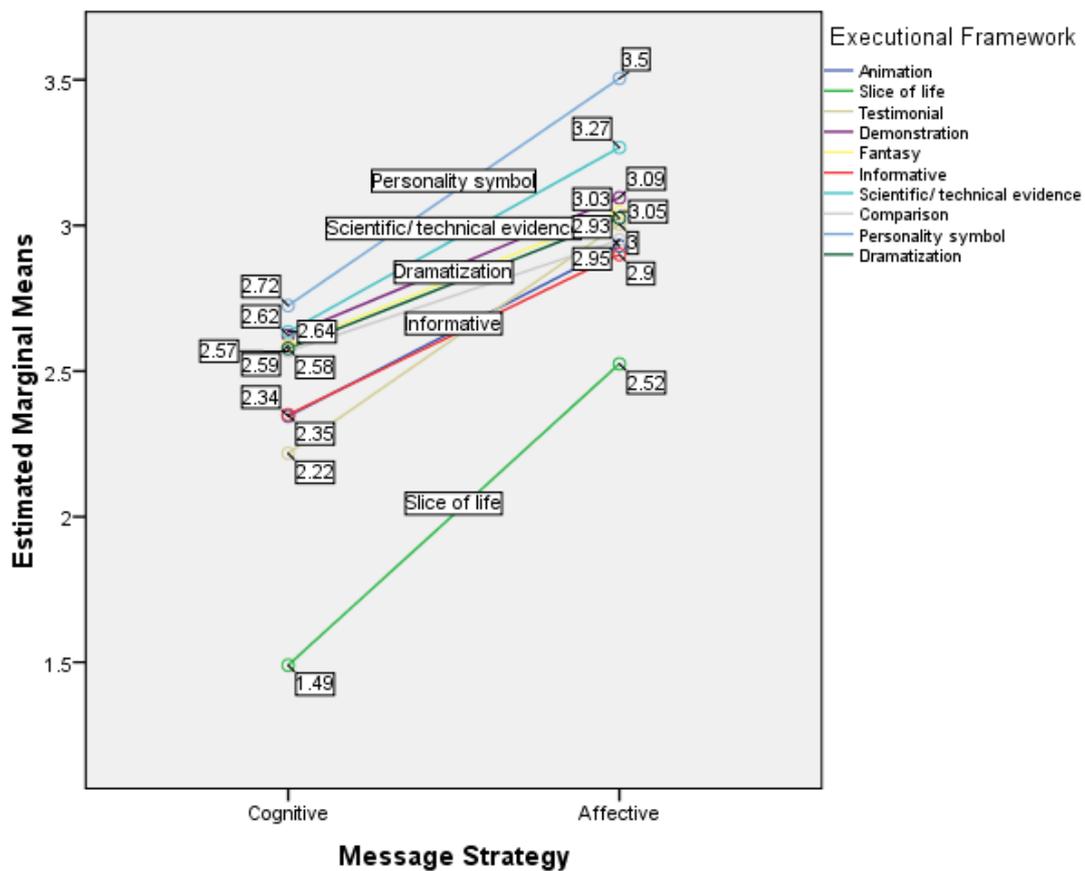
between message strategy and execution framework ( $F(9, 7980) = 8.15$   $p < .01$ ), are found to be significant. A summary of the interaction effect of ANOVA results can be found in Table 2.

**Table 2: Dependent Variable: Attention of the teenage boys towards the advertisement**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
MessStrat * ExeFrame	73.045	9	8.116	8.149	.000
Error	7947.982	7980	.996		

A significant interaction between message strategy and execution framework has been illustrated in Figure 1 which shows that how the teenage boys' attention gets increased from cognitive message strategy to affective message strategy for each level of execution framework and it is highest for affective advertisements ( $M = 3.5$ ) when the execution framework is personality symbol.

**Figure 1: Message strategy by execution framework on teenage boys' attention towards advertisement by taking message strategy in the horizontal axis**



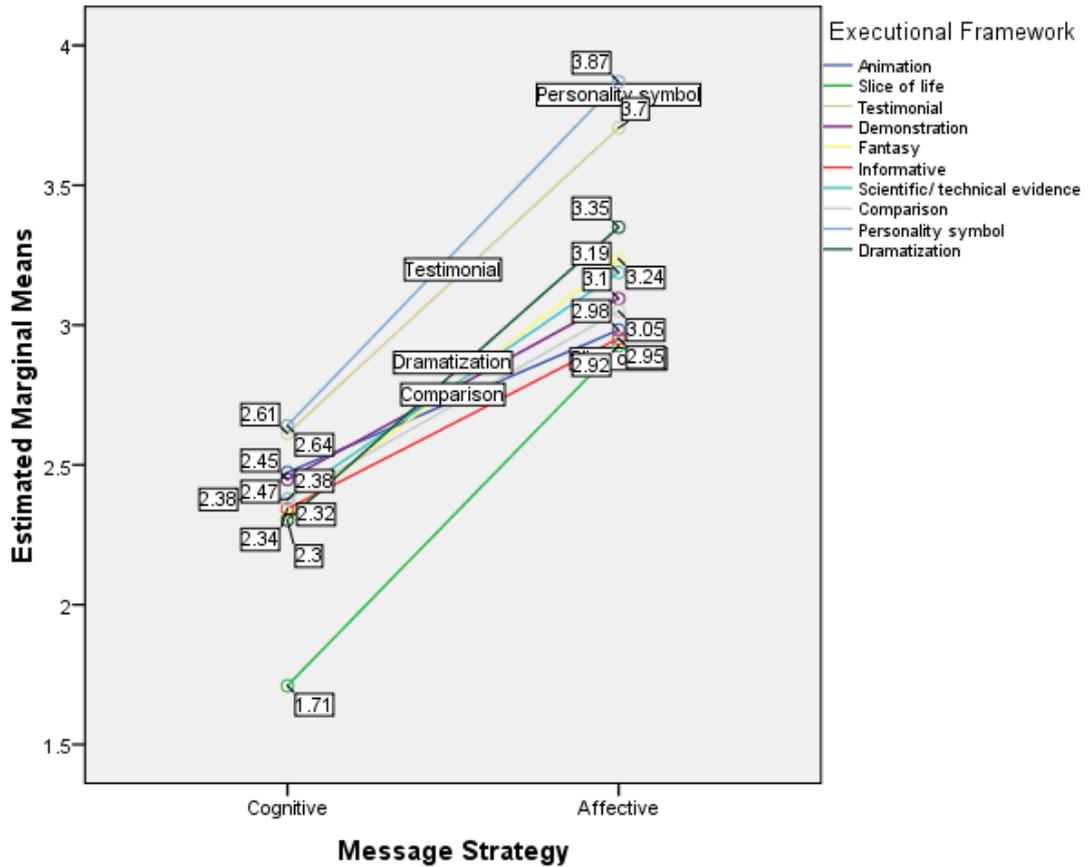
To test the third hypothesis also, Analysis of variance (ANOVA) was used considering comprehension of the advertisement by the teenage boys as the dependent measure. The interaction effect between message strategy and execution framework ( $F(9, 7980) = 24.8$   $p < .01$ ), are found to be significant. A summary of the interaction effect of ANOVA results can be found in Table 3.

**Table 3: Dependent Variable: Comprehension of the teenage boy**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
MessStrat * ExeFrame	123.944	9	13.772	24.804	.000
Error	4430.592	7980	.555		

A significant interaction between message strategy and execution framework has been illustrated in Figure 2 which shows that how the teenage boys' comprehension gets increased from cognitive message strategy to affective message strategy for each level of execution framework and it is highest for affective advertisements ( $M = 3.87$ ) when the execution framework is personality symbol.

**Figure 2: Message strategy by execution framework on teenage boys' comprehension of the advertisement by taking message strategy in the horizontal axis**



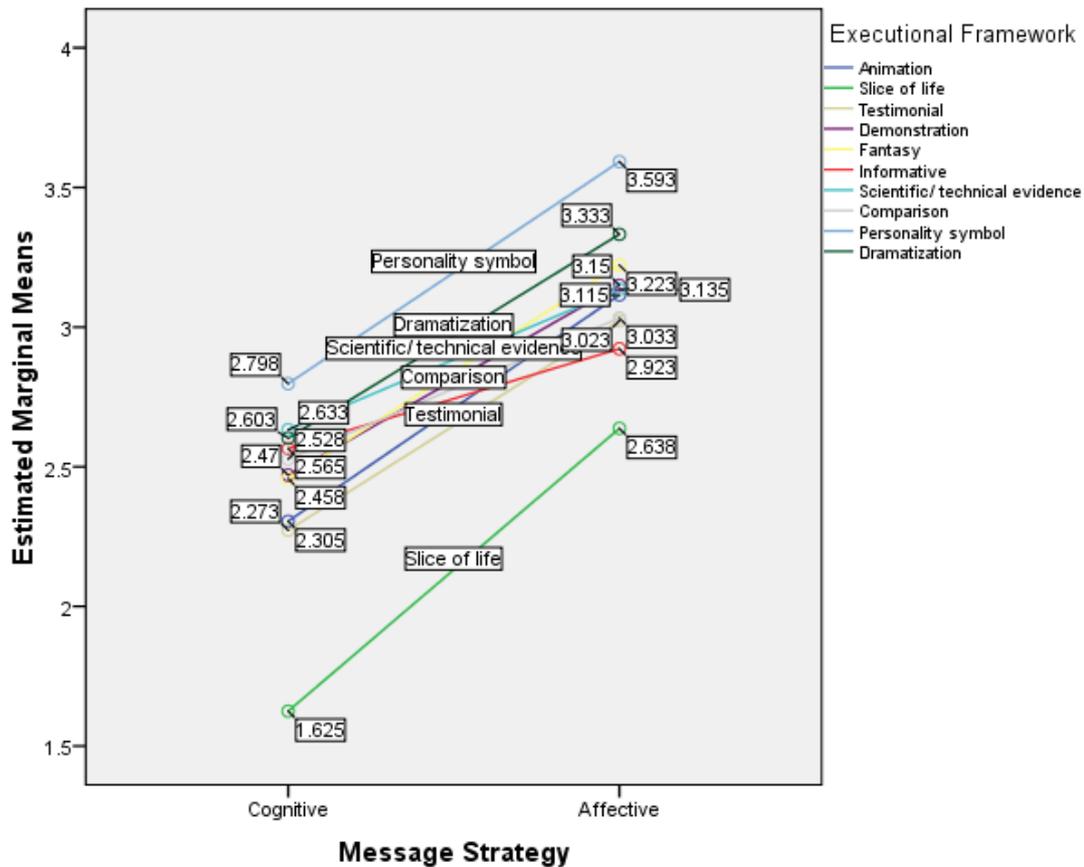
Analysis of variance (ANOVA) was used to analyze the fourth hypothesis considering retention of the advertisement in memory as the dependent measure. The interaction effect between message strategy and execution framework ( $F(9, 7980) = 13.1, p < .01$ ), are found to be significant. A summary of the interaction effect of ANOVA results with retention of the advertisement in memory as dependent measure can be found in Table 4.

**Table 4: Dependent Variable: Retention of the Advertisement in memory**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
MessStrat * ExeFrame	64.058	9	7.118	13.095	.000
Error	4337.517	7980	.544		

A significant interaction between message strategy and execution framework has been illustrated in Figure 3 which shows that how the teenage boys' retention gets increased from cognitive message strategy to affective message strategy for each level of execution framework and it is highest for affective advertisements ( $M = 3.59$ ) when the execution framework is personality symbol.

Figure 3: Message strategy by execution framework on teenage boys’ retention of the advertisement by taking message strategy in the horizontal axis



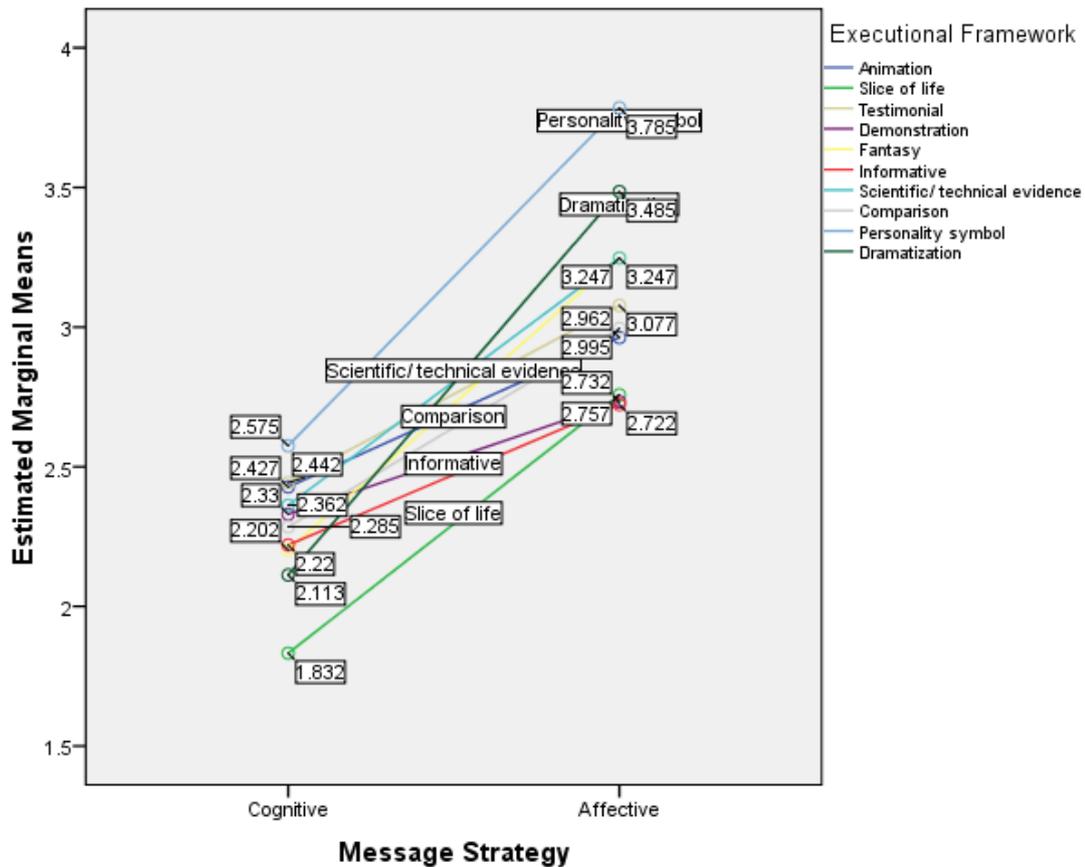
To test the fifth hypothesis also, Analysis of variance (ANOVA) was used considering attitude of the teenage boys towards the advertisement as the dependent measure. The interaction effect between message strategy and execution framework ( $F(9, 7980) = 24.66$   $p < .01$ ) are found to be significant. A summary of the interaction effect of ANOVA results with attitude of the teenage boys towards the advertisement as dependent measure can be found in Table 5.

Table 5: Dependent Variable: Attitude of the teenage boys towards the advertisement

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
MessStrat * ExeFrame	185.169	9	20.574	24.655	.000
Error	6659.158	7980	.834		

A significant interaction between message strategy and execution framework has been illustrated in Figure 4 which shows that how the teenage boys’ attitude gets increased from cognitive message strategy to affective message strategy for each level of execution framework and it is highest for affective advertisements ( $M = 3.79$ ) when the execution framework is personality symbol.

**Figure 4: Message strategy by execution framework on teenage boys' attitude towards the advertisement by taking message strategy in the horizontal axis**



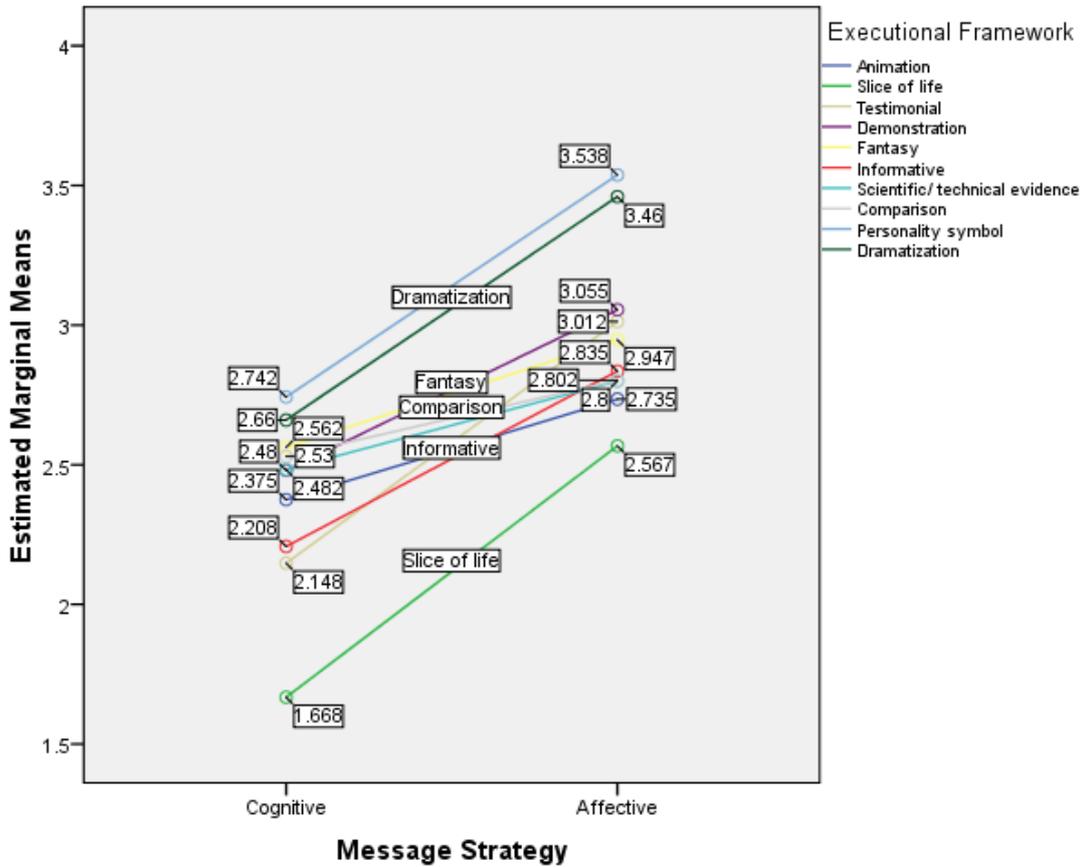
A similar analysis was also conducted using purchase motivation as the dependent measure to test the sixth hypothesis. Again, the interaction effect between message strategy and execution framework ( $F(9, 7980) = 19.3$   $p < .01$ ), are found to be significant. A summary of the interaction effect of ANOVA results with purchase motivation of the teenage boys towards the advertisement as dependent measure can be found in Table 6.

**Table 6: Dependent Variable: Purchase Motivation of the teenage boy**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
MessStrat * ExeFrame	105.894	9	11.766	19.297	.000
Error	4865.652	7980	.610		

A significant interaction between message strategy and execution framework has been illustrated in Figure 5 which shows that how the teenage boys' purchase motivation gets increased from cognitive message strategy to affective message strategy for each level of execution framework and it is highest for affective advertisements ( $M = 3.54$ ) when the execution framework is personality symbol.

**Figure 5: Message strategy by execution framework on teenage boys' purchase motivation from the advertisement by taking message strategy in the horizontal axis**



## 5 FINDINGS

The print advertisements utilize text and pictures to communicate with the teenage boys. However, which type of messages and images are preferred by the teenage boys have rarely been explored. Therefore, we were not much aware of which type of message strategy and execution work are most preferred by the teenage boys of India and how can advertisers make the advertisements most effective for the teenage boys.

From the present research, it has been found that advertisement elements like message strategy and execution framework influence processing and understanding of advertising messages by teenage boys. The result clearly shows that the affective message with personality symbol as execution framework leaves the maximum impact on attention, comprehension, retention, attitude and purchase motivation of the teenage boys of India. Thus the advertisements with affective message strategy and personality symbol as execution framework are most effective while targeting the teenage boys.

## 6 CONCLUSIONS AND MANAGERIAL IMPLICATIONS

Creating and producing effective advertising is one of the main aims pursued by advertising agencies. In this task, the advertising agencies constantly search for new advertising strategies which will help get their message across to the public as effectively as possible. Affective message strategy relate to the teenage boys' social and/or psychological needs for purchasing a product or service. Many teenage boys' motives for their purchase decisions are emotional, and their feelings about a brand can be more important than knowledge of its features or attributes. Advertisers for many teenage boys' products and services view rational, information based appeals as dull. Many advertisers believe that appeals to teenage boys' emotions work better at selling brands that do not differ markedly from competing brands, since rational differentiation of them is difficult.

Urban teenage boys prefer a type of advertising execution which involves developing a central character or personality symbol that can deliver the advertising message and with which the product or

service can be identified. Many of the advertisements use the celebrities like popular film stars and cricketers and the brand derives its persona from the image of the celebrity used. Even some times the representative of the common man become the spokesperson of the brand and thus becomes the personality symbol of the brand. Since the youngsters of this generation are very particular about their projected personality, the personality symbol of the brand leaves a high impact on them.

Thus the present research gives a guideline to the practitioners to use affective advertisements with personality symbol as execution framework while targeting the urban teenage boys of India.

#### **Limitations and directions for future research**

The premise of the study was examining how message strategy and execution framework influence the processing of advertisements by the teenage boys. As dependent measures, attention, comprehension, retention, attitude and purchase motivation were used to determine an advertisement's effectiveness. Other measures of effectiveness, especially the sales, warrant further research. Further levels of message strategy and execution framework may also be incorporated in future studies. Additionally, other significant advertisement components like colour of the advertisement, size of the advertisement and location of the advertisement need further looking into. Further objectivity can be brought into future research by measuring the cognitive functions of teenage boys through brain scanning devices like functional Magnetic Resonance Imaging (fMRI), Electroencephalography (EEG) and Magneto-encephalography (MEG) while they watch the advertisements. Electromyography (EMG) can also be used for evaluating and recording the activation signal of facial muscles while consumers watch the advertisements. The problem of the subjective measure used in the present study is that consumer is not capable of exactly expressing how long the advertisement attracted his attention, which means that the measurement's validity is not totally adequate (Pechmann and Stewart, 1990). The future academic researcher may use eye-camera and pupilometer for objective measurements of attention. Another improvement of the present research can be done by pursuing further research on industry specific advertisements which could yield sector specific results. Last but not the least, besides gender and age, other parameters could also be employed as per the segmentation variable of that particular product or service.

#### **REFERENCES**

- Adaval, R., & Wyer, R. S. (2004). Communicating about a social interaction: Effects on memory for protagonists' statements and nonverbal behaviors. *Journal of Experimental Social Psychology*, 40(4), 450-465.
- Belch, G.E., & Belch, M. A. (1990), *Introduction to advertising and promotion management*, Irwin.
- Benton, S.L., Glover, J.A., & Bruning, R.H. (1983). Levels of processing: effect of number of decisions on prose recall. *Journal of Educational Psychology*, 3, 382-390.
- Berlyne, D.E. (1960). *Conflict, arousal, and curiosity*. New York: McGraw Hill.
- Bettman, J.R., (1979) *An information processing theory of consumer choice*. Addison-Wesley Pub. Co.
- Broadbent, D. (1977). The hidden pre-attentive process. *American Psychologist*, 32, 109-118.
- Cramer, E. M., & Bock, R. D. (1966). Multivariate analysis. *Review of Educational Research*, 36, 604-617.
- Childers, T. L. & Houston M. (1984), Conditions for a Picture Superiority Effect on Consumer Memory. *Journal of Consumer Research*, 11 (2), 643-655.
- Damasio, A. (1994). *Descartes Error: Emotion, Reason, and the Human Brain*, Putnam Publishing.
- Escalas, J. E. (1998). Advertising narratives: What are they and how do they work? *Representing consumers: Voices, views, and visions*. New York: Routledge & Kegan Paul. 267-289
- Harris, R.J. (1983). *Information-Processing Research in Advertising*. Hillsdale NJ: Erlbaum.
- Houston, M. J., Childers, T. L., & Heckler, S. E. (1987). Picture-Word Consistency and the Elaborative Processing of Advertisements. *Journal of Marketing Research*, 24( 4), 359-369.
- Lapidus, R. S. (1991). *Visual information processing of print advertising: Cognitive and experiential response to artistic style*. ETD collection for University of Nebraska: Lincoln. Paper AAI9200144.
- Lamb, C.W., Pletcher, B.A., & Pride, W.M. (1979). Print readers' perceptions of various advertising formats. *Journalism Quarterly*, 56, 328-35.
- Luna, D. (2004). Integrating Ad Information: A Text Processing Perspective. *Journal of Consumer Psychology*, 15 (1), 38-51.

- MacInnis, D.J., Moorman, C., & Jaworski, B.J. (1991). Enhancing and measuring consumers' motivation, opportunity, and ability to process brand information from ads. *Journal of Marketing*, 55 (4), 32-53.
- MacInnis, D. & Jaworski, B. (1989). Information Processing from Advertisements: Toward an Integrated Framework . *Journal of Marketing* , 53(4), 1-23.
- McGuinness, D. (1976). Sex differences in the organisation of perception and cognition. (B. Lloyd, & J. Archer. Eds.). *Exploring Sex differences*. London: Academic Press .
- McGuire, W. J. (1969, July). *An information processing model of advertising effectiveness*. Paper presented at the Symposium on Behavioral and Management Science in Marketing, University of Chicago.
- Meyers, L. J. (1989). Gender differences in information processing: A selectivity interpretation. *Cognitive and affective responses to advertising* (P. Cafferata & A. Tybout. Ed.) . MA: Lexington Books, 219–260.
- Meyers-Levy, J. (1988). The influence of sex roles on judgment. *Journal of Consumer Research*, 14, 522–530.
- Meyers-Levy, J., & Maheswaran, D. (1991). Exploring differences in males' and females' processing strategies. *Journal of Consumer Research*, 18 (June), 63–70.
- Mitchell, A.A. (1983). Cognitive processes initiated by exposure to advertising. *Information processing research in advertising* (pp. 13-42). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Moates, & Schumacher, (1980). *An introduction to cognitive psychology*. Belmont,CA: Wadsworth
- Neisser, (1967). *Cognitive Psychology*. New York : Appleton-Century-Crofts.
- Pechmann, C., & Stewart W., (1990). The Effects of Comparative Advertising on Attention, Memory, and Purchase Intentions. *Journal of Consumer Research*, 17 (September), 180-191.
- Plessis Du, E., (2005). *The Advertised Mind: Ground-Breaking Insights Into How Our Brains Respond to Advertising*. Kogan Page Publishers.
- Ray, M. (1973). Psychological theories and interpretations of learning. *Consumer behaviour: Theoretical sources* ( S. Ward & T.S. Robertson, Eds.) (pp. 45-117). Englewood Cliffs, NJ: Prentice-Hall
- Ray, M. (1982). *Advertising and Communications Management* Englewood Cliffs, NJ: Prentice-Hall
- Rothschild, M.L. (1987). *Advertising: From fundamentals to strategies*. Lexington, MA: Heath
- Wyer, R. S., & Adaval, R. (2004). The role of narratives in media-based information processing. *The psychology of entertainment media: Blurring the lines between entertainment and persuasion* ( L. J. Shrum, Ed.) . (pp. 137-160). Mahwah, NJ: Erlbaum.