

(Review Paper)

Elaboration Likelihood Model in Consumer Research: A Review

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(Received September 4, 2000; Accepted May 10, 2001)

ABSTRACT

The Elaboration Likelihood Model (ELM) is a model of information processing and persuasion. Ever since its introduction in the 1980's, ELM has been frequently cited by scholars from both cognitive/social psychology and consumer research. This paper reviews the application of ELM to consumer research over the past decade, with the focus on studies conducted in advertising contexts, effects on brand evaluations, specification of processing mechanisms, and findings that seem to extend or contradict the model. A body of literature is discussed in three domains: antecedents, processes, and processing cues. A brief interpretation for the review and future directions for research are presented.

Key Words: Elaboration Likelihood Model, advertising, consumer information processing, processing antecedents, processing mechanisms, processing cues

I. Introduction

Since the 1950s researchers have been developing theories to describe, understand, and predict consumers' attitudinal responses to advertising (Cohen, 1990). Much effort has been devoted to the study of brand attitude and memory formation processes under varying levels of consumer interest. Building on the pioneering works of Lavidge and Steiner (1961), Krugman (1965), and Ray (1973), several integrative models of information processing and persuasion have been proposed. These include the Elaboration Likelihood Model (ELM) (Petty and Cacioppo, 1983, 1986), the Message Response Involvement Model (Batra and Ray, 1985, 1986), and Information Processing Intensity (Greenwald and Leavitt, 1984). Among these models, ELM seems to be the most popular and most cited one in both cognitive/social psychology and consumer research over the past decade.

The purpose of this paper is to review the application of ELM to consumer research. Emphasis will be placed on the following aspects: (1) studies conducted in advertising contexts, (2) effects on brand evaluations rather than on choice or behavior, (3) specification of processing mechanisms, and (4) findings that not only confirm the model but also extend it or seem to contradict it. With these criteria in mind, this

review begins with an overview of ELM and then discusses its application in three domains: antecedents, processes, and processing cues. A brief conclusion follows.

II. Elaboration Likelihood Model

The elaboration likelihood model of persuasion is a theory about the processes responsible for yielding to a persuasive communication and the strength of the attitudes that result from those processes. In an advertising context, the model holds that the process responsible for ad effectiveness is one of two relatively distinct routes to persuasion. The first, known as the "central route," involves effortful cognitive activity, whereby individuals focus their attention on message relevant ad information, and draw on prior experience and knowledge to assess and elaborate on presented information. When elaboration likelihood is high, the favorability of cognitive responses generated in reaction to the ad influences the valence of attitudes. Support arguments enhance attitude favorability, while counter arguments reduce attitude favorability.

Two types of processing may occur when elaboration likelihood is high. Objective processing occurs when the individual is motivated and able to scrutinize the message for its "true" or central merits. Biased processing occurs when

the individual possesses a strong prior opinion regarding the message topic (e.g., brand loyal or highly dissatisfied consumers) and, hence, responds to message arguments with attitude consistent cognition instead of scrutinizing the message for its quality. If the message is consistent with prior attitudes, the individual will elicit support arguments, while counter arguments will be elicited if the message is counter attitudinal.

The other route to persuasion is known as the “peripheral route.” When elaboration likelihood is low, individuals do not think much about message content; instead, they use non-content elements associated with the message (i.e., peripheral cues) as a basis for attitude formation. Peripheral cues can be the number of message arguments, source characteristics (e.g., likability, expertise, attractiveness), music, affective reactions generated by the ad etc. Noncognitive processes such as classical conditioning or mere exposure are thought to explain the process by which peripheral cues influence attitudes.

Whether an individual will follow the central or peripheral route to persuasion is determined by the likelihood of elaboration, which, in turn, is influenced by the individual’s motivation and ability to process. Petty and Cacioppo (1986) define motivation and ability in terms of their antecedents. Some antecedents are situational factors, whereas others are individual factors. Some variables influence the extent of information processing, whereas others tend to influence the direction of thinking (i.e., objective or biased processing). Factors that enhance processing motivation include perceived personal relevance, need for cognition, increased number of message sources, and personal responsibility for evaluating the message. Likewise, factors that enhance processing ability include low levels of external distraction, a controllable message pace, message repetition, and high message comprehensibility.

III. Processing Antecedents

Ever since ELM, was introduced, much of the work in consumer research has focused on processing antecedents or factors that can influence the motivation and ability to process ad messages. In addition to those identified by ELM (e.g., message repetition, prior knowledge etc.), factors that are specific to an advertising context (e.g., media type) and the effects of combining factors have also been explored.

1. Message Repetition

One of the most important variables influencing a person’s ability to process issue-relevant arguments is message repetition. Moderate message repetition provides more opportunities for argument scrutiny, which will lead to a favorable brand attitude as long as the arguments are strong and tedium is not induced (Batra and Ray, 1986; Cox and Cox, 1988; Rethans *et al.*, 1986). Anand and Sternthal (1990) demonstrated that even high levels of repetition can enhance, rather than diminish, brand attitude when messages are extremely easy to process.

In a brand extension context, Lane (2000) found that ad repetition increases not only elaboration and usage intentions, but also a more positive evaluation of incongruent extensions.

Other reports emphasized how the effects of repetition are not the same for all elements of attitude. Wearout can occur for affective evaluation of the ad itself without occurring for the cognitive components of attitudes (Hughes, 1992). Even when it fails to enhance the evaluative component of advertising, ad repetition can increase attitude accessibility, attitude confidence, and attitude-behavior-consistency (Berger, 1992; Berger and Mitchell, 1989). Partial ad repetition (i.e., ads for the same brand with the same theme but varied executions) has been shown to improve brand memory and persuasion (Schumann *et al.*, 1990; Unnava and Burnkrant, 1991a). It should be noted that repetition can also induce favorable judgments without stimulating message elaboration by enhancing the perception of familiarity (Hawkins and Hoch, 1992).

2. Prior Knowledge

It has been well documented that people become more able to think about issue-relevant information when they have more prior knowledge (Alba and Hutchinson, 1987). Knowledge is only effective, however, when it is accessible (Brucks *et al.*, 1988). When knowledge is low or inaccessible, people rely on simple cues (Burke *et al.*, 1988). Knowledge may also interact with the mode of information presentation. For more knowledgeable consumers, the attraction effect decreases when information is presented numerically but increases when information is presented verbally (Sen, 1998). In addition, when prior knowledge is low, the search effort will increase when issue involvement is high (Lee *et al.*, 1999).

Prior knowledge can also influence the way people process information. Experts (those with more product knowledge) tend to engage in more detailed processing when there is an incongruity between the headline and the body copy of a message (Sujan, 1985). Experts are also more likely to process a message in detail when given only attribute information, while novices are more likely to do so when given benefit information (Walker *et al.*, 1987; Maheswaran and Sternthal, 1990). Experts elaborate on messages in an evaluative manner, whereas novices tend to process messages more literally (Maheswaran and Sternthal, 1990).

3. Self-Referencing

Several studies have shown that consumers have greater elaboration on information when they relate the information to themselves and to their own experience (Burnkrant and Unnava, 1989, 1995). It has been argued that self-referencing leads to an increase in self-related thoughts, provides linkage between product information and memory, and thus facilitates elaboration of product information. Krishnamurthy and Sujan (1999) demonstrated that self-related thoughts about the past

can enhance brand attitudes and intentions when ads contain little information, while self thoughts about the future enhances brand attitude when ads provide detailed information. The elaboration effect of self-referencing is also moderated by consumer's motivation to attend to the ad. When ad recipients' motivation is low, self-referencing has no effect on elaboration or persuasion (Meyers-Levy and Peracchio, 1995).

4. Arousal

There is ample evidence that arousal, regardless of its antecedents, impairs working memory capacity (Humphreys and Revelle, 1984). All things being equal, arousal, by reducing processing capacity, increases the influence of peripheral cues and decreases the influence of central arguments (Sanbonmatsu and Kardes, 1988). Pham (1996) showed that arousal could also lead consumers to focus on information which is least demanding but most diagnostic, i.e., to rely on central arguments for making product evaluations. However, J. Wirtz and colleagues (Wirtz and Bateson, 1999; Mattila and Wirtz, 2000) found that arousal alone does not influence postpurchase evaluation and consumer satisfaction. These contradictory findings might be due to the nature of the objects being evaluated (product vs. service).

5. Media Type

There is growing research interest in the differences that exist in message processing among alternative advertising media. Print ads have limited opportunity to influence uninformed or passive audience members because reading print ads is a relatively demanding cognitive task (Greenwald and Leavitt, 1984). In broadcast advertising (i.e., radio and TV advertising), however, verbal information is spoken or presented in multiple sensory modes and, thus, can influence consumers who are not actively seeking exposure to the ad message (Edell and Keller, 1989). Buchholz and Smith (1991) further found interaction between broadcast media type and consumer involvement. For highly involved consumers, radio commercials offer more opportunity to generate self-related elaboration than TV; for less involved consumers, the visual stimuli in TV commercials draw more attention and lead to more learning of brands and ad points. Recently, interactive media (e.g., the Web) have attracted more and more attention from academic researchers. Interestingly, as exciting as Web sites appear to be, advertisers perceive the Web a rational, cognitive medium, not effective for stimulating emotions (Leong *et al.*, 1998). Bezjian-Avery *et al.* (1998) indicated that interactive media may interrupt the persuasion process for visual-oriented consumers. The research on interactive media is fairly new, and issues such as the effectiveness of interactive media vs. traditional media, the persuasion process of interactive media, and suitable formats and contents of interactive advertising still await exploration.

6. Combining Variables

There is growing evidence that a confluence of factors determines the nature of information processing. For example, the use of rhetorical questions can increase message thinking when motivation to process the message is low, but will disrupt normal processing when motivation increases (Petty *et al.*, 1981) or when rhetorical questions precede the message (Howard, 1990). Message repetition can increase thinking when the message is relatively difficult to process, but not when it is easy (Batra and Ray, 1986). When combined with rhetorical questions, self-referencing will decrease persuasion instead of enhancing it (Burnkrant and Unnava, 1995). These findings may be explained by a two-factor theory in which exposure to a communication leads initially to a period of habituation in which thoughts consistent with the advocacy are generated. However, further elaboration may deplete message-consistent thoughts, leading to the onset of tedium and an increase in counter arguments (Anand and Sternthal, 1990).

IV. Process

1. Elaboration

In ELM, the term "elaboration" refers to the extent to which people think about issue-relevant arguments contained in persuasive messages. Research has identified at least two types of issue-relevant thinking. One type of elaboration, known as item-specific processing, focuses on the distinctive or unique features of each ad claim. The other type, called relational processing, focuses on similarities or shared themes that link various ad claims. Both types of elaboration appear to enhance recall of ad claims. Product judgments are more favorable when both types of processing co-occur (Malaviya *et al.*, 1996), but they seem to be more sensitive to item-specific elaboration (Meyers-Levy, 1991). Malaviya *et al.* (1999) also showed that item-specific processing is reduced in a cluttered advertising context, in which case the effects of ad repetition are mainly mediated by relational processing. Similarly, consumers may engage in either "piecemeal processing," evaluating each ad claim separately, or "category-based processing," in which consumers think about the level of congruity between ad claims and their product category expectations (Sujan, 1985; Meyers-Levy and Tybout, 1989). Piecemeal processing leads to more product-related thoughts than category-based processing does (Sujan, 1985) and to a more favorable product evaluation when ad claims are moderately incongruent with product category expectations (Meyers-Levy and Tybout, 1989).

2. Interaction between Central and Peripheral Processing

A general assumption of ELM is that a tradeoff exists

between central and peripheral processing. As argument scrutiny increases, “central cues” becomes more important determinants of persuasion, and peripheral cues become less important determinants. However, Eagly and Chaiken (1993) assert that both modes of processing can co-occur. While the judgmental effect of peripheral (or heuristic) cues is often attenuated by central (or systematic) processing (*e.g.*, Ratneshwar and Chaiken (1991) and MacKenzie and Spreng (1992)), the expectations generated by heuristic processing of an expertise cue can bias systematic processing if the message is ambiguous (Chaiken and Maheswaran, 1994). Meanwhile, heuristic processing can exert an independent effect on judgment when systematic processing does not produce incongruent conclusions (Chaiken and Maheswaran, 1994).

Apparently more empirical evidence on the interaction between the two processing modes is guaranteed.

V. Processing Cues

1. Central and Peripheral Cues

A. Content of Ad Claims

Researchers have focused on the distinction between fact-based messages and feeling-based claims. Factual messages (or “informational ads”) (Puto and Wells, 1984) contain logical, objectively verifiable descriptions of tangible product features, while feeling-based claims (or “transformational ads”) are subjective, emotional, and often associated with drama (Wells, 1989). Factual messages are considered more believable (Ford *et al.*, 1990), more persuasive to those with high need for cognition (Venkatraman *et al.*, 1990). They prompt more cognitive responses and inferences from experts by serving as better memory retrieval cues (Gardial and Biehal, 1991). Because of diminished arousal, factual messages may decrease the viewing time of ads (Olney *et al.*, 1991).

Feeling-based claims, on the other hand, evoke an empathic identification with the characters and situations in the ad. The feeling elicited by the ad is more important than factual claims in predicting attitudinal effects (Burke and Edell, 1989). These claims might be effective when cognitive resources are limited (Deighton *et al.*, 1989).

B. Comparative Advertising Claims

One important feature of comparative ad claims is their ability to encourage a particular point of reference during encoding of brand information. Since external reference points can enhance consumers’ ability to process and understand information (Moorman, 1990), consumers who lack the knowledge necessary to understand some information may benefit from the benchmarks provided by reference information. Comparative ads can also increase consumers’ motivation to process message arguments (Droge, 1989; Pechmann and

Esteban, 1994) because they generate greater perceived message relevance and attention (Pechmann and Stewart, 1990). A recent meta-analysis conducted by Grewal *et al.* (1997) confirms that comparative ads are more effective in generating attention, message and brand awareness, a higher level of message processing, favorable brand attitudes, and higher purchase intentions. The finding that comparative ads lead to more persistent brand attitudes suggests that the processing of comparative ads follows a central route (Chattopadhyay, 1998).

The persuasion effect of comparative claims is moderated by several factors. For example, the persuasion effect of comparative claims decreases as consumers’ involvement increases (Pechmann and Esteban, 1994). Pechmann and Ratneshwar (1991) showed that brand familiarity and attribute typicality moderate the categorization and inferential processes elicited by comparative ads. Rose *et al.* (1993) argued that the diminished persuasion effect may reveal failure of the dependent measures to capture the unique impression effects elicited by comparative advertising.

C. Pictures in Print Ads

Mitchell (1986) documented that pictures in print ads can influence brand attitudes directly by generating brand beliefs or indirectly by working through the consumer’s attitude toward the advertisement. There is evidence that pictures are processed similarly to verbal information in that both generate the same types of inferences (Smith, 1991). Relevant pictures (*i.e.*, pictures that convey product-relevant information) can increase issue-relevant elaboration (Childers and Houston, 1984; Unnava and Burnkrant, 1991b) and have a greater impact on brand attitudes as involvement increases (Miniard *et al.*, 1991; Scott, 1994). Irrelevant pictures operate more like peripheral cues by evoking imagery (MacInnis and Price, 1987), affective responses (Stuart *et al.*, 1987), or judgments about the pictures’ appropriateness (Miniard *et al.*, 1991). The influence of both relevant and irrelevant pictures seems to be heuristic or peripheral for low-involved consumers, while for high-involved viewers, relevant pictures can also prompt product-irrelevant thoughts which may undermine the persuasion effect (Peracchio and Meyers-Levy, 1997). Furthermore, ads with more pictures are evaluated more favorably by low-involved viewers, but the number of pictures in an ad does not influence brand attitude (Singh *et al.*, 2000).

D. Camera Angle

Despite the sizable body of research on the effects of pictures in ads, only a few researchers have examined how the camera angle used to portray the product in an ad can influence consumers’ processing and judgment. Kraft (1987) found that when an item was photographed from a low camera angle such that the viewer would seem to be looking up at it, the object was judged more positively than when a high

camera angle was employed. Meyers-Levy and Peracchio (1992) replicated this finding in an advertising context and suggested that such camera angle effects are likely to emerge when viewers' motivation to process ad information is either low or moderate rather than high. The effect of pictorial distance was examined by Artz *et al.* (1993). Ads that contain pictures providing a distant perspective were preferred to those containing pictures with a close-up perspective, and this distance effect is moderated by the viewer's sociability (greater effect for solitary viewers than for social viewers). In addition, pictures providing a distant perspective appear to facilitate processing and elaboration on the ad. The effect of pictorial distance seems to have an indirect effect on brand attitudes through the viewer's attitude toward the ad.

2. Multiple Roles of Positive Affect

According to ELM, when the likelihood of issue-relevant thinking is low, a person's mood will serve largely as a peripheral cue, providing meaning to the attitude object by means of a simple association process. Some recent research has suggested that more positive affect leads to more positive thoughts about information in the message or serves as a peripheral cue (*e.g.*, Mathur and Chattopadhyay (1991) and Swinyard (1993)). As the likelihood of elaboration increases, mood has been shown to have an impact on the extent of argument elaboration. In particular, people in a positive mood state are less likely to process message arguments than people in a neutral or negative mood (Batra and Stayman, 1990; Worth and Mackie, 1987).

Several mechanisms have been proposed to explain why positive affect reduces message processing. The "cognitive capacity" view was based on studies suggesting that positive affect can lead to an increase in positive material available in memory, an effect that can lead to reduced capacity for processing incoming information (Mackie *et al.*, 1992). Support for this reasoning comes from the finding that positive affect only reduced the influence of argument strength when the time of exposure to the information was limited. Since when time was not limited a capacity constraint would not have an effect, it can be argued that positive affect influences message processing by reducing the cognitive capacity available for processing (Mackie and Worth, 1989).

A second line of research has proposed that positive affect reduces message elaboration by reducing the "motivation" to process. The suggestion is that people who are feeling good may be motivated to maintain their good feelings and to avoid processing messages since this may disrupt their positive feelings (Howard and Barry, 1994; Smith and Shaffer, 1991).

When elaboration likelihood is high, ELM holds that positive affect can influence attitude by influencing the way information is processed. Petty *et al.* (1993) found that under high motivation conditions, the influence of positive affect was

mediated by thoughts. They suggest that positive affect influences thoughts about ambiguous arguments in a positive direction due to the availability of positive information in memory. Another study also showed that positive affect can increase message processing when the message is not mood threatening (Wegener *et al.*, 1995). In an advertising context, Stayman (1994) found that in high involvement situations positive affect subjects had more differentially valenced thoughts and that they interpreted ambiguous attributes as more important than controls. Barone *et al.* (2000) even found that when elaboration likelihood was not constrained to be extremely high or low, positive affect induces cognitive thoughts which mediate the persuasion process. Further research on the interplay between positive affect and systematic processing would be worthwhile.

3. Multiple Roles of Source Expertise

Source expertise, like other source variables, such as source credibility and source attractiveness, have typically been associated with the peripheral route to persuasion. When motivation and/or ability to process a message are low, source expertise appears to act as simple acceptance or rejection cues (*i.e.*, peripheral cues) but seems to be relatively unimportant when both motivation and ability to process information are high.

When elaboration likelihood is moderate, people may rely on source expertise to determine the amount of thinking devoted to the message. Specifically, an expert source may enhance message processing because it often makes little sense to waste time thinking about a message from someone who does not know very much (Heesacker *et al.*, 1983). Supporting evidence was provided by a study examining three levels of elaboration (Moore *et al.*, 1986). This study found that an expert endorser had greater influence on attitudes than argument quality when an advertisement was presented at a very rapid pace (low elaboration likelihood) but had less impact when the message was presented at a normal pace (high elaboration likelihood). When the message was presented at a moderately fast pace and processing was possible but challenging, the expert source induced more thinking than the non-expert. Another study found a strong causal relationship between source expertise, brand beliefs (thoughts), and brand attitude under both high and low involvement, suggesting that the source expertise was processed more as a central persuasion cue (Homer and Kahle, 1991). Chaiken and Maheswaran (1994) also demonstrated that when argument is ambiguous, source expertise can affect the valence of message-relevant thoughts when elaboration likelihood is high. However, a more recent study (Zhang and Buda, 1999) showed that consumers with low need for cognition have the least favorable responses to an ad with a non-expert source, a finding that is consistent with the peripheral cue notion. To sum up, source expertise is treated as a peripheral cue in general, but it can influence

issue-relevant thinking when elaboration likelihood is high in response to certain kinds of messages (*e.g.*, weak or ambiguous arguments).

4. Processing Goals

The above discussion of the multiple roles variables can play in the persuasion process confirms the notion that any persuasion variable can influence attitudes in different ways (Petty and Cacioppo, 1986). Some studies have identified that processing goal can provide a basis for predicting a priori whether a variable will serve as a message argument or peripheral cues. For example, Hastak and Olson (1989) pointed out that for those viewers with a brand evaluation goal, brand-related cognitive thoughts are the primary mediators of brand attitude; for those viewers with an ad evaluation goal, brand- and ad-related thoughts contribute equally to their brand attitudes. Keller (1991) found that processing goal can influence the type of information being encoded and retrieved. The product judgements of consumers who have a brand evaluation goal when the process an ad respond more positively to a brand claim cue; for consumers with an ad evaluation goal, brand evaluations depend more on ad execution cues. Shavitt *et al.* (1994) suggested that the goal of processing can decide the relevance of a cue. Source attractiveness was found to influence brand attitudes under high but not low involvement when the processing goal was to create a good social impression. Mediation analysis showed that when processing goal was relevant to public image, the effect of source attractiveness occurred through a more central route. Similarly, Gurhan-Canli and Maheswaran (2000) demonstrated that whether country-of-origin information is relevant to product evaluations depends on the processing goal. Only when the processing goal is to evaluate the country of origin is country information likely to affect product judgements.

5. Attitude Toward the Ad

Considerable research has demonstrated that attitudes toward the ad (Aad) can mediate the process of brand attitude formation (Batra and Ray, 1986; Lutz, 1985; MacKenzie *et al.*, 1986). The “dual-mediation model” (MacKenzie *et al.*, 1986) suggested that Aad has both a direct effect on brand attitude (Ab) and an indirect effect via response to message arguments, *i.e.*, brand cognition (Cb). A meta-analysis of 47 data studies offered further support for this model (Brown and Stayman, 1992).

The considerable body of evidence concerning Aad effects on Ab has generated interest in the conditions necessary for such effects. Some studies found that Aad effects decreased when motivation to process increased (MacKenzie and Spreng, 1992) or predominated in low involvement situations (Droge, 1989), suggesting that Aad operates as a peripheral cue in brand attitude formation. However, recent research has shown that

Aad influences brand attitudes under both high and low involvement conditions (Homer, 1990; MacKenzie and Lutz, 1989; Mitchell, 1986; Muehling *et al.*, 1991; Park and Young, 1986).

Since Aad is a certain kind of consumer attitude, researchers have hypothesized that the formation of Aad follows a two-route process. Aad can be decomposed into cognitive evaluations of the ad and affective reactions to the ad (Burton and Lichtenstein, 1988; Miniard *et al.*, 1990; Celuch and Slama, 1995). The cognitive component is derived from elaboration of ad claims (central cues), and the affective component is the result of evaluation of the ad’s execution (peripheral cues). Such decomposition implies that Aad is a joint effect of central and peripheral processing, and there is some direct evidence supporting this hypothesis (Lord *et al.*, 1995). In a study which intended to extend the dual-mediation model, Coulter and his colleagues (Coulter, 1998; Coulter and Punj, 1999) found that ad emotional responses interacted with viewing contexts, thus influencing Aad. More research is needed to explore how the two routes of Aad formation influence Aad effects on brand attitude.

VI. Conclusion

1. Current Status

It has been more than a decade since the Elaboration Likelihood Model was introduced. Clearly, this model has generated a wealth of empirical research in consumer psychology, especially in studies on advertising. Many of these studies have applied the framework of ELM to explain advertising effectiveness and have found confirming evidence, while other studies have refined the framework by identifying conditions and contexts under which the processes of persuasion would follow. In general, ELM contributes to consumer research (or specifically, advertising research) in at least two ways. First, by dividing the persuasion processes into central and peripheral routes, ELM points out the possibility that attitudes which appear to be identical can be quite different in their formation process. The emphasis on the “persuasion process” rather than the “persuasion outcome” is consistent with the stream of consumer research that has taken the information processing perspective and has inspired numerous studies on consumer cognitive processes, advertising message elaboration, and evaluation heuristics (Petty *et al.*, 1994). Second, ELM views motivation and ability as the determinants of persuasion routes, a notion that is compatible with the research on involvement that has been conducted in the field of consumer behavior. ELM provides a useful framework which consumer researchers can use to integrate past findings on involvement and to systematically further examine its effect on brand evaluation. The topic of low-involvement persuasion, for example, has captured much attention (*e.g.*, Miniard *et al.* (1991) and Sengupta *et al.* (1997)).

2. Future Research Directions

Researchers have explored the complexity of variables and interaction between variables to supplement ELM. Processing antecedents (or factors that influence antecedents) and the potential roles of ad execution cues (e.g., ad claims, pictorial stimuli, source characteristics, etc.) seem to have attracted the greatest attention from consumer researchers. This paper has identified at least two directions that ELM-related research has recently followed. First, to answer to the call for “greater appreciation for the view that any one variable is capable of multiple roles in the persuasion process” (Petty *et al.*, 1994), more and more studies have examined the multiple roles of variables such as positive affect, source expertise, pictures, and even music in ads (e.g., MacInnis and Park (1991)). It seems that there are no “absolute” central or peripheral cues, and that the role a variable serves in the persuasion process may depend more on the processing situation. Second, corresponding to the multiple roles of variables, researchers have noticed that the two routes of persuasion can interact with each other. One process can dominate when the two processes yield highly contradictory information, but both can occur concurrently when they yield consistent information (Chaiken and Maheswaran, 1994). “Cue diagnosticity” has been suggested to explain the interaction between central and peripheral processes (Aaker and Maheswaran, 1997; Pham, 1996), but much work needs to be done. Apparently it is a research issue worth exploring.

One important assertion of ELM is that attitudes (or brand evaluations) can be quite different in terms of temporal persistence, resistance, and their ability to predict behavior. Specifically, if consumers form attitudes in the central processing manner, then their attitude will last longer, be more resistant to counterarguments, and yield higher attitude-behavior consistency. However, this review has shown that most consumer studies have detailed the nature of elaboration and the types and levels of processing while the effects of persuasion routes on attitude persistence and resistance have been largely neglected. Although attempts have been made to provide an integrative framework of information processing based on advertisements (e.g., MacInnis and Jaworski (1989)), more empirical tests are needed to gain a better understanding of consumer information processing of advertisements.

References

- Aaker, J. L., & Maheswaran, D. (1997). The effect of cultural orientation on persuasion. *Journal of Consumer Research*, *24*, 315-328.
- Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of consumer expertise. *Journal of Consumer Research*, *13*, 411-454.
- Anand, P., & Sternthal, B. (1990). Ease of message processing as a moderator of repetition effects in advertising. *Journal of Marketing Research*, *27*, 345-353.
- Artz, N., Tybout, A. M., & Kehret-Ward, T. (1993). Effect of pictorial distance and the viewer's sociability on ad liking. *Journal of Consumer Psychology*, *2*, 359-379.
- Barone, M. J., Miniard, P. W., & Romeo, J. B. (2000). The influence of positive mood on brand extension evaluations. *Journal of Consumer Research*, *26*, 386-400.
- Batra, R., & Ray, M. L. (1985). How advertising works at contact. In: L.F. Alwitt & A.A. Mitchel (Eds.), *Psychological processes and advertising effects* (pp. 13-44). Hillsdale, NJ: Lawrence Erlbaum.
- Batra, R., & Ray, M. L. (1986). Situational effects of advertising repetition: The moderating influence of motivation, ability, and opportunity to respond. *Journal of Consumer Research*, *12*, 432-445.
- Batra, R., & Stayman, D. M. (1990). The role of mood in advertising effectiveness. *Journal of Consumer Research*, *17*, 203-214.
- Berger, I. E. (1992). The nature of attitude accessibility and attitude confidence: A triangulated experiment. *Journal of Consumer Psychology*, *1*, 103-123.
- Berger, I. E., & Mitchell, A. A. (1989). The effect of advertising on attitude accessibility, attitude confidence, and the attitude-behavior relationship. *Journal of Consumer Research*, *16*, 269-279.
- Bezjian-Avery, A., Calder, B., & Iacobucci, D. (1998). New media interactive advertising vs. traditional advertising. *Journal of Advertising Research*, *38*, 23-32.
- Brown, S. P., & Stayman, D. W. (1992). Antecedents and consequences of attitude toward the ad: A meta-analysis. *Journal of Consumer Research*, *19*, 34-51.
- Brucks, M., Armstrong, G. M., & Goldberg, M. E. (1988). Children's use of cognitive defenses against television advertising: A cognitive response approach. *Journal of Consumer Research*, *14*, 471-482.
- Buchholz, L. M., & Smith, R. E. (1991). The role of consumer involvement in determining cognitive response to broadcast advertising. *Journal of Advertising*, *20*, 4-17.
- Burke, M. C., & Edell, J. A. (1989). The impact of feelings on ad-based affect and cognition. *Journal of Marketing Research*, *16*, 69-83.
- Burke, R. R., DeSarbo, W. S., Oliver, R. L., & Robertson, T. S. (1988). Deception by implication: An experiment investigation. *Journal of Consumer Research*, *14*, 482-494.
- Burnkrant, R. E., & Unnava, H. R. (1989). Self-referencing: A strategy for increasing processing of message content. *Personality and Social Psychology Bulletin*, *15*, 628-638.
- Burnkrant, R. E., & Unnava, H. R. (1995). Effects of self-referencing on persuasion. *Journal of Consumer Research*, *22*, 17-26.
- Burton, S., & Lichtenstein, D. (1988). The effect of ad claims and ad context on attitude toward the advertisement. *Journal of Advertising*, *17*, 3-11.
- Celuch, K. G., & Slama, M. (1995). Cognitive and affective components of Aad in a low motivation processing set. *Psychology and Marketing*, *12*, 123-133.
- Chaiken, S., & Maheswaran, D. (1994). Heuristic processing can bias systematic processing: Effects of source credibility, argument ambiguity, and task importance on attitude judgment. *Journal of Personality and Social Psychology*, *66*, 460-473.
- Chattopadhyay, A. (1998). When does comparative advertising influence brand attitude? The role of delay and market position. *Psychology and Marketing*, *15*, 461-475.
- Childers, T. L., & Houston, M. J. (1984). Conditions for a picture-superiority effect on consumer memory. *Journal of Consumer Research*, *11*, 643-654.
- Cohen, J. B. (1990). Attitude, affect and consumer behavior. In: B.S. Moore & A.M. Isen (Eds.), *Affect and social behavior* (pp. 152-206). Cambridge: Cambridge University Press.
- Coulter, K. S. (1998). The effects of affective responses to media context on advertising evaluations. *Journal of Advertising*, *27*, 41-51.
- Coulter, K. S., & Punj, G. (1999). Influence of viewing context on the determinants of attitude toward the ad brand. *Journal of Business Research*, *45*, 47-58.
- Cox, D. S., & Cox, A. D. (1988). What does familiarity breed: Complexity as moderator of repetition effects in advertisement evaluation. *Journal of Consumer Research*, *15*, 111-116.

- Deighton, J., Romer, D., & McQueen, J. (1989). Using drama to persuade. *Journal of Consumer Research*, **16**, 335-343.
- Droge, C. (1989). Shaping the route to attitude change: Central versus peripheral processing through comparative versus noncomparative advertising. *Journal of Marketing Research*, **26**, 193-204.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt, Brace, Jovanovich.
- Edell, J. A., & Keller, K. L. (1989). The information processing of coordinated media campaigns. *Journal of Marketing Research*, **26**, 149-163.
- Ford, G. T., Smith, D. B., & Swasy, J. L. (1990). Consumer skepticism of advertising claims: Testing hypotheses from economics of information. *Journal of Consumer Research*, **16**, 433-441.
- Garidal, S., & Biehal, G. (1991). Evaluative and factual ad claims, knowledge level, and marketing inferences. *Marketing Letters*, **2**, 349-358.
- Greenwald, A. G., & Leavitt, C. (1984). Audience involvement in advertising: Four levels. *Journal of Consumer Research*, **11**, 581-592.
- Grewal, D., Kavanoor, S., Fern, E. F., Costley, C., & Barnes, J. (1997). Comparative versus noncomparative advertising: A meta-analysis. *Journal of Marketing*, **61**, 1-15.
- Gurhan-Canli, Z., & Maheswaran, D. (2000). Determinants of country-of-origin evaluations. *Journal of Consumer Research*, **27**, 96-108.
- Hastak, M., & Olson, J. C. (1989). Assessing the role of brand-related cognitive responses as mediators of communication effects on cognitive structure. *Journal of Consumer Research*, **15**, 458-471.
- Hawkins, S. A., & Hoch, S. J. (1992). Low-involvement learning: Memory without evaluation. *Journal of Consumer Research*, **19**, 212-225.
- Heesacker, M. H., Petty, R. E., & Cacioppo, J. T. (1983). Field dependence and attitude change: Source credibility can alter persuasion by affecting message-relevant thinking. *Journal of Personality*, **51**, 653-666.
- Homer, P. M. (1990). The mediating role of attitude toward the ad: Some additional evidence. *Journal of Marketing Research*, **27**, 78-86.
- Homer, P. M., & Kahle, L. R. (1991). Source expertise, time of source identification, and involvement in persuasion: An elaborative processing perspective. *Journal of Advertising*, **19**, 30-39.
- Howard, D. J. (1990). Rhetorical question effects on message processing and persuasion: The role of information availability and the elicitation of judgement. *Journal of Experimental Social Psychology*, **26**, 217-239.
- Howard, D. J., & Barry, T. E. (1994). The role of thematic congruence between a mood-inducing event and an advertised product in determining the effects of mood on brand attitude. *Journal of Consumer Psychology*, **3**, 1-27.
- Hughes, G. D. (1992). Realtime response measures redefine advertising wearout. *Journal of Advertising Research*, **32**, 61-77.
- Humphreys, M. S., & Revelle, W. (1984). Personality, motivation, and performance: A theory of the relationship between individual differences and information processing. *Psychological Review*, **91**, 153-184.
- Keller, K. L. (1991). Cue compatibility and framing in advertising. *Journal of Marketing Research*, **28**, 42-57.
- Kraft, R. N. (1987). The influence of camera angle on comprehension and retention of pictorial events. *Memory and Cognition*, **15**, 291-307.
- Krishnamurthy, P., & Sujan, M. (1999). Retrospection versus anticipation: The role of the ad under retrospective and anticipatory self-referencing. *Journal of Consumer Research*, **26**, 55-69.
- Krugman, H. E. (1965). The impact of television advertising: Learning without involvement. *Public Opinion Quarterly*, **29**, 349-356.
- Lane, V. R. (2000). The impact of ad repetition and ad content on consumer perceptions of incongruent extensions. *Journal of Marketing*, **64**, 80-91.
- Lavidge, R. J., & Steiner, G. A. (1961). A model for predictive measurements of advertising effectiveness. *Journal of Marketing*, **25**, 59-62.
- Lee, H., Herr, P. M., Kardes, F. R., & Kim, C. (1999). Motivated search: Effects of choice accountability, issue involvement, and prior knowledge on information acquisition and use. *Journal of Business Research*, **45**, 75-88.
- Leong, E. K. F., Huang, X., & Stanners, P. (1998). Comparing the effectiveness of the Web site with traditional media. *Journal of Advertising Research*, **38**, 44-51.
- Lord, K. R., Lee, M., & Sauer, P. L. (1995). The combined influence hypothesis: Central and peripheral antecedents of attitude toward the ad. *Journal of Advertising*, **24**, 73-85.
- Lutz, R. J. (1985). Affective and cognitive antecedents of attitude toward the ad: A conceptual framework. In: L.F. Alwitt & A.A. Mitchel (Eds.), *Psychological processes and advertising effects* (pp. 45-64). Hillsdale, NJ: Lawrence Erlbaum.
- MacInnis, D. J., & Jaworski, B. J. (1989). Information processing from advertisements: Toward an integrative framework. *Journal of Marketing*, **53**, 1-23.
- MacInnis, D. J., & Park, C. W. (1991). The differential role of characteristics of music on high- and low-involvement consumers' processing of ads. *Journal of Consumer Research*, **18**, 161-173.
- MacInnis, D. J., & Price, L. L. (1987). The role of imagery in information processing: Review and extensions. *Journal of Consumer Research*, **13**, 473-491.
- MacKenzie, S. B., & Lutz, R. J. (1989). An empirical examination of the structural antecedents of attitude toward the ad in an advertising pre-testing context. *Journal of Marketing*, **53**, 48-65.
- MacKenzie, S. B., & Spreng, R. A. (1992). How does motivation moderate the impact of central processing on brand attitudes and intentions? *Journal of Consumer Research*, **18**, 519-529.
- MacKenzie, S. B., Lutz, R. J., & Belch, G. E. (1986). The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations. *Journal of Marketing Research*, **23**, 130-143.
- Mackie, D. M., & Worth, L. T. (1989). Processing deficits and the mediation of positive affect in persuasion. *Journal of Personality and Social Psychology*, **57**, 27-40.
- Mackie, D. M., Asuncion, A. G., & Rosselli, R. (1992). Impact of positive affect on persuasion processes. *Review of Personality and Social Psychology*, **14**, 247-270.
- Maheswaran, D., & Sternthal, B. (1990). The effects of knowledge, motivation, and type of message on ad processing and product judgments. *Journal of Consumer Research*, **17**, 66-73.
- Malaviya, P., Kisielius, J., & Sternthal, B. (1996). The effect of type of elaboration on advertisement processing and judgment. *Journal of marketing research*, **33**, 410-421.
- Malaviya, P., Meyers-Levy, J., & Sternthal, B. (1999). Ad repetition in a cluttered environment: The influence of type of processing. *Psychology and Marketing*, **16**, 99-118.
- Mathur, M., & Chattopadhyay, A. (1991). The impact of moods generated by television programs on responses to advertising. *Psychology and Marketing*, **8**, 59-77.
- Mattila, A., & Wirtz, J. (2000). The role of preconsumption affect in postpurchase evaluation of services. *Psychology and Marketing*, **17**, 587-605.
- Meyers-Levy, J. (1991). Elaborating on elaboration: The distinction between relational and item-specific elaboration. *Journal of Consumer Research*, **18**, 358-367.
- Meyers-Levy, J., & Peracchio, L. A. (1992). Getting an angle in advertising: The effect of camera angle on product evaluations. *Journal of Marketing Research*, **29**, 454-461.
- Meyers-Levy, J., & Peracchio, L. A. (1995). Moderators of the impact of self-reference on persuasion. *Journal of Consumer Research*, **22**, 408-423.
- Meyers-Levy, J., & Tybout, A. M. (1989). Schema congruity as a basis for product evaluation. *Journal of Consumer Research*, **16**, 39-54.
- Miniard, P. W., Bhatla, S., & Rose, R. L. (1990). On the formation relationship of ad and brand attitudes: An experimental and causal analysis. *Journal of Marketing Research*, **27**, 290-303.
- Miniard, P. W., Bhatla, S., Lord, K. R., Dickson, P. R., & Unnava, H. R. (1991). Picture-based persuasion processes and the moderating role of involvement. *Journal of Consumer Research*, **18**, 92-107.
- Mitchell, A. A. (1986). The effect of verbal and visual components of advertisements of brand attitudes and attitudes toward the advertisement.

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- Journal of Consumer Research*, **13**, 12-24.
- Moore, D. L., Hausknecht, D., & Thamodaran, K. (1986). Time compression, response opportunity, and persuasion. *Journal of Consumer Research*, **13**, 85-99.
- Moorman, C. (1990). The effects of stimulus and consumer characteristics on the utilization of nutrition information. *Journal of Consumer Research*, **17**, 362-374.
- Muehling, D. D., Laczniak, R. N., & Stoltman, J. (1991). The moderating effects of ad message involvement: A reassessment. *Journal of Advertising*, **20**, 29-38.
- Olney, T. J., Holbrook, M. B., & Batra, R. (1991). Consumer responses to advertising: The effects of ad content, emotions, and attitude toward the ad on viewing time. *Journal of Consumer Research*, **17**, 440-453.
- Park, C. W., & Young, S. M. (1986). Consumer response to television commercials: The impact of involvement and background music on brand attitude formation. *Journal of Marketing Research*, **23**, 11-24.
- Pechmann, C., & Esteban, G. (1994). Persuasion processes associated with direct comparative and noncomparative advertising and implications for advertising effectiveness. *Journal of Consumer Psychology*, **2**, 403-432.
- Pechmann, C., & Ratneshwar, S. (1991). The use of comparative advertising for brand positioning: Association versus differentiation. *Journal of Consumer Research*, **19**, 145-160.
- Pechmann, C., & Stewart, D. W. (1990). The effects of comparative advertising on attention, memory, and purchase intentions. *Journal of Consumer Research*, **17**, 180-191.
- Peracchio, L. A., & Meyers-Levy, J. (1997). Evaluating persuasion-enhancing techniques from a resource-matching perspective. *Journal of Consumer Research*, **24**, 178-191.
- Petty, R. E., & Cacioppo, J. T. (1983). Central and peripheral routes to advertising effectiveness: The moderating role of involvement. *Journal of Consumer Research*, **10**, 134-148.
- Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer-Verlag.
- Petty, R. E., Cacioppo, J. T., & Heesacker, M. H. (1981). Effects of rhetorical questions on persuasion: A cognitive response analysis. *Journal of Personality and Social Psychology*, **40**, 432-440.
- Petty, R. E., Schumann, D. W., Richman, S. A., & Strathman, A. J. (1993). Positive mood and persuasion: Different roles for affect under high- and low-elaboration conditions. *Journal of Personality and Social Psychology*, **64**, 5-20.
- Petty, R. E., Priester, J. R., & Wegener, D. T. (1994). Cognitive processes in attitude change. In: R.S. Wyer, Jr. & T.K. Srull (Eds.), *Handbook of social cognition*, 2nd Ed., Vol. 2: *Application* (pp. 69-142). Hillsdale, NJ: Lawrence Erlbaum.
- Pham, M. T. (1996). Cue representation and selection effects of arousal on persuasion. *Journal of Consumer Research*, **22**, 373-387.
- Puto, C. P., & Wells, W. D. (1984). Informational and transformational advertising: The differential effects of time. In: T.C. Kinnear (Ed.), *Advances in consumer research* (Vol. 11, pp. 572-576). Provo, UT: Association for Consumer Research.
- Ratneshwar, S., & Chaiken, S. (1991). Comprehension's role in persuasion: The case of its moderating effect on the persuasive impact of source cues. *Journal of Consumer Research*, **18**, 52-62.
- Ray, M. L. (1973). Marketing communication and the hierarchy of effects. In: P. Clarke (Ed.), *New models for communication research* (pp. 147-176). Beverly Hills, CA: Sage Publishing.
- Rethans, A. J., Swasy, J. L., & Marks, L. J. (1986). The effects of television commercial repetition, receiver knowledge and commercial length: A test of the two factor model. *Journal of Marketing Research*, **23**, 50-61.
- Rose, R. L., Miniard, P. W., Barone, M. J., Manning, K. C., & Till, B. D. (1993). When persuasion goes undetected: The case of comparative advertising. *Journal of Marketing Research*, **30**, 315-330.
- Sanbonmatsu, D. M., & Kardes, F. R. (1988). The effects of psychological arousal on information processing and persuasion. *Journal of Consumer Research*, **15**, 379-385.
- Schumann, D. W., Petty, R. E., & Clemons, D. S. (1990). Predicting the effectiveness of different strategies of advertising variation: A test of the repetition-variation hypotheses. *Journal of Consumer Research*, **17**, 192-202.
- Scott, L. M. (1994). Images in advertising: The need for a theory of visual rhetoric. *Journal of Consumer Research*, **21**, 252-273.
- Sen, S. (1998). Knowledge, information mode, and the attraction effect. *Journal of Consumer Research*, **25**, 64-77.
- Sengupta, J., Goodstein, R. C., & Boninger, D. S. (1997). All cues are not created equal: Obtaining attitude persistence under low-involvement conditions. *Journal of Consumer Research*, **23**, 351-361.
- Shavitt, S., Swan, S., Lowrey, T. M., & Wanke, M. (1994). The interaction of endorser attractiveness and involvement in persuasion depends on the goal that guides message processing. *Journal of Consumer Psychology*, **3**, 137-162.
- Singh, S. N., Lessig, V. P., Kim, D., Gupta, R., & Hocutt, M. A. (2000). Does your ad have too many pictures? *Journal of Advertising Research*, **40**, 11-27.
- Smith, R. A. (1991). The effects of visual and verbal advertising information on consumers' inference. *Journal of Advertising*, **20**, 13-23.
- Smith, S. M., & Shaffer, D. R. (1991). The effects of good moods on systematic processing: "Willing but not able, or able but not willing?" *Motivation and Emotion*, **15**, 243-279.
- Stayman, D. M. (1994). Processing Less versus processing differently: An investigation of the influence of affect on the processing of persuasive messages. Working paper. Ithaca, NY: Cornell University.
- Stuart, E. W., Shimp, T. A., & Engle, R. W. (1987). Classical conditioning of consumer attitudes: Four experiments in an advertising context. *Journal of Consumer Research*, **14**, 334-349.
- Sujan, M. (1985). Consumer Knowledge: Effects of evaluation strategies mediating consumer judgments. *Journal of Consumer Research*, **12**, 31-46.
- Swinyard, W. R. (1993). The effects of mood, involvement, and quality of store experience on shopping intentions. *Journal of Consumer Research*, **20**, 271-280.
- Unnava, H. R., & Burnkrant, R. E. (1991a). Effects of repeating varied ad executions on brand name memory. *Journal of Marketing Research*, **28**, 406-416.
- Unnava, H. R., & Burnkrant, R. E. (1991b). An imagery-processing view of the role of pictures in print advertisements. *Journal of Marketing Research*, **28**, 226-231.
- Venkatraman, M. P., Marlino, D., Kardes, F. R., & Sklar, K. B. (1990). The interactive effects of message appeal and individual differences on information processing and persuasion. *Psychology and Marketing*, **7**, 85-96.
- Walker, B., Celsi, R., & Olson, J. (1987). Exploring the structural characteristics of consumers' knowledge. In: M. Wallendorf & P. Anderson (Eds.), *Advances in consumer research* (Vol. 14, pp. 17-21). Provo, UT: Association for Consumer Research.
- Wegener, D. T., Petty, R. E., & Smith, S. M. (1995). Positive mood can increase or decrease message scrutiny: The hedonic contingency view of mood and message processing. *Journal of Personality and Social Psychology*, **69**, 5-15.
- Wells, W. D. (1989). Lectures and drama. In: P. Cafferata & A.M. Tybout (Eds.), *Cognitive and affective responses to advertising* (pp. 13-20). Lexington, MA: Lexington.
- Wirtz, J., & Bateson, J. E. G. (1999). Consumer satisfaction with services: Integrating the environment perspective in services marketing into the traditional disconfirmation paradigm. *Journal of Business Research*, **44**, 55-66.
- Worth, L. T., & Mackie, D. M. (1987). Cognitive mediation of positive affect in persuasion. *Social Cognition*, **5**, 76-94.
- Zhang, Y., & Buda, R. (1999). Moderating effects of need for cognition on responses to positively versus negatively framed advertising messages. *Journal of Advertising*, **28**, 1-15.

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推敲可能性模式在消費者行為研究之應用：回顧與評論

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摘 要

推敲可能性模式是個描述勸服過程和訊息處理的理論模式。自從在1980年代被提出後，已為認知心理學、社會心理學、以及消費者研究等領域之學者所廣泛引用。本文主要在回顧過去十年來，推敲可能性模式在消費者研究方面之應用概況，並將焦點集中於以下各項：與廣告相關之研究、對品牌評估之影響效果、訊息處理之機制、以及可能延伸該模式或與該模式相左之相關發現。相關文獻分由三部分加以探討：訊息處理之前因、過程、與線索。最後則對回顧結果作綜合評論，並提出多項未來研究方向之建議。

關鍵詞彙：推敲可能性模式，廣告，消費者訊息處理，處理前因、處理機制、處理線索