

Effects of Involvement, Arguments Strength and Product Prior Knowledge on Advertising Information Processing

Jean-Charles Chebat, University of Quebec, Montreal
Caroline Lavallee, Marcon Consultants

The present paper focuses on a central research problem: how three major antecedents of the information processes, namely involvement, arguments strength and product prior knowledge impact on the depth of cognitive activity of consumers exposed to advertising. This research bridges a gap between two advertising research traditions: on one hand the Elaboration Likelihood Model and Heuristic-Systematic Model and on the other hand the information processing models (Greenwald and Leavitt, 1984; MacInnis and Jaworski, 1989; Mick, 1992). Involvement and arguments strength were operationalized in a way different from the ELM-type studies. Prior knowledge of the advertised item is included in the experiment. A 2x2 experiment has been designed (two levels of arguments strength and two advertisements different in terms of levels of issue-involvement) and completed with 115 subjects. Results show that, contrary to theoretical expectations, none of the three main effects are significant: in particular, no single facet of the involvement profile has a significant impact on the information processing; however a combination of three of them, reflecting the hidden dimensions of the issue involvement in the ELM-type studies, has a significant impact. Three interactive effects are significant:

** involvement and product prior knowledge: both have to be high to enhance information processing*

** involvement and arguments strength: "weak" arguments stimulate information processing under high perceived risk and high probability of error*

** involvement, prior knowledge and arguments strength: strong arguments stimulate processing under both high prior knowledge and high product interest.*

Theoretical explanations are proposed for these rather novel results. A new approach to advertising processing is proposed.

Bridging two advertising research traditions

The present study aims at bridging a gap between two advertising research traditions: on one hand, ELM and HSM, and on the other hand the information processing models. The first type of models has brought about a number of empirical studies which left aside the key issue of the information processing even

though this concept is central to them; the second type of models did focus on theoretical nuances of information processing but did not get an empirical validation, with the notable exception of Mick's model (1992) which however does not consider the role of involvement, whereas the other information processing models (Greenwald and Leavitt, 1984; MacInnis and Jaworski, 1989) regard this concept or similar concepts as central. The first key objective of this study is to empirically assess the role of involvement as an antecedent of the information process.

Issue involvement

The major tenet of the two most influential models, the Elaboration Likelihood Model (ELM) by Petty and Cacioppo (1981) and the Heuristic-Systematic Model (HSM) by Chaiken (1980) is straightforward: the higher the receivers' involvement, the deeper the receiver's information processing, and conversely. The advertising research results derived from these models are far from convergent. Several studies, (e.g. Chebat, Filiatrault and Perrien, 1990; Cole, Ettenson, Reinke and Schrader, 1990 and Mazurski and Schull, 1992) failed to confirm the use of systematic cognitive processes under high involvement and, conversely the use of heuristic processes under low involvement.

Whereas the information processes are recognized by both models as central elements of the persuasion process, they are conceived (especially with ELM) as either deep under high involvement or shallow under low involvement. This dichotomy has to be contrasted with the elaborate nuances that models by Greenwald and Leavitt (1984) MacInnis and Jaworski (1989) and Mick (1992) bring into these information processes. To our knowledge, no single study based upon either ELM or HSM focuses on the information processes following the exposure to advertising messages: paradoxically even if the information processes are central in both models, the key relation between involvement and the information processes is not empirically based. One contribution of this study is to research this relation empirically.

The concept of involvement has been used in a number of varied contexts to the point that, as reported in Antil's (1984) comprehensive literature review, its use makes problem:

"Such diverse use has continued most likely because of the lack of an agreed upon definition and method of operationalization ... And to complicate matters even further, several (perhaps most) studies never specifically define what they mean by involvement and simply use the term and assume the reader understands the concept." (p. 203).

The wide variety of uses is paralleled by the wide variety of theoretical conception of "involvement". Costley (1988) for instance, has suggested a complex hierarchy of definitions based on three variables (object, nature and intensity of involvement). More importantly, the concept of involvement has been operationalized as dichotomous (e.g. Petty, Cacioppo and Schumann, 1983) whereas there is a large consensus about the fact that it is a continuous.

The operationalization of involvement should be reoriented through the use of *continuous* measures which reflect the complexity of the concept. The methodological approach developed by Laurent and Kapferer (1985) seems more fruitful than others. Their "profile of involvement" which includes five dimensions of involvement (perceived risk, probability of error, hedonistic value, symbolic value and interest) seems more capable to reflect the complexity of the concept than the Zaichkowsky's (1985) Personal Involvement Index which is supposed to solely reflect consumers' personal relevance perceived in a product.

Arguments strength

Beside involvement, another key concept in ELM and HSM is arguments strength. Their major proposition is that receivers process message arguments mainly (in HSM) or only (in ELM) under high involvement. In terms of cognitive response, under low involvement, the strength of the arguments has no impact on the thoughts following the exposure to the message; under high involvement, on the contrary, the strength of the arguments impacts on the direction of the thoughts.

The operationalization of arguments strength as included in ELM is problematic. For Areni and Lutz (1988), the major problem is that Petty and Cacioppo have operationalized the strength of the arguments in terms of desirability of the attributes of the advertised product. For instance in their study on print advertisements featuring the Edge razor blades (Petty, Cacioppo and Schumann, 1983), the blade is presented (in the weak argument version) as able to "float in water with a minimum of rust"; another weak argument is that it "can be used only once". These "arguments" are either irrelevant to someone using blades or constitute a negative attribute, without counterpart in the set of "strong" arguments; this dissymmetry is such that one can wonder if the two (strong-v- weak) versions of the ads are dealing with the same product. Areni and Lutz (1988) conclude their analysis that Petty and Cacioppo have manipulated the *valence* of the arguments (i.e. the positive-vs- negative consequences of the advertised product) not their strength. They suggest another way of manipulating the strength of the arguments on the basis of quantified elements: for instance, the strong version could present the blades as shaving closer than four of its competitors, whereas, in the weak version, it shaves closer than two of its competitors. Boller, Swasy et Munch

(1990) who contend also that Petty and Cacioppo manipulated the valence of the arguments, not of their strength suggest another manipulation of arguments, that of "qualificative" elements and restrictions of the arguments; for instance the reduced proportion of rectal cancers through the use of cereals rich in fibres or restrictions such as "however, some genetic trends can dominate such factors as a diet".

This approach, which is very different from that of Petty and Cacioppo, was empirically used by Areni and Lutz(1988) and by Hennessey and Anderson(1990). Hennessey and Anderson(1990) show an unexpected result: if the strength of the arguments is operationalized in the way suggested by Areni and Lutz (that is to a manipulation of quantitative elements or adjectives), it has no impact on the number of counterarguments generated by the receivers.

In the present study, arguments are manipulated in the way suggested by Areni and Lutz (1988) and Boller, Swasy and Munch (1990), which is a logical and significant improvement of the operationalization of the concept of arguments strength.

Familiarity with the product

Although both MacInnis and Jaworski (1989) and Petty and Cacioppo (1986) consider familiarity with the advertised product as an important component of the receivers' ability to process the information, few studies have empirically taken this variable into account. There are at least two major exceptions. First, according to Okechuku (1992), this variable affects the cognitive evaluation of the product and the intent to buy. Second Mick(1992) shows that at a rather deep level of information processing (third of four levels of processing), receivers use their general (although impersonal) knowledge of the product to give the message a meaning. At the deepest level of processing (level 4) personal experience with the product generates the receivers' responses: this relation is confirmed by other studies on this variable (Celsi and Olson, 1988; Mitchell, 1979).

The present study emphasizes the role of prior knowledge and experience with the product since these studies show the potential impact on post-exposure information processing.

Hierarchy of information processes

The major information processing models (Greenwald and Leavitt, 1984; MacInnis and Jaworski, 1989; Mick, 1992) show a sequence or a hierarchy of information processes levels. These levels, the number of which vary from four to six, reflect a more or less complex cognitive elaboration and a more or less intense cognitive

activity. In two of these three models (Greenwald and Leavitt, 1984; MacInnis and Jaworski, 1989) a concept close to involvement is the key element of the cognitive activity: in the first model, this element is the commitment to acquire information; in the second case, this is the motivation to process information. As for Mick's model, the concept of involvement is absent; the model rather uses consumers' prior knowledge, which makes the message meaningful to the receivers. Mick proposes a model with four levels of comprehension generated by the receivers. These four levels basically correspond to the four more elaborate levels of the MacInnis and Jaworski's conceptual model. Mick distinguishes the objective-v-subjective comprehension in the following way. He defines the objective comprehension as follows:

"The grasping or extracting of prespecifiable meanings from the message; typically these meanings are considered given (i.e., intrinsic to or directly implied by the message) and intended by the advertisers." p.411

The objective comprehension is very close to the intended meaning that the advertiser intended to put in the message. For instance, an advertisement points out that a car is equipped with ABS brakes. If the receiver already knows of this item, he/she may deduct that the car designers took care of the passengers safety. This meaning was included in the message. However, the message can be understood in a totally different way if the receiver links ABS brakes with an expensive option: the car manufacturer wants to sell this option to increase his profits. This second way of understanding the message is surely not included in the advertiser's intentions; previous knowledge and past experience of the consumer may lead him/her to that subjective comprehension. Receivers use personal experience and prior knowledge to give the incoming messages a meaning.

Subjective comprehension is defined by Mick (1992) as follows:

"The most important meanings are those emanating from the individual recipient within a specific processing context, irrespective of whether those meanings were intended by the source or, in some sense, contained in the message." (Mick, 1992. p.412)

The proposition that the post-message cognitive elaboration is more intense under higher involvement, remains to be shown empirically, which is the central focus of this article: studies by Petty and Cacioppo, as well as those by Chaiken do not focus on the analysis of information hypothesis: processing, since the cognitive elaboration is hypothesized to be related to the level of involvement.

Another question which remains to be explored, which is another contribution of

this study, is related to the interactive effects of consumers involvement and prior knowledge on the information processing; in particular, which "facet" of involvement triggers the information process of consumers who know of the advertised item versus those who do not.

Model and hypotheses

Although the theoretical framework of this study is largely indebted to that developed by MacInnis and Jaworski (1989), it departs from it by focusing on two antecedents of the information process, arguments strength and product prior knowledge. The main concept however, that of involvement is precisely the one which allows us to bridge the gap between ELM (and HSM) on one hand and the information processing models on the other hand. The contribution of this paper is to propose and to test systematically the interactive effects of these three antecedents on the information processes. The theoretical framework is presented in Figure 1(omitted).

Hypothesis

Two sets of hypotheses are proposed here: first, the main effects of the three antecedents, second the interactive effects of these antecedents.

Main Effects

The basic hypothesis of ELM and HSM, as well as Greenwald and Leavitt's (1984) model and MacInnis and Jaworski's (1989) is that a high level of involvement is associated with a deeper level of information processing. Our first hypothesis reflect this convergent prediction from these four models:

H1a: The higher the involvement, the deeper the information process.

Two studies (Okechuku, 1992; Mick, 1992) show the effects of product prior knowledge (or familiarity) on the information process. This justifies the next hypothesis:

H1b: The higher the receiver's familiarity, the deeper the information process

The third hypothesis is related to the arguments strength. It is mainly conjectural: it is suggested that stronger arguments trigger more cognitive activity than weaker arguments. This is not supported by the ELM literature, since the arguments strength is hypothesized to have a cognitive effect on attitude change only under high involvement. Since the present study does not focus on attitude change, but on

information processing, it may be worth verifying the following

H1c: The stronger the arguments, the deeper information process.

Interactive effects

The second set of hypotheses is related to the interactive effects of the antecedents. For Greenwald and Leavitt (1984) a lack of ability to process the information limits the access to deeper levels of information processing. Similarly, MacInnis and Jaworski (1989) suggest that the ability to process the message moderates the impact of the motivation to process the information: a strongly motivated receiver who does not have this ability is limited to more superficial information processing. ELM and HSM do assume a similar interaction. More precisely, Petty and Cacioppo (1986) identify several elements affecting this ability (distraction, repetition, message comprehensibility and prior knowledge). As all the message characteristics have been controlled in the present study (see the methodological section), only prior knowledge of the advertised product may have an impact on the information process.

H2a: Involvement and familiarity with the advertised product interactively affect the information process

ELM proposes that a highly involved individual uses the "central route" develops attitudes mainly based on product based arguments strength. The present study however does not focus on attitudes but on information processes which are the antecedents of attitudes. It is still hypothesized that the arguments strength impact on the information process mainly under high involvement: under low involvement, receivers use peripheral cues, that is cues which are not argumentative (e.g. source credibility, humor) and function at superficial levels of information processing; under high involvement, receivers analyze the arguments at deeper levels of information processing.

H2b: Involvement and arguments strength interactively affect the information process

When processing the information at deeper levels, receivers are assumed to use not only the message arguments but also their own prior knowledge. The cognitive activity is more intense and consequently, they may process more information: external arguments from the incoming message and internal information from their long term memory where personal information and personal experience with the product are recorded. Such a process is not hypothesized to occur under low involvement: under low involvement, receivers are more attentive to peripheral

cues than to arguments.

H2c: 1-Under high involvement, arguments strength and familiarity with the advertised product significantly affect the information process.

2-Under low involvement, arguments strength and familiarity with the advertised product do not significantly affect the information process.

Methodology

Overview

This experiment is based on a 2 (levels of involvement) by 2 (levels of argument strength) factorial design: one advertisement was designed for each of the four experimental conditions: the dichotomous experimental approach to issue involvement aims at generating variance between experimental groups. However each subject's involvement is assessed in a multidimensional and continuous way through the Laurent-Kapferer(1985) involvement profile scales. The arguments were manipulated as proposed by Areni and Lutz (1998). While the basic arguments of the advertisements (inspired by real advertisements issued by a major Canadian bank) remain the same in both versions, only certain adjectives and metric information were modified. When the modifications were completed, the texts were verified to ascertain linguistic similarities(2). In both ads, the same (mock) bank name was used. The issue involvement was manipulated by using two financial services, the involvement of which had already been proven to be significantly different (Gelinas-Chebat and Chebat, 1991): an advertisement on ATM-vs-an advertisement on students' loans. Each of the four experimental advertisements were presented to the respondents as a 8 1/2" by 14" as a page from a major Montreal business magazine. On the left side of the page, an article on local economic development is printed whereas the right side is used for the advertisement. Each folio (including the advertisement and the article) was inserted into its corresponding questionnaire, either pertaining to student loans or to ATM cards. Both questionnaires are similar in all aspects, with the exception of the specific reference to the advertised financial service. The documents were distributed to 155 students during the same introductory course of the administration undergraduate program randomly, these subjects were, assigned to each of the four experimental conditions. An average of 29 subjects were exposed to one or the other of the experimental conditions. The respondents were invited to read the page of the magazine as if they were reading the magazine at home, so that they do not pay more attention to the advertisement than they normally would in an actual context. In addition, we did not want them to be tempted to voluntarily memorize certain elements of the article or of the advertisement. They were

allotted 3 minutes to be exposed to the page of the magazine.

Involvement

Laurent and Kapferer's (1985) scale is made up of 16 items and it represents the five "facets" of involvement. The statements of their scale were adapted to match the studied services (a student loan and a personal touch banking card). The respondents had to indicate their level of agreement or disagreement with each of the 16 statements according to the Likert scale in 5 points. One of the statements on the importance of risk was eliminated since it only showed a minimal correlation to the total involvement. The Cronbach alpha obtained for the remaining 15 statements is 0.6667. The presence of the 5 dimensions of involvement was demonstrated with the assistance of a factorial analysis in principal components with rotation of OBLIMIN-type. This analysis reveals 5 factors representing 62.8% of the total variance: 21.1% of the variance is explained by the "hedonic" dimension; 15.6% by the "probability of error"; 11.8% by the "symbolic value"; 8.5% by "interest" and 6.8% by the "importance of risk".

Level of cognitive processing

The section of our questionnaire assessing the level of information processing was formulated into a single open ended question. The respondents were asked to write down everything they had thought and imagined while reading the advertisement. The depth of processing by the subjects was assessed by two graduate students in linguistics who categorized the responses by following the reference points listed below, which reflects the hierarchy of information processing levels developed by MacInnis and Jaworski (1989). The six levels are listed in Table 1.

TABLE 1 The six levels of McInnis & Jaworski's information processing

Level 1	Cognitive response based upon the recollection of certain contextual elements of the message (presentation, name, logo).
Level 2	Opinions that stemmed from certain contextual elements of the message.
Level 3	Recollection of certain major arguments of the message, paraphrases.
Level 4	Logical conclusions derived from the arguments in the message.
Level 5	Cognitive responses reflecting a general impression of the product, illogical conclusions.

Level 6	The respondent going beyond the arguments in the message to form attributes or to imagine scenarios in which the product is being used.
---------	---

If the cognitive responses showed that the subject had attained several levels, the judges had to indicate all the levels that were attained. This task was accomplished individually by each of the judges. The codification of the two judges turned out to be identical in 82.6% of the cases. The cases not decided unanimously were resolved by two other independent judges. This is how a unique codification for each of the respondents was obtained. The percentage of respondents at each level is as follows: level 1: 33.7%, level 2: 18.5%, level 3: 2.1%, level 4: 14.1%, level 5: 19.6%, level 6: 12.0%.

Prior knowledge of the service

Prior knowledge of the advertised service is measured with two 7-point Likert scales (level of general knowledge of the product, level of knowledge regarding the characteristics of the product). The Cronbach alpha obtained for this scale is 0.8364.

Results

1. Main effects of the three antecedents

A linear regression between the factors of involvement shows a remarkably low level of correlation (adjusted $R^2=.02$; $F=.62$; $p=.63$). No single factor is significantly associated with the level of information processing. H1a is rejected.

The correlation is also remarkably low between the level of familiarity and the level of information processing (adjusted $R^2=.000$; $F=.95$; $p=.33$). H1b is rejected.

An ANOVA the dependent variable of which is the information process and the independent variable is the (low-v- high) arguments strength show a non-significant relation ($F(1,91)=.37$; $p=.37$; adjusted $R^2=.000$). H1c is rejected.

2. The interactive effects of the antecedents

2.1 Involvement and familiarity

The subjects were split into two categories: those scoring higher than the median on "familiarity with the product" and those scoring lower. A series of ANOVAS were completed in order to pinpoint which of the facets of involvement might interact with familiarity. Only one facet of involvement, "interest for the product"

shows a significant interaction with familiarity ($F(1,91)=5.45$; $p=.022$). Figure 2 (omitted) shows the interaction.

Two regression analyses were also undertaken to complete the verification of H2a: one for the individuals scoring high on familiarity, the other for the individuals scoring low: the dependent variable was the information process level and the independent variables were the factors of involvement. A remarkable contrast was found: the involvement factors have a $R^2=.35$, significant effect only under high familiarity (adjusted $R^2=.35$, $p=.002$), not under low familiarity (no single factor enters the regression equation). H2a is supported: one dimension of involvement, "interest" significantly interacts with product's familiarity.

2.2 Involvement and arguments strength

An ANOVA shows that two factors of involvement (risk and probability of error) significantly interact with the arguments strength, respectively: $F(1,91)=5.42$; $p=.022$ et $F(1,91)=6.57$; $p=.012$). These interactions can be found in figures 3 and 4 (omitted).

Additional ANOVA's show that arguments strength impacts on information processing only under high perceived risk ($F(1,46)=5.65$; $p=.022$) or under high perceived probability of error ($F(1,46)=5.39$; $p=.025$). Under opposite conditions the effects of arguments strength are not significant.

In both cases, a deeper information process is generated by a combination of high involvement and "weak" arguments. H2b cannot be rejected, since a significant interaction is found; however, the direction of the arguments strength poses a problem since it apparently contradicts ELM predictions.

2.3 Involvement, arguments strength and familiarity

For the subjects scoring higher than the median of "interest for the advertised product", an ANOVA shows a significant interaction between arguments strength and familiarity ($F(1,47)=4.45$; $p=.04$). This interaction is shown in figure 5. The deepest information process is found under the combination of high familiarity and strong arguments. However, for the subjects scoring lower than the median on "interest for the advertised product", the interaction is not significant ($F(1,47)=.50$; $p=.48$).

Discussion

The three antecedents of the information processing have a direct effect. One of

these sub-hypotheses was strongly supported by the existing literature: our results show that no single facet of the involvement profile has a significant main effect on information processing. The absence of such main effects of involvement may be explained in several ways, Firstly, Micke (1992) did not find any relation between involvement (measured in terms of Zaichkowsky's Personal Involvement Index, 1985) and information processing (however, this may be due to the lack of variance in his subjects' involvement). Secondly, we used a different scale to measure involvement, i.e. that of Laurent and Kapferer's (1985). None of these facets has a direct significant effect on the information processing; however, additional analyses showed that the interaction of three of these facets (probability of error, perceived risk and interest) do have a significant impact ($F(3,91)=4.08$; $p=.048$). This result sheds a new light on previous studies stemming from ELM. In these studies, the concept of involvement is operationalized in a dichotomic and unidimensional way, which creates a confusion between the different facets. We propose that in ELM-type studies, involvement is implicitly a combination of these three facets: interest, risk and probability of error.

Although the three sub-hypotheses related to the main effects of the antecedents are rejected, the three sub-hypotheses related to the interactive effects of the antecedents are basically supported. A particularly important result is that the interactive effects of involvement and familiarity have a significant impact on the information processing (H2a). This hypothesis which stems from both MacInnis-Jaworski's (1989) and Petty-Cacioppo's (1986) models had not yet been empirically supported in spite of its central importance. Our present results show that involvement alone is not sufficient to enhance significantly the information processing: Even when interest in the advertised product is high, the perception of a high risk or a high probability of error inhibits receivers who have no or little prior knowledge of the product to reach deeper levels of information processing. This interaction is not shown in ELM-type studies for several reasons: Firstly, the receiver's prior knowledge has not been investigated; secondly, in most cases the advertised products are commonly used (such as razor blades in Petty, Cacioppo and Schumann, 1983) and consequently, prior knowledge variance is too low to have an impact on information processing.

The second significant interaction is that of involvement and argument strength (H2b). As predicted by ELM and HSM, this interaction is such that argument strength affects information processing only under high involvement. More precisely, for subjects scoring higher than the median on either probability of error or perceived risk, the impact of argument strength is significant (respectively: $F(1,44)=5.65$; $p=.02$ and $F(1,46)=5.39$; $p=.03$); conversely, for subjects scoring lower than the median on either facet, the argument strength has no significant

impact (respectively: $F(1,44)=2.06$; $p=.16$; $F(1,46)=2.20$; $p=.15$).

The similarity of our results with those of ELM predictions stops here since, contrary to ELM, weak arguments enhance information processing more than strong arguments do. First, our concept and operationalization of argument strength is very different from those used in ELM-type studies. Our manipulation of the arguments is based on either quantitative elements (e.g. a. students' loan of 1500-vs-3500 dollars) or adjectives (e.g. "unexpected expenses"-vs-"urgent expenses") which is extremely different from the manipulation of argument valence, as done in ELM type studies (Areni and Lutz ;1988). Secondly, the interactive effects of involvement and argument strength found in ELM-type studies have an impact on attitude change, not on information processing. In Greenwald and Leavitt's (1984) or MacInnis and Jaworski's (1989) models, information processing is the antecedent of attitude change but stands as a distinct construct from attitude change.

For these two reasons (that is our different use of argument strength and the clearcut distinction between the constructs of information processing and attitude change), comparisons between our results and those derived from ELM or HSM are somewhat difficult. However, the counter-intuitive result that weak arguments generate more intense cognitive activity than strong arguments under high intuitive involvement, deserves a clarification. We suggest two explanations. As shown in figures 3 and 4, subjects perceiving a high risk or a high probability of error exposed to weak arguments reach levels of information processing located between levels 3 and 4 of the MacInnis-Jaworski hierarchy. At that level, the cognitive response is not very elaborate; it consists of the rephrasing of the arguments or a simple logical deduction from the arguments present in the message. It can be suggested that receivers did not reach deeper levels of information processing because neither risk nor probability of error has triggered a high enough cognitive activity. It is reasoned that receivers feel a certain level of threat in the message which inhibits a higher level of cognitive activity.

The second explanation for the effects of weak arguments under high involvement is related to the very nature of the manipulation of the arguments. The manipulated understatement of quantitative data or adjectives makes the weak arguments message similar to two-sided arguments: The message claims are more modest. As shown in the literature on two-sided messages (e.g. Settle and Golden, 1974; Smith and Hunt , 1978; Swinyard, 1981), two-sided messages may prove to be more persuasive than one-sided messages, in particular for highly involved receivers (e.g. Chebat and Picard, 1985). When the consumer's decision is associated with higher risk (choice of a car in Chebat and Picard's study), the message with admission of weakness (the two-sided message) is perceived as more honest and

more credible than the one-sided message. In the present study, receivers may have paid more attention and may have elaborated more on the weak arguments because the message was made more honest and credible, which reduced consumers' perceived risk or probability of error.

The third significant interaction found in this study is that, under high involvement, argument strength and product familiarity jointly have an impact on information processing, which confirms what was stressed by Celsi and Olson (1988:222):

"...Consumers' domain knowledge becomes increasingly influential as information processing progresses from relatively automatic processes of attention to more controlled and focused comprehension processes."

For the subjects showing a high interest in the advertised product, the strong arguments affect the information processing more than the weak arguments if the level of prior knowledge is high. Let us emphasize this fundamental result: under low interest, neither the effects of prior knowledge ($F(1,44)=1.63$; $p=.21$) nor the effects of argument strength ($F(1,44)=0.01$; $p=.93$) nor the interactive effects of these two variables ($F(2,44)=0.50$; $p=.48$) have a significant impact. Strong arguments affect information processing significantly more than weak arguments only if two conditions are combined: high interest and high prior knowledge for the advertised product.

Can there be a contradiction between the results related to H2b and H2c and can this apparent contradiction be resolved in a way that it brings a new understanding to the role of information processing antecedents? Two explanations are suggested.

The first explanation is that the various facets of involvement have different effects on information processing. In H2b, the facets of involvement which interacted with the argument strength were the importance of perceived risk and the probability of error. Both facets generate a higher level of cognitive dissonance which is reduced by the search of cues that would enhance confidence in the advertised product. Weak arguments may have played this role through the attribution process described earlier. As pointed out in the advertising literature (e.g. Strazzieri, 1993), consumers who perceive a higher risk when exposed to an advertising message search for reassuring cues. The more modest cues (quantitatively and grammatically) of the "weak" version may have reassured the subjects having low familiarity with the product. In H2c, interest in the advertised product is another facet of involvement that has an impact on information processing. Subjects highly interested in the product, search for information not for reassurance: The information stored in the long term memory and stemming from personal experience with the advertised service weighs far more than the incoming

information from the ad. Thus strong arguments attract more of the interested subjects' attention than weak arguments.

A second explanation is proposed; in H2c, prior knowledge of the advertised product influences the effects of involvement, which was not the case in H2b. Higher prior knowledge of the product gives receivers more confidence in the cognitive elaboration they developed after being exposed to the message. They do not need to be reassured by the more modest claims which may seem closer to the truth. Their own personal knowledge of the Canadian banking system is sufficient to make some strong argument claims as realistic as weak argument claims. For instance, claims such as the high number of branches (2500) are as realistic as the low number of branches (150) depending on the size of the bank considered (only mock names were used, which allow the receivers to think of any of the banks to be the advertiser of the financial service). Moreover, a strong argument based on higher quantitative data may enhance message credibility and consequently its processing. Receivers who are interested in the product and who are well informed prior to the exposure to the message, feel more confident and generate more cognitive elaboration. Because receivers do not feel a high perceived risk or a high probability of error, the elaboration process is not inhibited.

Conclusion

Advertisers may realize that the very nature of involvement is complex; unidimensional measures are not sufficient. Advertisers have to know which facet of involvement is implicated in the persuasion process. Our study basically shows the contrast between "probability of error" and "risk" on one hand and "interest" on the other. The two "facets" have definitely different impacts on the information process. Moreover they mediate quite differently the impact of arguments strength. More precisely "weak" arguments (as intended by Areni and Lutz, 1988) may prove more efficient when "probability of error" or "risk" are high.

As important is the role of prior knowledge. Advertisers cannot use the same persuasive strategies when the public is knowledgeable of the advertised product and when it is not. Prior knowledge is a straightforward measurement of the quantity of personalized and integrated information consumers have acquired in their use of the product. In particular, highly involved consumers process more deeply advertising information only if they know enough about the product. Consumers acquire and structure the advertised information only if they had a pre-existing informational basis to which the incoming arguments can be connected. Prior knowledge is a major variable in segmentation strategies that advertisers have to use to differentiate their persuasive approaches.

Present results show that the several facets of involvement play dramatically different roles in the information process. In particular "interest for the advertised service (or product)" triggers the process in a very different way than "risk" or "probability of error". Advertising strategists should pay more attention to the very nature of the involvement dimensions than ELM suggests.

1 . The first author gratefully acknowledges the grant received from the SSHRC research council of Canada which made this study possible.

2. Similar number of words (163-v-168), average word length (4.7-v-4.8), average sentence length (26.3-v-24.6 words), Gunnig legibility index (14.6-14.5), number of propositions (24-v-23).

References

Antil, J. H. Conceptualization and Operationalization of Involvement. *Advances in Consumer Research*, 11 (1984): 203- 209.

Areni, C. S. and R. J. Lutz. The Role of Argument Quality in the Elaboration Likelihood Model.. *Advances in Consumer Research*, 15 (1988): 197-201.

Boller, G. W., J. L. Swasy and J. M. Munch. Conceptualizing Argument Quality via Argument Structure. *Advances in Consumer Research*, 17 (1990): 321-328.

Cacioppo, J.T.and R.E. Petty. Effects of Message Repetition on arguments Processing, Recall and Persuasion. *Basic and Applied Social Psychology*, 10 (1989): 3-12.

Celsi. R. L. and J. C. Olson. The Role of Involvement in Attention and Comprehension Processes. *Journal of Consumer Research*, 15 (September 1988): 210-224.

Chaiken, S. Heuristic versus Systematic Information Processing and the Use of Source versus Message Cues in Persuasion. *Journal of Personality and Social Psychology*, 39 (1980): 752-766.

Chebat, J. C., P. Filiatrault and J. Perrien, Limits of Credibility: The Case of Political Persuasion. *Journal of Social Psychology*, 130 (1990): 157-167.

Chebat, J. C. and J. Picard. The Effects of Price and Message- Sideness on Confidence in Product and Advertisement with Personal Involvement as a Mediator Variable: *Journal of Research in Marketing*, 20 (1985): 129-141.

Cole, C., R. Ettenson, S. Reinke and T. Schrader. The Elaboration Likelihood Model (ELM): Replications, Extensions and Some Conflicting Findings: *Advances in Consumer Research*, 17 (1990) 231-236.

Costley, C. L. Meta Analysis of Involvement Research. *Advances in Consumer Research*, 15 (1988): 554-562.

Gelinas-Chebat, C. and J. C. Chebat. Effects of Two Voice Characteristics on the Attitude Toward Advertising Messages. *Journal of Social Psychology*, 132 (1991): 447-459.

Greenwald, A. G. and C. Leavitt. Audience Involvement in Advertising: Four Levels. *Journal of Consumer Research*, 11 (June 1984): 581-592.

Hennessey, J. E. and S. C. Anderson The Interaction of Peripheral Cues and Message Arguments on Cognitive Responses to an Advertisement. *Advances in Consumer Research*, 17 (1990): 237-243.

Laurent, G. and J.-N. Kapferer. An Empirical Assessment of Selected Consequences of Involvement. *Actes du 12ieme Seminaire International de Recherche en Marketing*, La Londe les Maures, (1986): 111-136.

Laurent, G. and J.-N. Kapferer. Measuring Consumer Involvement Profiles. *Journal of Marketing Research*, 22 (February 1985): 41- 53.

MacInnis, D. I. and B. J. Jaworski. Information Processing from Advertisements: Toward an Integrative Framework. *Journal of Marketing*, 53 (October 1989): 1-23.

Mazurski, D. and Y. Schul. Learning from the Ad or Relying on Related Attitudes: The Moderating Role of Involvement. *Journal of Business Research*, 25 (1992): 81-93.

Mick, D. G. Levels of Subjective Comprehension in Advertising Processing and Their Relations to Ad Perceptions, Attitudes, and Memory. *Journal of Consumer Research*, 18 (Mars 1992): 411-424.

Mitchell, A. A.. Involvement: A Potentially Important Mediator of Consumer Behavior. *Advances in Consumer Research*, 6 (1979): 191-196.

Okechuku, C. The Relationships of Prior Knowledge and Involvement to Advertising Recall and Evaluation. *International Journal of Research in Marketing*, 9 (1992): 115-130.

Petty, R. E. and J. T. Cacioppo. Issue Involvement as a Moderator of the Effects on Attitude of Advertising. Content and Context. *Advances in Consumer Research*, 8 (1981): 20-24.

Petty, R. E. and J. T. Cacioppo. *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. Springer-Verlag, New York. 1986.

Petty, R. E., J. T. Cacioppo and D. Schumann. Central and Peripheral Routes to Advertising Effectiveness: The Moderating Role of Involvement. *Journal of Consumer Research*, 10 (1983): 135-146.

Settle, R. B. and L. L. Golden. Attribution Theory and Advertiser Credibility. *Journal of Marketing Research*, 11 (1974): 181-185.

Smith, R. E. and S. D. Hunt Attribution Processes and Effects in a Promotion Situation. *Journal of Consumer Research*, 5 (1978): 149-158.

Strazzieri, A.. Mesurer l'implication distinctement du risque percu. *Proceedings of the Association Francaise du Marketing* 9 (1993): 1-25.

Swinyard, W. R. The Interaction Between Comparative Advertising and Copy Claim Variation. *Journal of Marketing Research*, 18 (1981): 175-186.

Zaichkowsky, J. L. Measuring the Involvement Construct. *Journal of Consumer Research*, 12 (December 1985): 341-352.