

The Combined Influence of Central and Peripheral Routes in the Online Persuasion Process

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Abstract

The elaboration likelihood model (ELM) is one of the most widely used psychological theories in academic literature to account for how advertising information is processed. The current work seeks to overturn one of the basic principles of the ELM and takes account of new variables in the model that help to explain the online persuasion process more clearly. Specifically, we posit that in a context of high-involvement exposure to advertising (e.g., Web pages), central and peripheral processing routes may act together. In a repeated-measures experimental design, 112 participants were exposed to two Web sites of a fictitious travel agency, differing only in their design—serious versus amusing. Findings evidence that a peripheral cue, such as how the Web pages are presented, does prove relevant when attempting to reflect the level of effectiveness. Moreover, if we take account of individuals' motivation when accessing the Internet, whether cognitive or affective, the motivation will impact their response to the Web site design. The work contributes to ELM literature and may help firms to pinpoint those areas and features of Internet advertising that prove most efficient.

Introduction

THE ELABORATION LIKELIHOOD MODEL (ELM) is one of the most popular theories used to explain the individual's persuasion process. Since first formulated in 1979 in the field of psychology¹ and applied to consumer behavior study in 1983,² the ELM has been the subject of over 50 related papers in relevant academic journals and books.^{3–6} Numerous manuscripts also have drawn on the ELM for their research, and it has been used in wide-ranging areas of marketing.^{7–9} Since the irruption of Internet in the communication strategies and commercial transactions of organizations, researchers have begun applying the ELM to assess the impact of this new context on different aspects of consumer behavior, such as individuals' responses to online advertising¹⁰ or satisfaction¹¹ as well as trust¹² in online purchases.

However, not all ELM researchers have restricted themselves to simply replicating the model in their studies but have opted rather to query its premises and call into question some of its principles. Some authors have posited the need for a reexamination or modification of the model, in both the traditional¹³ and the Internet contexts (e.g., MELM¹⁴ and e-ELM¹⁵).

Our study was undertaken to provide empirical evidence in online persuasive communication for one of the most widely debated and hotly contested aspects of ELM—the trade-off between central and peripheral routes at one end of

the persuasion continuum. More specifically, we propose that in a context of high-involvement exposure to advertising, a peripheral cue may impact the persuasion process. The peripheral cue we consider is the presentation of a Web page, and we distinguish between serious and amusing formats.

To define the context of exposure to advertising, the ELM mainly takes account of the level of motivation in processing, depending on which it draws a distinction between a high-involvement and low-involvement context for individuals.² The justification for the idea that exposure to a Web site occurs in a high-involvement context is based on an individual's high level of motivation when exposed to these forms of advertising.¹⁴ Motivation is understood to be the desire, urge, or will to engage in the sequence of events known as behavior.¹⁶ Applied to an advertising context, it refers to a desire to process the content of the ad.¹⁷ Within the framework of the ELM, motivation is felt to be the factor driving and steering the processing of information, endowing it with its purposeful nature,¹⁸ thus determining the likelihood of elaborating the ad: the greater the motivation, the greater the likelihood of elaboration. Motivation gives rise to two aspects in processing: (a) the intensity or cognitive effort made by the individual when processing the message and (b) the direction, or on which aspects individuals center their attention.¹⁸

In order to gain an insight into the impact of Web page format on effectiveness, our research seeks to answer the question, *What kind of Web page format—serious vs. amusing—proves more*

effective? According to the ELM, for a high-involvement context such as exposure to Web pages,¹⁴ only central cues should come into play when individuals' attitudes are being forged. By contrast, peripheral cues, such as advertising presentation format, should prove irrelevant.¹⁹ Individuals should thus show indifference when exposed to the two kinds of format, an idea we seek to refute.

In an effort to explain the process of online advertising persuasion more precisely, we aim to incorporate into the principles of ELM a new variable: the type of processing motivation. Together with the level of processing motivation, this variable will determine the context of exposure to advertising. We distinguish between cognitive motivation, or the search for information on the Internet, and affective motivation, or the search for entertainment. Such a distinction is based on the twin perception of the Internet as both an informative and an emotional medium.²⁰

Conventional literature addressing consumer behavior highlights the belief that individuals' motivation may impact advertising processing.^{21–23} We use this evidence to posit the idea that in contrast to the postulates of the ELM, a peripheral cue such as the presentation of the Web page format (serious vs. amusing) may indeed impact individuals' appraisals depending on the nature of their motivation. Thus, individuals will not react indifferently toward the two kinds of format but may well display a preference for one or another depending on their motivation.

Our study presents two contributions. First, the findings to emerge from the study highlight that one significant variable has thus far been overlooked in ELM studies in the hypothesis of the joint impact of central and peripheral routes in the online context—the qualitative dimension of individuals' processing motivation. Second, we expand current knowledge and understanding of one issue requiring further exploration:²⁴ how the online persuasion process occurs. Specifically, we assess which execution variables determine enhanced Web site efficiency. To achieve this, we examined the effect of one key yet hitherto practically untouched aspect of Web site design in the formation of individuals' attitudes and behavioral intentions: Web site presentation format.

Theoretical Background

In the words of the original authors of the ELM, "The ELM provides a fairly comprehensive framework for organizing, categorizing, and understanding the basic process underlying the effectiveness of persuasive communications."¹⁸ The ELM is formulated around the notion of the elaboration or degree to which an individual carefully thinks about issue-relevant information. The extent of elaboration received by persuasive communication is a continuum going from no thought about the issue-relevant information presented (low elaboration likelihood) to complete elaboration of every argument and total integration of this elaboration into a person's attitudinal schema (high elaboration likelihood).

The individual's motivation determines the elaboration likelihood. When people's motivation to engage in issue-relevant thinking is high, so is the elaboration likelihood.^{3,18} In the ELM, the quantitative dimension of motivational variables affects the intensity with which a person processes a persuasive message (depth of cognitive activity during the persuasion process) and the direction that processing takes

(the signals that determine the formation of the subject's attitudes).

The two extremes of the persuasion process correspond to two alternative processing routes or forms—the central route and the peripheral route.² The central route occurs when the individual's motivation concerning the issue is high, and the individual has the ability to process the message, such as in a high-involvement context to process. In this situation, attitude change occurs through a deep elaboration of every relevant argument related to the involvement issue. In an advertising context, the relevant arguments are usually identified with the informative content of the message, particularly with the information about the advertised brand.² The peripheral route occurs when people are unmotivated to the message or unable to process issue-relevant arguments. The persuasion process is not the result of deep elaboration, but it occurs by simple inferences of the message's validity. Attitudes are formed by positive or negative signals, called peripheral cues, related not so much to the specific object of the involvement but to the context in which persuasion takes place.¹⁹ These stimuli can affect attitudes without the need to process the message contents or arguments. In advertising studies, peripheral cues are linked to elements of the message's execution, such as source attractiveness,¹⁹ credibility,¹⁹ the use of a celebrity,² or its expert image.²⁵ In sum, both routes of persuasion, central and peripheral, will differ in the processing direction as well as in the depth or intensity of the cognitive activity developed during the persuasion process.

The ELM postulates a trade-off between argument processing and peripheral cues.¹⁸ As argument scrutiny increases, peripheral cues become relatively less important, and vice versa. At the extremes of the persuasion continuum, both processing routes are excluded. Indeed, according to ELM postulates, in a high-motivation context, the peripheral cues do not exercise a significant influence on the individual's attitude.^{2,3,19,25} In other words, individuals only process centrally.

However, some studies into ELM have provided empirical evidence of the impact of peripheral signals on individuals' attitudes in contexts where involvement was not low. In the second experiment conducted by Petty and Cacioppo,¹⁹ a picture of an attractive model was expected to serve as a peripheral cue in a shampoo ad. According to the ELM, highly involved individuals should focus merely on central arguments—informative content about the advertised shampoo—and not be influenced by the picture. However, the peripheral cue did prove to have a positive influence on attitudes toward the brand of involved viewers. The ad hoc justification given by the authors for this outcome was that the physically attractive signal of the advertiser acted as a central argument (Crimmins²⁶ feels such an explanation to be "tautological"). It was not, however, accepted that the two processes, central and peripheral, might be occurring simultaneously in a high-involvement context.

Such a justification proved insufficient for some researchers, such as Bitner and Obermiller,²⁷ who posit that in a high-motivation context peripheral, as well as central processing, might play a key role. In the advertising sector, Dröge²⁸ contends that the "dual" impact of routes is evidenced by the joint influence of features linked to the message (or central signals) and elements in the execution of the ad (or peripheral signals) on formation of attitude toward the brand in a high-involvement situation. This supports the idea that the two

processing routes are interconnected rather than substitutive. Lord et al.²⁹ demonstrate the joint impact of message arguments and peripheral signals on attitude toward the ad in a variety of situations at the motivation and processing opportunity level. Specifically, their findings for a message over the radio provided empirical support for hypothesizing the joint effect of both routes in a high-involvement context.

In their application to the Internet, Karson and Kargonkar³⁰ put forward a series of hypotheses to explore Web site effectiveness in the ELM context. After failing to empirically establish any of the proposed effects, they concluded that the model was not suitable and needed reformulating to fit the case of the Internet, given the particular features of the medium and the varying motivations of individuals who access it. Among other questions, they proposed the need for future research to determine whether central and peripheral signals in a Web site impact attitude toward the brand and purchase intent in high-involvement situations.

Unlike more intrusive banners or pop-ups, Web site advertising is actively "sought" by individuals who expose themselves to Web sites voluntarily by performing an action (for example, clicking on a banner, using a search engine, or typing in a URL to access the site). According to Cho,¹⁴ Web site exposure represents a high-involvement context for processing because the individual actually wishes to process the Web site content—elevated motivation to process—and consciously engages in a deeper cognitive activity than in other forms of advertising found in more conventional media (e.g., on the radio or a TV channel). Besides, Internet interactivity furthers the likelihood of elaboration the message³¹ and requires an active role from the individual, which usually involves numerous cognitive resources for processing.³²

In our research, we distinguish between the content and the format in a commercial Web site. Web site content refers to information linked to the target or activity of the Web site (e.g., information concerning the firm's products, prices, and availability). Using the ELM terminology, Web content can be related to strong or central arguments, since their elaboration requires a more thoughtful processing. Peripheral cues differ from message arguments because they are not issue or product relevant, and they are more related with affective states or emotions experienced by the individuals in the context of persuasion.²⁵ Web site format is the way in which the Web site contents are presented. The presentation, as an execution variable of the Web site design, acts as a peripheral cue; the individual is not required to pay too much attention or to make too great an effort when processing it. The format is merely perceived during the individual's exposure to the Web site (e.g., these cues determine attitudes by means of simple association).¹⁸

Our work draws a distinction between a serious Web site format and an amusing one. Although the distinction between informative and transformational advertising is common in traditional advertising research,^{33,34} thus far no study has explored this variable's effectiveness in advertising execution. For the Internet, such a distinction is based on differentiation between the perceived informative and entertainment values of the Web pages. The works of Ducoffe²⁰ and Chen et al.^{35,36} show that these two variables reflect individuals' attitudes toward Web pages. Furthermore, as opposed to the main content of the ad or central cues, the

peripheral variables used in the experiments conducted by the authors of the ELM to verify their hypotheses took account of the "wrapping," or way in which the message is conveyed. Specifically, they examine the attractiveness,^{19,37} credibility,¹⁹ or the expert image²⁵ of the source or interlocutor of the message, or the use of a celebrity,² variables that are quite similar to the distinction between the serious and amusing formats. In the online context, according to Cho¹⁴ and Hershberger,¹⁵ the Internet advertising design variables, perceived as how the Web site is presented (or other forms of Internet advertising, such as banner), act as peripheral cues. In sum, Web site format is a peripheral cue.

Likewise, this twin perception of the Internet as an informative and entertainment medium allows us to pinpoint two types of motivations in individuals who access the Internet: information seeking (or cognitive motivation) and entertainment seeking (or affective motivation).³⁸ Including this variable in ELM postulates will provide a theoretical basis on which to better explain how the online persuasion process occurs and will even ascertain which format (serious vs. amusing) may be favored by a particular type of individual.

To assess advertising effectiveness, we employ the measurements traditionally used in studies that explore advertising efficiency in conventional contexts^{39–41} and in the Internet.^{42,43} An ad is thus deemed to be effective if it is liked more (attitude toward the Web site, AW) and/or if the brand advertised is also liked (attitude toward the brand, AB), and/or if there is a greater intention to purchase (purchase intention, PI).

Research hypotheses

Because Web site exposure occurs in a high-involvement context, according to ELM postulates, attitudes are formed through the central processing route. The individual's attitude will be formed on the basis of high thoughtful cognition or systematic processing of Web site content (specifically concerning information related to what the firm has to offer); in other words, individuals focus their attention and process in depth the central cues present on the Web site. The peripheral aspects or Web site design, such as how Web site content is presented, should exert no influence whatsoever. Thus, individuals should be indifferent (or display the same attitude) toward two Web sites offering the same content—relevant arguments—but presenting the information in a different format.

Yet, as has been posited by critics of the ELM,^{27–29} based on these works, most of which are theoretical, in our research we seek empirical evidence for the online context of the combined influence of central and peripheral routes in a high-involvement context. Individuals' attitudes will be formed on the basis of their in-depth appraisal of the message arguments present on the Web site (central route), attitudes which will at the same time be affected by the execution of the advertising stimulus, by simple inferences of the message's validity (peripheral route). If the same content is presented in a different format and individuals' appraisals alter (i.e., if they change their perception of the Web site, the brand, or their intent to purchase it), it is because the peripheral cue is in fact exerting an influence. For a commercial Web site offering relevant information or strong arguments about an advertised brand, we propose the following:

H1: Website format impacts effectiveness.

If it is true that the presentation format does impact Web site efficiency, the question is, *In what way it will do so?* In line with Chaiken and Maheswaran,⁴⁴ we hold that both routes, central and peripheral, exert a joint influence on individuals' evaluations when they lead to coherent information. Thus, in this case, a Web site containing information on the brand will prove more efficient if presented in a serious format (a signal emphasizing the informative nature of the Web site) than if displayed in an amusing manner. Further, bearing in mind that the Internet is generally perceived as an informative medium rather than as a means of entertainment,^{20,45} it's predictable that the serious format is preferable to an amusing one.

As pointed out earlier, the ELM explains the context of exposure to advertising using only the level of motivation processing, depending on the strength of which it establishes the direction and intensity of processing. Accepting that exposure to the Web site occurs in a high-motivation context,²⁰ will all individuals process or assess Web sites equally, even if the presentation format differs? Although all users access the Internet of their own free will, not all do so for the same reasons. When accessing, consumer motives affect individual search behavior using Internet advertising.³⁸ Thus, in order to account for individuals' responses to the various advertising stimuli, we propose the inclusion of a variable to define the exposure context to advertising: individual's type of processing motivation. Advertising literature states that individuals' motivational reasons will determine the kind of information processing that takes place.^{46,47} As a result, for the online context, we also propose that the type of motivation affects the impact of the format on the effectiveness of the Web site.

Based on the assumption that the Internet is both an informative and emotional medium at the same time,²⁰ in this work, we distinguish between users who seek information and those who seek entertainment. The two types of motivation are by no means incompatible. Some individuals access the Internet primarily seeking information, others for entertainment, and others for both reasons.⁴⁵ Accepting that affective and cognitive processing systems are independent yet able to operate interactively,⁴⁸ we explore the impact these two types of motivation have on the individual's response to the Web site presentation format separately:

H2a: Cognitive motivation affects the impact of the format on Web site effectiveness.

H2b: Affective motivation affects the impact of the format on Web site effectiveness.

As for the format, we posed the following question: *If the type of motivation does have an impact, what direction will this take?* Johar and Sirgy⁴⁹ posit a theory on the link between advertising strategy and individual motivation. Thus, expressive ads prove more efficient than utilitarian ones when the product advertised is perceived as an expression of value (strategy of affective congruity), whereas utilitarian proves more effective than expressive stimuli when the product referred to has a utilitarian value (strategy of cognitive congruity). We think that reasons for accessing the Internet (for information or for entertainment) will specifically impact

individuals' attitudes and intentions "coherently"⁴⁹ with a preference for one kind of design over another. In other words, the cognitive motivation should increase the serious format valuation, and the affective motivation should increase the amusing format valuation.

Method

Participants and research product

Before the experimental study, we conducted a preliminary test through a survey with self-administered questionnaires to a reduced convenience sample of undergraduate students. Results revealed that the university students displayed a sound knowledge of the medium, all participants demonstrating experience in the use of Internet. This confirmed the sample to be adequate for our research objectives since we required individuals who, in addition to being motivated, were skilled enough to process the Web site content. Experience in the use of the Internet indicates just such ability.⁵⁰ Students are also proven to be more familiar than the general public with using the Internet and to provide a suitable sample group for conducting this research.⁵¹

The preliminary test contained an open list of products, individuals being asked to indicate which they had searched for online. The most commonly sought product was travel agencies' services (59.4%), followed by books and music (50.2%) and computer products (30.7%). We also noted how those who stated they had made online purchases had principally bought these three classes of products. We therefore opted for a travel agency as our research product because it offered an additional guarantee in regards to subjects' motivations.

Experimental design

An experiment was designed to test the research hypotheses. We used a 2×2 (format×type of motivation toward the Internet) mixed factorial design with repeated measures. In many experiments in cognitive psychology, each participant is observed under two or more experimental conditions. The main advantage of the repeated measures design is that treatment effects are in no way influenced by differences among participants.⁵² Different responses to a Web site may therefore be clearly attributed to the effect of the Web site format.

Stimulus material: Web sites

In order to test the effects of the within-participants factor (format) and the between-participants moderating variable (type of motivation) on Web site effectiveness, we constructed two versions of a fictitious travel agency Web site. We opted not to use real Web sites so as to eliminate the possibility of individuals having any prior information, which might bias their assessment. The ad hoc design of the Web sites also allowed us to correctly handle and identify the effect of the experimental treatment—in our case, the Web site's format—on individuals' responses.

In order to design the experimental Web sites, we performed a prior analysis of the content of several actual travel agency Web sites, enabling us to ascertain their main features in terms of format, content, organization of contents, and modus operandi. Our aim was to set up experimental Web

sites that would be perceived as real Web sites, thus lending greater external validity to our experimental findings.

We set up two Web sites, each with 15 pages of links under the same domain. The two embraced exactly the same content, the only difference being the level of the presentation format: serious or amusing. Web site content provided information on the products offered by the travel agency deemed relevant within the framework of the ELM (e.g., "Flights," "Hotels," "Customer services," and "Holiday packages"). Participants were required to make an effort to process the contents—clicking on a link and evaluating arguments in the travel agency's communication.

Individuals could easily perceive and evaluate the presentation format by the emotions it conveyed without the need to engage in any intense and complicated processing of the cue, requiring only inference. For the serious format, we used cues like a formal typeface for the texts (Times New Roman), schematic design, photographs, and images with no movement and very little color. For the funny or amusing format, we used an informal typeface (Comic Sans), humorous cues, animation, and many colors, among other Web-design elements. The features of advertising execution were employed subsequent to appraising a significant amount of prior research and were checked to ensure they had the desired effect of being either more serious or more amusing respectively.

In order to make the Web sites look authentic and to make surfing them seem like a real experience, they included a series of search engines allowing participants to select their own preferences. Individuals were thus able to interact with the Web site, leading to greater involvement when processing.^{14,31}

Once the Web sites were designed, a qualitative analysis was conducted via in-depth interviews with 14 reviewers (Internet users and experts) to test the relevance of the available contents, the Web site's usability, and any differences in the presentation formats. We also tested the research questionnaires.

Procedure

The experiment was conducted over several sessions in a computer laboratory. Each participant was provided with a similar computer for use during the test, thus ensuring equally available opportunities for all those taking part. Prior to Web site exposure, individuals completed a questionnaire, which covered items corresponding to the type of motivation toward the Internet and variables characteristic of the sample. After completing the questionnaire, participants were given instructions for carrying out the test. To heighten processing motivation, the instructions stated that participants would be visiting the Web site of a new travel agency, which they would shortly be able to use, and that they ought to act as if they were actually interested in the services offered by a travel agency at that moment. Using the argument recall approach,⁴ the prior qualitative study showed that providing these instructions led to more thoughtful processing (e.g., individuals who were given the instructions recalled more of the Web site than those who were not).

According to the within-participants design, participants visited and compared the two Web sites, which also led to higher processing involvement. Although the designs of the repeated measures offered higher statistical power and lower associated variance error, a carryover effect might also have

occurred. In order to remove this negative effect and to ensure that the order of exposure to the Web sites did not influence individuals' evaluations, we made sure that half of the participants were exposed to the Web sites in one order (serious then amusing) and the other half in the reverse order (amusing then serious).

Finally, a convenience sample of 112 students participated in this experiment with an incentive of receiving a higher grade in their business course: 48 males (42.9%) and 64 females (57.1%). Mean age was 22.6, and participants may be deemed frequent users of the Internet, possessing sufficient knowledge of services offered by travel agencies. On a 7-point measuring scale, the frequency of Web site visits was $M = 5.46$ ($SD = 1.811$) and degree of awareness of topics dealt with or important when visiting a travel agency was $M = 5.02$ ($SD = 1.219$). These two conditions guaranteed that individuals taking part in the sample had sufficient ability to process the Web site contents of a travel agency, thus ensuring a suitable scenario to assess the arguments proposed in this research.

Measures

Seven-point Likert scales were used to measure all the variables in the research.

Dependent variables. The dependent variables used in the research are linked to indicators of advertising effectiveness, specifically, Web site effectiveness—attitude toward the Web site (AW), attitude toward the brand (AB), and purchase intention (PI). AW and AB were measured using scales that included the items "I liked the Web site/brand" and "Evaluation of the Web site/brand," similar to those used by other authors to measure concepts in the online context.^{42,43} The validity and reliability of the two scales proved satisfactory (for AW, the explained variance = 85.839% and Cronbach's $\alpha = 0.830$; for AB, the explained variance = 81.113% and $\alpha = 0.76$; in both cases, the alpha coefficient is above 0.70, the minimum value prescribed⁵³). In line with other authors,^{3,29} we used a unidimensional scale with the item "Intention to buy the brand advertised" on the Web site to measure PI.

Independent variables. Individuals' motivation toward the Internet was measured through the following items, which are representative of the two reasons for access: "When accessing the Internet, I am generally seeking information" (search for information or cognitive motivation, CM) and "When accessing the Internet, I am generally seeking entertainment" (search for entertainment or affective motivation, AM), which yielded respective mean values of 5.88 ($SD = 1.041$) and 3.13 ($SD = 1.589$).

Results

Prior to empirically confirming the hypotheses, all experiments require the use of a control check to ensure that the process and experimental conditions have been handled correctly.

Manipulations checks

Through related *t*-test samples, we compared the mean scores of the two Web sites in the following verification variables: seriousness, entertainment value, and complexity

when surfing the Web site. The findings from a comparative analysis of the means confirmed that the format of the two Web sites, serious (s) and amusing (a), had been handled correctly. Significant differences did emerge in individuals' valuations with regard to *seriousness* ($t = 12.661$, $p < 0.001$), which proved higher in the serious Web site ($M_s = 5.27$) than in the Web site with the more amusing design ($M_a = 2.63$), and with regard to *fun* ($t = 3.735$, $p < 0.001$), which proved higher for the Web site with the more entertaining format ($M_a = 3.82$) than for the more serious one ($M_s = 3.16$). As we had hoped, no significant differences were found regarding *difficulty in surfing the Web site* in the two sites. This is essential to safeguard optimal experimental conditions, given that any variations in the difficulty involved in surfing the two sites might impact participants' evaluations.^{42,43}

Hypotheses tests

To test the research hypotheses, we used univariate (ANOVA) and multivariate analysis of variance (MANOVA) techniques with repeated measures. MANOVA is an extension of ANOVA and enables several dependent measures to be assessed simultaneously; its use is deemed advisable when the variables are related.⁵⁴ The link between the advertising efficiency indicators AW, AB, and PI is known as the hierarchy-of-effects model⁵⁵ in the traditional literature, a relation that has also been empirically substantiated in the online context.⁴² Our research showed a significant relationship among the variables AW, AB, and PI through Bartlett's test of sphericity—approximate $\chi^2(\text{gl. } 3) = 157.466$; $p < 0.001$, a result which advocated using MANOVA to assess Web site effectiveness.

The format effect. The primary goal of our research was to ascertain whether format influences Web site effectiveness (H1), and if so, which direction it takes. To corroborate H1, we conducted a repeated measures MANOVA with a within-participants factor (the format), with two levels (serious and amusing). MANOVA proved statistically significant: multivariate contrast (Pillai's trace = 0.082; Wilks's lambda = 0.918, Hotelling's trace = 0.089) proved significant ($F = 3.235$, $p < 0.001$), thus supporting H1.

Which of the two formats, serious or amusing, is favored? To prove whether our suspicions were correct, it must be proven that the informative value of the Internet is higher than its emotional value.^{20,45} Individuals taking part in the sample acknowledged the dual function of the Internet as both an informative and an entertaining, medium. There was a high degree of consensus for the item "I feel that the Internet is a suitable means of obtaining information" ($M = 6.18$, $SD = 0.830$), greater than for "I feel that the Internet is a suitable means for providing amusement and entertainment" ($M = 5.09$, $SD = 1.474$). It was also evident that the informative nature of the Internet is significantly more important than the emotional ($t = 7.296$, $p < 0.001$). Further, seeking information is a more intense and commonplace activity than is seeking entertainment when using the Internet (5.88 and 3.13, respectively).

We now explore the specific impact of the format for each of the advertising effectiveness indicators. With this aim in mind, we focused on the outcomes of the MANOVA univariate contrasts (e.g., the results of one-way repeated measures ANOVA within-participants). The results revealed a

significant effect on the within-participants factor (format) on each of the three response variables: AW ($F = 5.362$, $p = 0.022$), AB ($F = 4.059$, $p = 0.046$), and PI ($F = 8.260$, $p = 0.005$). Moreover, for the three cases, the direction of the impact was as expected. The mean valuation of the serious Web site (AWs = 4.13; ABs = 4.50; PIs = 3.64) was noticeably higher than for the Web site with the less serious layout (AWa = 3.72; ABa = 4.42; PIa = 3.36). As our perception of the Internet may lead us to suspect, the serious format seems to prove more effectiveness than the amusing one.

The moderating role of the type of motivation. The second objective was to ascertain whether the type of motivation toward the Internet, cognitive or affective, has any moderating effect on individuals' responses to the way the Web site is presented.

To test these effects, many consumer researchers would opt for dichotomizing the independent variable (in our case, cognitive and affective motivation continuous indicators), often performed as a medium split, and creating a new variable coded as "high" and "low" when participants' scores are above or below the median respectively. However, according to Fitzsimons,⁵⁶ dichotomizing a continuous independent variable is inappropriate and might result in misleading interpretations of the research hypothesis. Therefore, bearing in mind the characteristics of our experimental design of repeated measures, the most appropriate technique to test the moderating effect of the individual motivation is MANCOVA rather than MANOVA. MANCOVA allows identification of the effects of supplementary, continuous independent variables not manipulated by the experimenter but still affecting the individual's response: covariates. According to Hair et al.,⁵⁴ the analysis of covariance is suited to taking account of differences in responses arising from interviewees' individual characteristics. Covariance seeks to pinpoint and, where necessary, remove effects that may impact only certain interviewees and that vary among them (e.g., different personal characteristics, attitudes and opinions). Our case includes individuals who displayed different levels of motivation toward the Internet, either rationally or more emotionally. With regard to our hypotheses, this is likely to impact responses to the Web site in terms of both cognitive (H2a) and affective (H2b) motivation.

To verify H2a, we conducted a mixed model of repeated measures MANCOVA with a within-participants factor, the format, and a covariate, cognitive motivation toward Internet. The multivariate contrasts for the within-participants interaction effect between format and cognitive motivation proved significant (Pillai's trace = 0.068; Wilks's lambda = 0.932, Hotelling's trace = 0.073, $F = 2.640$; $p = 0.053$), confirming the moderating effect proposed in H2a. However, analyzing the univariate contrast revealed a significant effect of interaction on PI ($F = 7.136$, $p = 0.009$) but not on AW ($F = 2.409$, $p = 0.123$) and AB ($F = 2.399$, $p = 0.124$). Cognitive motivation impacts the response to Web site format and effectiveness, although not in all its indicators.

For affective motivation toward the Internet, we conducted a new mixed model of repeated measures MANCOVA, with affective motivation toward Internet being a covariable. The interaction effect between format and affective motivation was again significant (Pillai's trace = 0.106; Wilks's lambda = 0.894, Hotelling's trace = 0.118, $F = 4.265$; $p = 0.007$),

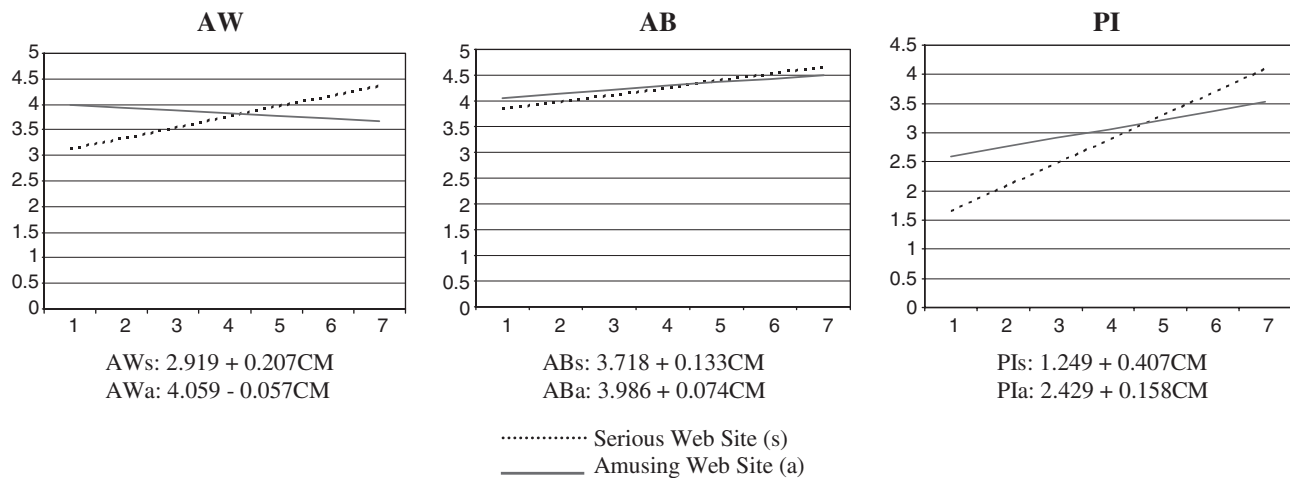


FIG. 1. Individuals' responses (AW, AB, and PI) and cognitive motivation (CM).

corroborating our expectations. For each of the advertising effectiveness indicators, interaction also proved significant: AW ($F = 5.581$, $p = 0.020$), AB ($F = 8.672$, $p = 0.004$), and PI ($F = 7.203$, $p = 0.008$). Thus, H2b was substantiated.

Having shown that both cognitive (H2a) and affective (H2b) motivation impact the valuation of the format, serious as opposed to amusing, we may state that the kind of individual motivation affects the individual's response to the Web site.

We now explore the direction of the moderating effects. We conducted a regression analysis for each of the efficiency indicators (AW, AB and PI) with regard to cognitive (Fig. 1) and affective (Fig. 2) motivation respectively. As can be seen in Figure 1, when cognitive motivation levels are low, the amusing format is favored over the serious. However, when individuals' cognitive motivation is high, the serious format is more valued than the amusing one. Cognitive motivation therefore strengthens the relative efficiency of the serious format.

Affective motivation works in the opposite sense (see Fig. 2). Put more clearly, affective motivation further reinforces the effectiveness of the amusing format.

Discussion

In contrast to most works addressing advertising persuasion from the standpoint of conventional ELM, our research aims to overturn one of the latter's basic principles. Thus, the primary goal of the research addressed in this study—to show the combined influence of central and peripheral routes in a high involvement context—was fulfilled. By way of an additional contribution, this effect, which to date has been explored only for the medium of the radio,²⁹ has been tested in an online context, specifically Web site processing. We thus demonstrate that a peripheral cue, such as the presentation of the Web site, impacts individuals' attitudes in a high-involvement situation, an effect not taken into consideration in the ELM.

Our study also contributes to recent research in Internet advertising by exploring the impact of Web site format on effectiveness, a variable thus far unexplored. In general terms, studies of online advertising have focused on more isolated aspects of Web site execution, such as the background color,^{57,58} image size,⁵⁸ number of images,⁵⁹ humor,⁶⁰ the presence of famous people,⁵⁸ and Web animation.^{61,62} An analysis

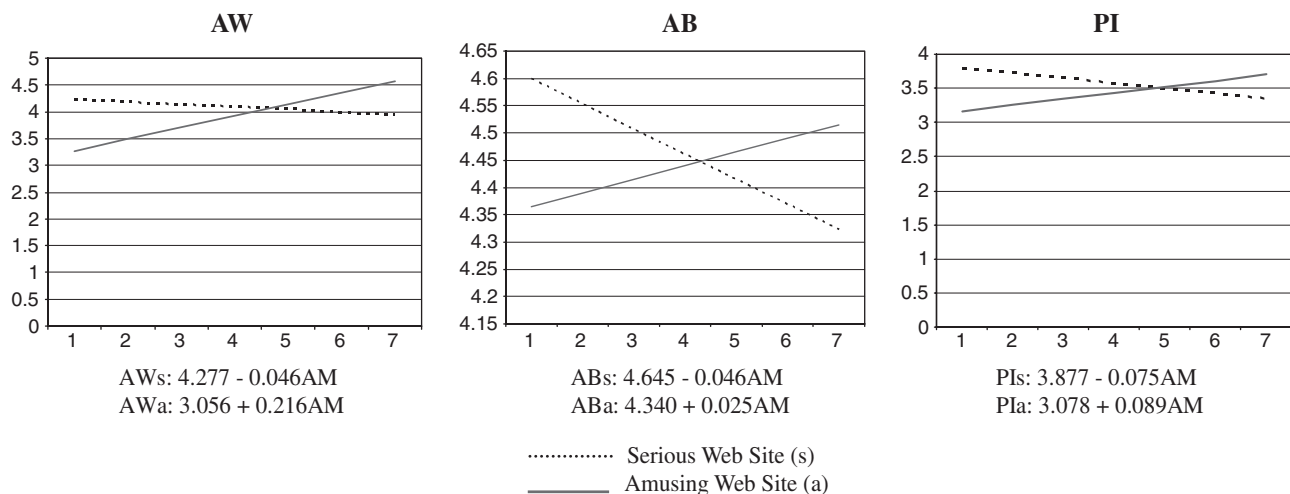


FIG. 2. Individuals' responses (AW, AB, and PI) and affective motivation (AM).

of the format provides a greater understanding of how the overall design may influence an individual's response to the Web site.

Further, we examined how the individual's characteristics modify the impact of responses to a Web site. We examined the moderating role of motivation when accessing the Internet, distinguishing between cognitive and affective motivation. Finally, we assessed Web site effectiveness as a multidimensional concept covering indicators of individuals' attitudes (toward the site and the brand) and behavioral intentions (purchase intentions). This consideration marks a step forward in comparison to previous research, which had thus far explored only one indicator.

The findings and implications to emerge from our study are to a certain extent bound by the specific features of an online context. Prominent among the many peculiarities of the Internet are the way it is perceived and valued as both an informative and entertaining medium, although the former is more commonly held to be of superior importance. Based on this, we posited two alternative manners of presenting information on the Web site: serious versus amusing. We also showed that, in general terms (e.g., without making any distinction about the kind of individual exposed to the medium), a Web site providing information on the brand proves more efficient when it presents with a serious format. This can be seen through more positive attitudes toward the Web site and toward the brand as well as in higher purchase intent.

Within this framework, we examined a previously unexplored variable in the ELM: individual motivation. Because a Web site is a form of advertising to which individuals freely expose themselves, we felt it important to take account of the type of motivation involved when accessing the Internet. Based on the dual nature of the Internet medium, we distinguished between two types of motivation, cognitive and affective, depending on whether participants use the Internet to seek information or entertainment respectively.

Findings show that both cognitive and affective motivation impact overall effectiveness of the various formats that Web sites adopt (serious and amusing). Our research specifically explored the influence of each type of motivation on individual Web site effectiveness indicators. In other words, we assess how the type of motivation in pre-exposure to the advertising stimulus (Web site) impacts individuals' attitudes (toward the Web site and the brand) and influences their behavior (purchase intention). Thus, participants whose primary goal was to seek information (displaying a higher cognitive motivation toward the Internet) intensified their response for the more serious structure, reflected in superior valuations of intention to purchase. For their part, individuals who were more driven by a search for entertainment in the Internet acted as expected, evidencing a greater response (in the three indicators assessed) to the amusing Web site and offering a poorer response to the more serious Web site. We feel that future studies must delve more deeply into the question of advertising strategy efficiency, consistent or otherwise with individuals' motivation. Moreover, we will seek to explore the impact of the interaction of the two types of motivation in information processing as well as other variables (i.e., the kind of product advertised), which may impact effectiveness.

The main conclusions to emerge from the research are as follows:

1. We confirmed that the hypothesis of a trade-off in persuasion routes in the elaboration continuum, posited in the ELM, is not totally suited, at least in an online context. In highly motivated processing (merged with a high opportunity and sufficient ability), the two routes act jointly and significantly impact attitudes and intentions in individuals' behavior. As a result, we propose that the hypothesis should be extended to include not only exchanges in the routes but also the possibility of a joint or combined influence such that one route—the peripheral—might enhance the effects of the other—the central. This might then engender changes in the attitudes more important.
2. The ELM should consider the effect of the qualitative dimension of motivation toward the medium. Individuals' behavior patterns will impact their responses to advertising; that is, it will determine which advertising stimuli prove more effective.
3. Regardless of the advertising medium used, the most immediate practical implication to emerge is that even when participants show a keen interest in the product in question, firms should in no way neglect the "packaging" of their advertising messages and should be prepared to offer relevant content. Contrary to what conventional advertising theories propose for situations in which participants display a high degree of involvement with the ad, strong or rational arguments not only must be put forward but also must be done in a manner coherent with the individuals' motivations. Therefore, it is essential to pay particular attention to the stimuli or executions used in the presentation of content.

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