

The Product Involvement Effect on Thought Elicitation and Attitude Strength in The Online Environment

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Abstract

The online attitude formation process has become a critical issue not only for academics but also for practitioners. An emerging question is whether the level of product involvement acts as a moderating variable in online attitude formation and attitude strength. The current work seeks to examine whether the level of product involvement presented in a website acts as a moderator on thought elicitation and attitude strength. The Elaboration Likelihood Model (ELM) is utilized to support the experimental design. The results of this survey have provided some initial insights into attitude formation and attitude strength towards the brand.

Keywords: *online advertising; thought elicitation; attitude strength; ELM; persuasive communication*

1. Introduction

The Internet is considered one of the most important digital media in people's everyday lives; the internet offers connective abilities increasingly adopted by organizations and individuals (Nngini, Furnell, and Ghita 2002). Thrassou and Vrontis (2009) pointed that electronic marketing is considered as the most important element of change in the new marketing communication arena. This view was totally corroborated during the COVID-19 period. Changes in media habits and media consumption reflect changes in promoting a product or service online (R. Taylor 2020). Electronic marketing and commerce became even more important than in the recent past (Pew Research Center, 2021). Internet users in March 2021 are referred to as 5,168,780,607, representing 65.6% of the world population, indicating a growth of 1,331.9% from 2000 (Internet World Stats 2021).

As stated by Thrassou and Vrontis (2009) the business-consumer relationship is more that co-existence one; it's a symbolic one. Therefore, consumer research in the online environment is fundamental. Attitudes are considered as an important aspect of consumer's behaviour. Also, attitudes towards the brands and the advertisement, directly affect consumers' intention to purchase (Ilicic, Kulczynski, and Baxter 2018). Attitudes could be defined as pre-existing evaluations towards a brand, or a product associated in memory. Consumers tend to hold positive

or negative attitudes towards brands. Attitudes make consumers buying decisions easier. Without consumers' attitudes would probably have to re-assess every brand in every purchase occasion (Shrivastava et al. 2021). The online attitude formation process has become a critical issue for academics and practitioners (Belanche, Flavián, and Pérez-Rueda 2017; Choi 2020; Ha and Lennon 2010; Eslami and Ghasemaghaei 2018; Peng et al. 2019). According to Havard, Ferrucci, and Ryan (2021), consumers' attitudes are affected by the type of the content they receive. An emerging question is whether product involvement acts as a moderating variable in online attitude formation and attitude strength. The current work seeks to examine whether the level of product involvement presented in a website moderates thought elicitation and attitude strength. We employ the Elaboration Likelihood Model (ELM) to support the experimental design. This survey has provided some initial insights into attitude formation and attitude strength towards the brand.

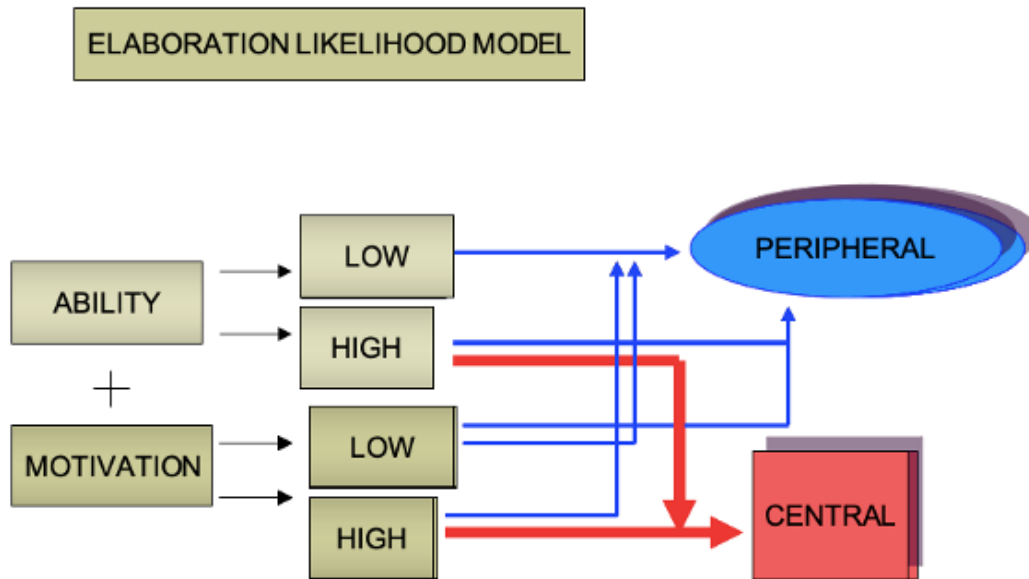
The current work seeks to examine whether the level of product involvement presented in a website acts as a moderator on thought elicitation and attitude strength. In doing so, the Elaboration Likelihood Model (ELM) is utilized. The ELM (Petty and Cacioppo 1979) has been proposed as a framework for conceptualizing persuasion and attitude change related to advertised products and services. Elaboration is proposed as an important attitude attribute that predicts strength (Luttrell and Sawicki 2020). Under the ELM individuals process the provided information from the communication outcome either under the central or the peripheral route. The attitudes resulting of the central route tend to be relatively strong; more effortful-based attitudes are more resistant to persuasion (Horcajo and Luttrell 2016), persistent over time (Haugtvedt and Petty 1992), and demonstrated attitude-behavioural consistency (Barden and Petty 2008). The present study examines the effect of product involvement (high/low) in the web environment in terms of thought elicitation and attitude strength (H1 & H2).

2. Theoretical and Conceptual Framework

Dual-process models are considered as critical theories on contemporary research on attitude change and persuasion (Briñol, Petty, and Guyer 2019; el Hedhli and Zourrig 2022; Luttrell 2018). Petty and Cacioppo (1981, 1986) propose the Elaboration Likelihood Model as a general framework for the study of persuasion in the social psychology field (Figure 1). Due to its application to advertising communication, the model has obtained great recognition in the field of consumer behaviour from several researchers (Teeny, Briñol, and Petty 2017; Bitner and Obermiller 1985).

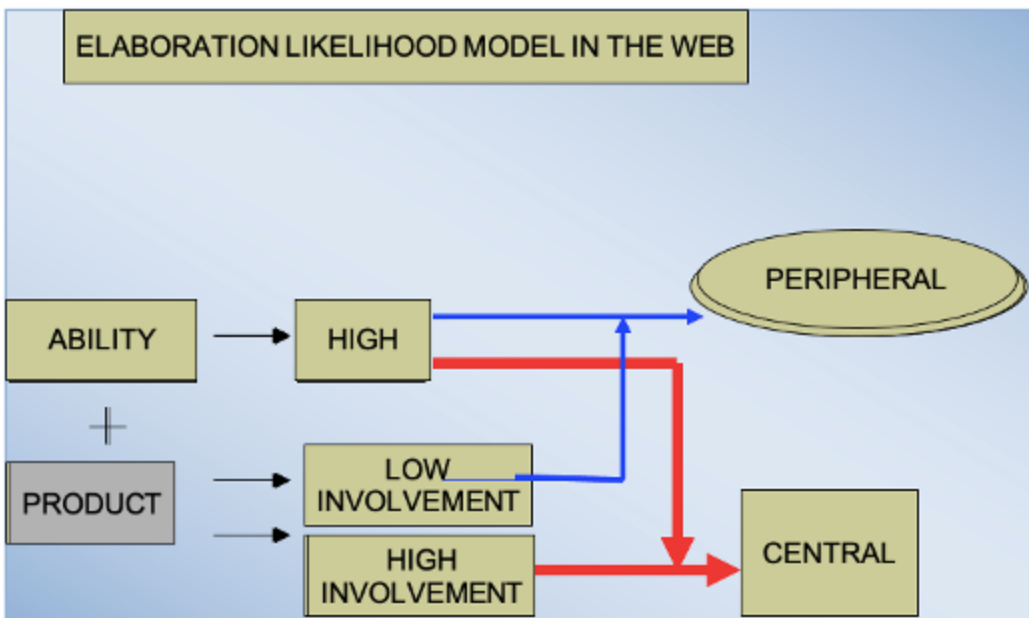
The ELM approach understanding “persuasion” by focusing on two routes to attitude change that serve as endpoints along with extent of thinking continuum: the central and the peripheral route. The central route to persuasion seems to be effective when the elaboration is high, whereas the peripheral route to persuasion seems to be better when the elaboration is low (Teng et al. 2014). The fundamental principle of the ELM is that different techniques of persuasion may be applied best, depending on the elaboration likelihood of the message, which may be high or low. Figure 1 depicts the ELM proposed by Petty and Cacioppo.

Figure 1. The Elaboration Likelihood Model proposed by Petty and Cacioppo



During the last decade investigation in digital technologies has gained significant attention. Key is to understand consumer behaviour in the online environment. Only few consumer theories can be employed in the context of marketing online. Among them is the ELM which is able to predict consumers' information process and attitude change online (Shahab, Ghazali, and Mohtar 2021). The present study seeks to examine the product involvement as a moderator of the number of elicited thoughts and thus as a predictor of the route followed by the message receiver in the online environment. Figure 2 is proposed the research model according to which "consumers; involvement with the product" appears to be a moderator of the route employed.

Figure 2. The Elaboration Likelihood Model in the Web according to which "consumers; involvement with the product" appears to be a moderator of the route employed.



3. Literature Review and Hypotheses Formulation

Past studies in offline media suggested that the degree of product involvement is an important determinant that affects whether an individual will follow the central or the peripheral route of information elaboration (Petty and Cacioppo 1986; 1981). Under high involvement condition, the number and not the quality, the source expert and other cues gain consumers' attention and may lead to persuasion (Zotos, Lysonski, and Martin 1992). It appears that high product involvement stimulates an individual to process centrally the provided information to determine the principal qualities of the product under consideration. Central route leads individuals to elicit greater amount of information regarding the product and the ad stimulus (Rucker, Petty, and Priester 2007) as they evaluate each piece of available information stemming from the source (Petty and Cacioppo 1981; 1986; Wright 1973) and the product (Petty and Cacioppo 1979; Petty, Cacioppo, and Heesacker 1981; Laurent and Kapferer 1985). On the contrary, in low involvement products, individuals evaluate the advertised message and product based on peripheral cues, designating peripheral route processing (Petty, Cacioppo, and Schumann 1983) where individuals may elicit fewer thoughts. Previous studies indicate that product involvement has a moderating effect on consumers' behaviour in the online environment as well (Belanche, Flavián, and Pérez-Rueda 2017; Choi 2020; Ha and Lennon 2010; Eslami and Ghasemaghahi 2018; Peng et al. 2019). Therefore, it is hypothesized that:

H1: Individuals exposed to a website of a high involvement product will elicit a greater number of thoughts regarding (i) the website and (ii) the product as compared to those exposed to a website of a low involvement product.

The information from the communication outcome is provided under the central or peripheral route of the ELM process. Therefore, we expect that individuals exposed to the website of a high involvement product will follow the central route of information process. Stated differently, individuals exposed to a website that presents a product of high involvement will process the provided information regarding the product and the website more centrally than those exposed to a website that presents a low involvement product. According to the ELM theory, attitudes resulting from the central route, relative to peripheral route, are more inclined to persist more over time, stand resistant in attempts to change them, be included in the consideration choice set, come to mind quickly and are more likely to predict subsequent behaviour (Rucker, Petty, and Priester 2007). Therefore, thoughtful consideration (though the central route of processing) tends to lead to the formulation of stronger attitudes than attitudes resulting from non- thoughtful consideration. The attitudes resulting of the central route tend to be relatively strong; more effortful-based attitudes are more resistant to persuasion (Horcajo and Luttrell 2016), persistent over time (Haugtvedt and Petty 1992), and demonstrated attitude-behavioural consistency (Barden and Petty 2008). Elaboration is proposed as an important attitude attribute that predicts strength (Luttrell and Sawicki 2020). The defining futures of attitude strength are durability and impact (Krosnick and Petty 1995).

Based on the above it is expected that:

H2: Individuals exposed to a website of a high involvement product will formulate stronger attitudes towards (i) the website and (ii) the product as compared to those exposed to a website of a low involvement product.

4. Method

The “experimental design” was employed to examine the effect of product involvement on thought elicitation and attitude strength in the digital environment (Ha and Lennon 2010). The dependent variables are (1) the number of elicited thoughts towards the brand and the website as well as (2) the attitude strength towards the products. The manipulated (independent) variable is the level of involvement with the product (high or low).

4.1 Product Involvement Measurement - Pretests

The individual importance that a person assigns to an object forms the level of involvement regarding the particular object (Antil 1984). It incorporates person-specific characteristics, since it can differ from person to person (Zaichkowsky 1985b; 1986). Consumers may perceive the same product in a different way (Lastovicka and Gardner 1979; Zaichkowsky 1985b; 1985a). Nevertheless, the “group effect” of certain product categories should be underlined, according to which for certain groups of people (target markets) certain products seem to be high involving, whilst others tend to be low involving (Rahtz and Moore 1989). Considering the nature of the “group effect”, two pre-tests were employed. Following previous studies (Han and Kim 2017a; Hong 2015) pre-tests were conducted to arrive at two products one of low and one of high involvement based on which the experimental websites would be constructed, and the product involvement variable would be manipulated.

The participants’ involvement with high and low involvement products was measured using the Personal Involvement Inventory (PII) developed by Zaichkowsky (1985b) indicated the laptop as a high and refreshment drink as a low involvement product. The table below (Table 1) indicates that participants' involvement with the refreshment differs significantly compared to the participant's involvement with the laptop (Sig.: .005).

Table 1. Refreshment vs Laptop

		Mean Square	F	Sig.
CANNED DRINK * LAPTOP	Between Groups (Combined)	.082	9.342	.005
	Within Groups	.006		
	Total			

Two fictitious product brands and two websites respectively were designed for the needs of the experiment. The main reason was to avoid the confusing effect or the pre-attitudinal.

4.2 Sample - Procedure

The selected sample was a convenient one that consists of students in the 3rd or 4th year recruited from a Greek/European University. 185 students participated in the study. The age mean was 20,9 years old. 48% consisted of women. Their income is between 0-480 euro. They surf in the web almost 3 hours per day. 95 students were exposed to the website that presents the high involvement product and 90 students [87 usable questionnaires] to the website that presents the low one. Participants arrived at a University lab and first fill in the online questionnaire regarding their internet behaviour and demographics. Then, they navigate to the website at their own time and pace. Later, they fill in the questionnaire regarding the thought listing technique.

They also fill in the questionnaire regarding the thought listing technique the attitude regarding exposed brand. The thought listing technique employed to recorder how individuals process the provided information. This technique also termed as thought elicitation, free-call thought and cognitive response was established by Wright (1973) and used by many academics (e.g. Sicilia, Ruiz, and Munuera 2005; Zotos, Lysonski, and Martin 1992). One week later the participants were asked to fill in the questionnaire regarding the exposed brand in order to measure the attitude strength.

4.3 Measurement Tools

Thought elicitation was measured by employing the thought listing technique proposed by Petty and Cacioppo (1981; 1986) (following Liu and Shrum 2009). The methodology tool proposed by DeMarree, Petty and Strunk (2010) was employed to measure the attitude strength for the brand.

5. Data Analysis

Testing the H1, two (2) trained coders analysed the data. When a conflict exists, a third coder is used to resolve it. At this stage of the coding, following Miniard et al. (1991), thoughts not related to the experimental stimuli were discarded. Data were then entered to the SPSS 22 program (Statistical Package for Social Science). One-way Analysis of Variance (ANOVA) was selected for the analysis. The dependent variable was the “number of elicited thoughts (0-7)” whereas the independent variable was the “level of product involvement (high vs low)”.

Participants’ elicited thoughts were discriminated in website-thoughts and product-oriented thoughts. The mean numbers of thoughts are depicted in Table 2.

Table 2. Mean Number of Thoughts

Thoughts	Product involvement	
	Low	High
Website oriented	0.64	1.00
Product oriented	1.96	3.98

Table 3 indicates the Levene’s Test of Homogeneity of Variances. P value is higher than 0.05 (Sig. = 0.854) and the variances are significantly different for the website related thoughts. P value is higher than 0.05 (Sig. = 0.072) and the variances are significantly different for the product related thoughts.

Table 3. Test of Homogeneity of Variances

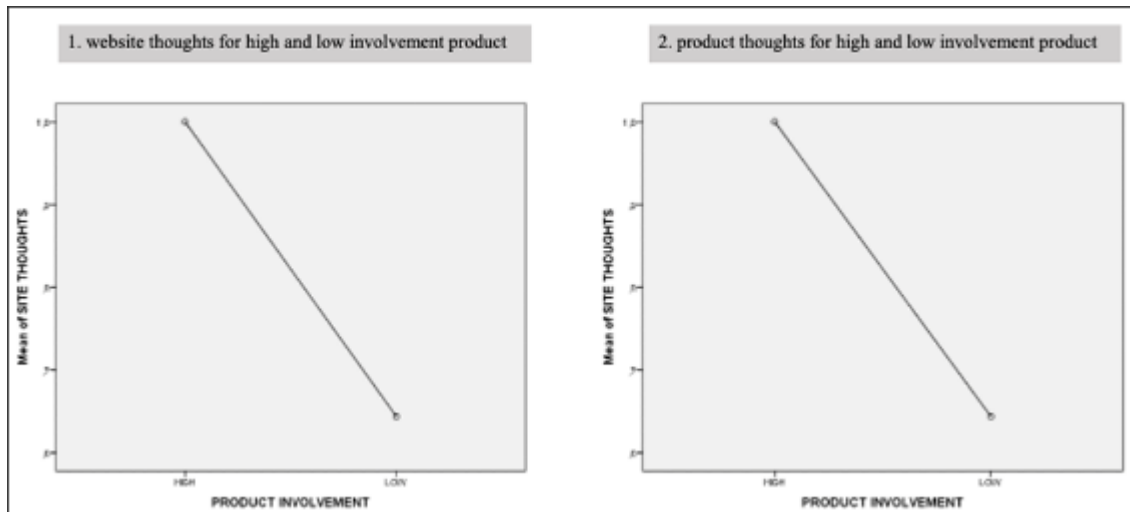
Thoughts	Levene Statistic	df1	df2	Sig.
Website oriented	.034	1	180	.854
Product oriented	15.209	1	180	.072

Table 4 displays the ANOVA summary. Site thoughts $F(1,180) = 3.629$; (Sig. .058), $p > 0.05$. Product thoughts $F(1,180) = 8.630$; (Sig. 0.052). These findings are visually depicted as follows. Therefore, H1, 1(i) and 1(ii) is accepted.

Table 4. ANOVA summary

		Sum of Squares	df	Mean Square	F	Sig.
Website oriented	Between Groups	5.766	1	5.766	3.629	.058
	Within Groups	285.954	180	1.589		
	Total	291.720	181			
Product Oriented	Between Groups	47.165	1	47.165	8.630	.052
	Within Groups	983.786	180	5.465		
	Total	1030.951	181			

Figure 3. Website and Product Thoughts for High and Low Involvement Product



A hundred eighty-one (181) students participated in the study to examine the **H2**. Ninety (90) questionnaires were usable for the low involvement condition and ninety-one (91) for the high. We examine the reliability of the questions that measure the attitude strength (AS) using Croabach's Alpha method. Croabach's alpha is $.763 > .70$ which shows high reliability.

Data analysis indicates that individuals exposed to the website of the low involvement product (mean= 5.636) generated stronger attitude than those exposed to the website of high involvement product (mean= 5.402). This difference is not statistically important (Sig. .325). Levene test is not significant (Sig. = $.127 > .005$) indicating that the variances are approximately equal. Therefore, H2 is rejected.

6. Conclusions, Future Research & Limitations of the Study

The present study makes several noteworthy contributions to the information process on the online environment. One of the most intriguing findings to emerge is the establishment of the ELM theory in the online environment as well as the establishment of the proposed research

model. The main goal was to determine that the variable of “product involvement” moderates the number of the elicited thoughts online. Hypothesis [H1] posed at the beginning of the study it is now possible to state that the “product involvement” is variable that has a direct effect on the number of thought elicitation (website- and product- oriented) online. Individuals exposed to a website of a high involvement product elicited more thoughts as compared to those exposed to a website of a low involvement product. Findings of the study underling the moderating role of product involvement in the online information process, are in accordance with previous studies in digital environment (Shahab, Ghazali, and Mohtar 2021; Ha and Lennon 2010; Han and Kim 2017; Hong 2015). It is indicated that the degree of product involvement seems to affect whether an individual will follow the central or the peripheral route of information elaboration online similar to offline media (Huhmann, Franke, and Mothersbaugh 2012).

The research work argues that under high involvement product conditions individuals elicited greater number of thoughts and thus the central route of persuasion is employed. It could be assumed that a high involvement product leads individuals to follow the central process of information. This finding verifies the major tenet of the ELM theory that high involvement with a product leads people to search for and actively process information regarding the product and the advertising message (Laurent and Kapferer 1985; Celsi and Olson 1988; Greenwald and Leavitt 1984). It is obvious that high product involvement stimulates individuals to process centrally the provided information to determine the principal qualities of the product under consideration.

On the contrary, visitors exposed to a website presenting a low involvement product elicited a lower number of thoughts. Thus, individuals employ the peripheral route of persuasion online. This finding is consistent with the notion that low-involvement participants are engaged in very little information process (Zotos, Lysonski, and Martin 1992). This result is verified in the web environment by Liu and Shrum (2009) who supported that under low-involvement conditions individuals produced fewer thoughts than individuals under high-involvement conditions did. The results of the study supported also a basic tenet of ELM regarding peripheral route. It is suggested that, in the digital environment, under low involvement product condition, participants evaluate the advertised message and product based on peripheral cues, designating peripheral route processing where individuals elicited fewer thoughts.

Overall, it appears that similar to the offline advertising media in the digital environment, a product of high involvement leads individuals to process the provided information under the central route of persuasion. Thus, individuals may elicit a greater number of website- and product- oriented thoughts. On the contrary, a low involvement product leads individuals to process the provided information under the peripheral route. Under this route individuals may elicit fewer thoughts.

However, the present study indicates that product involvement does not have a direct effect on the attitude strength formulation. This finding is not a surprising one since it is suggested that advertising messages can create advertising change. Thought, the findings of this study suggest that one single exposure to a new brand either of low or of high involvement is inadequate to set up the prerequisites for the formulation of strong attitudes. It seems that advertising repetition is a factor that may be important to establish attitude strength in the online media similar to the traditional ones (Haugtvedt et al. 1994).

The results of this survey have provided some initial insights into attitude strength towards the brand. More research is needed to identify the “accessibility of the (formulated) attitude” toward the website. The accessibility of the attitude is defined as “*the degree to which an attitude toward an object is active in memory*” (DeMarree, Petty, and Strunk 2010) and it is considered as a well-established and crucial determinant of whether the formulated attitude will remain stable over time, resist change and guide behaviour and thought (Bassili 1996; Fabrigar et al. 1998; Fazio, Williams, and Fazio 1986). The features of the accessible attitudes are the key characteristics of “strong attitudes” which are defined as durable (resistant to change and stable over time) and impactful (predictive of subsequent behaviour and biases in way of thinking) (Krosnick and Petty 1995). Nowadays, consumers are exposed to unlimited advertising messages and therefore the accessibility as an index of attitude strength towards the website appears to represent an important index of an effective online advertising strategy and a crucial metric of online persuasive success.

Though this study underlies interested findings, additional research would provide remarkable findings in the debated literature of online attitude formation in relation to website effectiveness. The use of augmented reality in digital marketing seems to affect consumers’ brand perceptions and pre-purchase intentions. For example, the employment of virtual mirror, which allows consumers to visual themselves with promoted product images, on digital displays increases perceptions of consumer-brand perception and purchase intention (Baek, Yoo, and Yoon 2018). It would be very much of interest to examine whether the product involvement acts as a moderator on the effectiveness of augmented reality applications.

Fiore et al. (2016) suggested that digital technologies, such as social networking sites, blogs, and content sites as YouTube, empower consumers with the ability to improve product quality. Consumers are becoming co-creators of the product value in the digital era. It would be of particular interest to examine whether the level of product involvement may have an effect on consumers’ trend to become co-creators and to improve the quality of a product.

Future research in other forms of advertising messages and other types of products would shed more light in the website design. Additional research that examines individual differences such as brand familiarity would help the consumer online behaviour model to be synthesized. The measurement of the online branding would help academics and practitioners to build effective online advertising strategies.

This study employs a laboratory experiment exploring the product involvement effect in the online environment under the ELM theory. For that reason, replications and extensions of this research are needed to validate and verify the results as well as to fully understand the effectiveness of a brand website. Moreover, it would be of great interest to explore any product involvement as a potential moderator in other digital media such as mobile phones and high-tech outdoor (smartboard) and to further analyse it within the scope of the Integrated Marketing Communications.

Further research regarding the effect of product involvement on utilitarian or emotional products, as well as on well-established products or new product category will enlighten the online advertising arena. Determining whether these results are applicable to other product categories is a possible avenue of additional research.

Because of the fact that theoretical foundations of the pre-purchase behaviour are not thoroughly understood at this time, especially given the emergence of interactive channels such as the

Internet, further research is warranted in this area. This study investigated consumers' process of online attitude formation. Future studies should incorporate the online and interactive decision-making stages and the procedure that underlies any style of information process that leads to actual online purchase in an effort to understand media attributes, consumers' decision styles, product characteristics and search condition contributing to intention-behaviour consistencies and inconsistencies. Any intention-behaviour consistencies as well as the style of the information process by potential Internet purchases would be of both theoretical and practical interest. Studying actual behaviour (with tool such as an eye-tracking) instead of self-reported data would provide a better understanding of online purchase behaviour.

Several limitations of this study, encompassing the nature of the sample, data collection procedures, the product involvement and the identification of the factors loaded to the attitude strength toward the website should be taken into consideration when interpreting the study's results and developing future research to extend and expand its scope.

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